SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

BOOK 1 OF 2

PROJECT MANUAL

Genevieve Didion K-8 TK Expansion

5735 47th Avenue
Sacramento, CA 95824
Sacramento County

Bid Package #0350-431

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT, PROCUREMENT SECTION

Submitted to the Sacramento City Unified School District by:

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Kitchell
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Sacramento, CA 95833

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Section 00 11 13 - NOTICE TO BIDDERS

ARTICLE 1. GENERAL

Section 1.01 Notice is hereby given that the Board of Education of the Sacramento City Unified School District ("District") will receive sealed Bids for

0350-431 Genevieve Didion K-8 TK Expansion Project

License required: **A and/or B**
Engineer's Estimate: **$1,000,000**

Scope of Work including but not limited to: Relocate four (4) portables from Fern Bacon to Genevieve Didion; relocate four (4) portables from Fern Bacon to Capital City; Install concrete foundations; Extend existing utilities; accessible path of travel upgrades; and interior finishes replacement

The following is the anticipated schedule for bidding and award of the contract for the Project:

Bidding Documents Released	April 27, 2026
Mandatory Bidder's Conference	May 5, 2026, 10:00 A.M.
Bidder question deadline	May 7, 2026, 10:00 A.M.
Prequalification application deadline	May 3, 2026
Addendum responding to questions	May 12, 2026, 10:00 A.M.
Bids due	**May 15, 2026, 10:00 A.M.**
Good Faith Efforts documentation due	May 16, 2026, 10:00 A.M.
Notice of Intent to Award	May 21, 2026
Board Meeting to Award contract	June 4, 2026
Anticipated Notice to Proceed	June 5, 2026

All general inquiries regarding the bid or issues with the District's Online Bid Platform are to be directed to Darren Sorgea Dsorgea@Kitchell.com, Ryan Wade Rwade@Kitchell.com, Robert Aldama at robert-aldama@scusd.edu, Tina Alvarez-Bevens at contracts@scusd.edu It shall be the responsibility of each prospective Bidder, upon discovery of any ambiguity or discrepancy in the Notice to Bidders, Instructions to Bidders, Bid Form, specifications, or drawings, to bring such ambiguity or discrepancy to the attention of the District prior to the Bid date and time. Failure to raise any such ambiguity or discrepancy prior to the Bid deadline shall waive the Bidder's right to object to the ambiguity or discrepancy after bidding. 38

Notice is hereby given that the Project is a public works project within the requirements of Division 2, Part 7, Chapter 1 of the California Labor Code, and that each bidder and listed subcontractor is required to be registered pursuant to Labor Code section 1725.5 at the time of bidding. ***Failure of the bidder to be registered at the time of bidding shall render the bid non-responsive and unavailable for award. Bidder's listing of an unregistered subcontractor may render the bid non-responsive and unavailable for award unless such failure is the result of an inadvertent error and the provisions of Labor Code section 1771.1 apply.***

The plans and specifications may be obtained from the District's Website (https://www.scusd.edu/departments/business-and-operations/contracts-department/construction-project-bids) and the District's Online Bid Platform (https://gateway.app.e-builder.net/app/bidders/landing?accountid=aaf85f30-eade-4a97-af1d-5076c07d8a32&projectid=36bbe3f3-7a18-48da-af04-a620f6770e84&bidpackageid=eb09df5f-2431-4bbc-a1f4-cced8e1cf486&bidpackageid=82421b85-e442-4552-93d2-8c07ee1418a1).

Notice is hereby given that the Project is subject to the requirements of Public Contract Code section 20111.6 as a project funded under the Leroy F. Greene School Facilities Act of 1998 or a project that involves a projected expenditure of one million dollars ($1,000,000) or more and is funded from a state school bond. As such, the District will accept Bids only from prequalified Bidders. In addition, all mechanical, electrical and plumbing ("MEP") subcontractors (as defined by Public Contract Code section 20111.6(k)) must be prequalified prior to the Bid due

date. MEP subcontractors subject to these requirements are those with any of the following license classifications: C-4, C-7, C-10, C-16, C-20, C-34, C-36, C-38, C-42, C-43 and C-46.

The District's Prequalification Application is done on-line. The direct link to the on-line application is https://www.scusd.edu/departments/business-and-operations/contracts-department/contractor-prequalification.. Bidders and MEP subcontractors must have submitted their on-line applications no later than ten (10) business days before the due date for Bids or have been prequalified for at least five (5) business days before the due date for Bids. Bids will not be accepted from any Bidder who has not complied with these requirements.

Every Bid shall set forth information on subcontractors required by Public Contract Code sections 4100 to 4114, inclusive. Failure to list a subcontractor for a portion of work, if required, is a representation that the Bidder will perform that portion of work itself.

The Project includes a goal that each Bidder commit to provide at least three percent (3%) of the work to one or more Disabled Veteran Business Enterprises ("DVBE") certified by the California Department of General Services. [**If a Bidder does not achieve at least the 3% DVBE goal, then the Bidder must establish Good Faith Efforts ("GFE") to have met the goal**, as addressed more fully in Instructions to Bidders, in order to be eligible for contract award.]

Bids are due:

BID INFORMATION

Location:	5735 47th Avenue, Sacramento, CA 95824
Contact:	Tina Alvarez-Bevens
Date:	**May 15, 2026**
Bids Due:	**10:00 A.M.**

At this time such Bids will be opened and publicly read. Untimely Bids will not be accepted or opened.

If Bidders choose to submit GFE documentation, that documentation is due:

GOOD FAITH EFFORTS DOCUMENTATION

Location:	5735 47th Avenue, Sacramento, CA 95824
Contact:	Tina Alvarez-Bevens
Date:	**May 16, 2026**
Bids Due:	**10:00 A.M.**

Documentation received after that time will not be considered to determine whether a Bidder made GFE to meet the DVBE goal.

Section 1.02 A **mandatory** pre-bid conference will be held at:

MANDATORY PRE-BID CONFERENCE INFORMATION

Location:	Genevieve Didion: 6490 Harmon Dr, Sacramento, CA 95831. After Genevieve Didion, Bidders will also be required to walk at Fern Bacon Middle School. Meet on the sidewalk at 4211 Turnbridge Dr, Sacramento, CA 95823.
Contact:	Tina Alvarez-Bevens
Date:	**May 5, 2026**
Time:	**10:00 A.M.**

Bidders will be required to sign-in to verify attendance. The pre-bid conference will include an in-person site walk to familiarize Bidders with existing site conditions.

Attendance for duration of meeting at the site, including the site walk, is mandatory and each prime contract bidder ("Bidder" or "Bidders") shall be required to certify, as part of its Bid, that it attended the entirety of the Pre-Bid conference. Failure to attend the entirety of the pre-bid conference or to include the certification will render the bid non-responsive. For all Pre-Bid visits (other than the Pre-bid conference), Bidder must make an appointment with the Construction Manager prior to visiting the Site.

Section1.03 The District's forms shall be used for all Bid documents. Bidders shall read and review the Bidding Documents carefully, and shall familiarize themselves thoroughly with all requirements. To be responsive, a Bid must conform to the requirements of the Bidding Documents.

Section 1.04 No Bid will be considered unless it is accompanied by Cashier's Check, Certified Check, or Bid Bond from a surety authorized to do business in California for ten percent (10%) of the total amount of the Bid, including additive Alternate Bids (if any), made payable to the District. The above-mentioned check or bid bond shall be given as a guarantee that the Bidder shall, if selected by the District, execute the Contract, in conformance with the Contract Documents.

Section 1.05 Bids shall not expire for a period of 90 days after the date set for the bid opening. Within ten (10) days after notification of the District's Notice of Intent to Award the Contract, the successful Bidder will be required to furnish a Labor and Material (Payment) Bond, and a Performance Bond in substantially the form set forth in the Construction Forms Manual, proof of insurance (if required), and all other documents and information specified in the Notice of Intent to Award.

Section 1.06 The District is an equal opportunity employer. The Bidder shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, gender, national origin, or other class protected by Government Code section 12940(a). The District encourages the participation of DVBE businesses.

Section 1.07 The successful Bidder shall be required to pay its workers on this Project a sum not less than the general prevailing rate (applicable at time of bid advertisement date) of per diem wages and not less than the general prevailing rate for holiday and overtime work for work of a similar character in the locality in which the Project is performed, as provided under California Labor Code Sections 1726-1861. Copies of the prevailing rate of per diem wages may be obtained at https://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. The Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

Section 1.08 The District reserves the right to reject any and all Bids and to waive any irregularity in any Bids received.

Section 1.09 At the request and expense of the successful Bidder, eligible securities shall be accepted in lieu of retention payments to insure performance under the Contract, pursuant to California Public Contract Code Section 22300. Said securities shall be deposited prior to the submission of the successful Bidder's first progress payment application.

Section 1.10 The District participates in all available rebate programs. The successful Bidder agrees to notify the District of any available rebate of which the successful Bidder is aware, and to provide the District with invoices and all other documentation necessary to claim any available rebate. The District will apply for available rebates, and the rebates will be paid directly to the District, not the successful Bidder.

Section 1.11 The selected contractor shall be required to complete any and all fingerprinting requirements and criminal background checks required by State law and shall also be required to complete a Drug-Free workplace certificate.

Section 1.12 NOT USED

Section 1.13 The District has entered into a Project Labor Agreement that may be applicable to this Project. A copy of the Project Labor Agreement is available for review at the District Facilities Office and may be downloaded from the District's website, www.scusd.edu, using the https://www.scusd.edu/pod/project-labor-agreement link. The successful bidder and all subcontractors will be required to agree to be bound by the Project Labor Agreement, if applicable.

END OF SECTION

Section 00 21 13 - INSTRUCTIONS TO BIDDERS

Section 1.01 Project Team

The Project Team consists of the following:

The District:	Sacramento City Unified School District
The District Representative:	Facilities Support Services
The Project:	0350-431 Genevieve Didion K-8 TK Expansion Project
The Project Address:	6490 Harmon Dr, Sacramento, CA 95831

Section 1.02 Bidding Documents

The "Bidding Documents" include the Notice to Bidders, Instructions to Bidders, Proposal Forms, Subcontractor Listing Form, Non-collusion Declaration, Iran Contracting Act Certification, Certification Regarding Russian Sanctions, Post Bid Interview, Agreement for Construction, Bid Security, Performance and Labor & Material (Payment) Bond Forms, the General Conditions, the Special Provisions, the General Requirements, Exhibits, the Technical Specifications, the Contract Drawings and Plans, the Hazardous Materials Requirements (if applicable), Addenda, and the Construction Forms Manual.

A. Bidders shall use complete sets of Bidding Documents in preparing Bids. Bidders are responsible for ascertaining that the Bidding Documents upon which their Bids are based are complete sets. Failure to fully complete and submit all pages of the Bid Form and Bidding Documents required at the time of the Bid may result in the Bid being rejected as non-responsive.

B. Bidding Documents are provided to Bidders for bidding only. No other use is permitted.

C. Should a Bidder find discrepancies, ambiguities, inconsistencies, errors or omissions in the Bidding Documents, Contract Documents and/or applicable Federal, State, and local regulations or requirements, and/or should Bidder have any doubt about the meaning of any of the Contract Documents, the Bidder shall submit questions to Darren Sorgea Dsorgea@Kitchell.com, Ryan Wade Rwade@Kitchell.com, Robert Aldama at robert-aldama@scusd.edu, Tina Alvarez-Bevens at contracts@scusd.edu,
Bidder's questions shall be submitted no later than **May 7, 2026; 10:00 A.M.**

D. The District will post to the District Online Bid Platform (all registered bidders will receive notification) and District website all clarifications in the form of Addenda (https://gateway.app.e-builder.net/app/bidders/landing?accountid=aaf85f30-eade-4a97-af1d-5076c07d8a32&projectid=eb09df5f-2431-4bbc-a1f4-cced8e1cf486&bidpackageid=82421b85-e442-4552-93d2-8c07ee1418a1.

E. Each Bidder shall ascertain, prior to submitting a Bid, that every Addendum issued prior to the Bid Date has been considered, and shall acknowledge receipt of each Addendum on the Bid form. Each Addendum will become a part of the Contract for Construction.

F. After issuance of the Bid Documents and except as expressly provided, communication with the District regarding the substance of the Bid Documents or Project outside of the Pre-Bid Conference, including without limitation communication with District employees or any Board member, is prohibited until a Notice of Intent to Award is issued. Notwithstanding the foregoing, potential Bidder may direct general questions related to the Bid to: Darren Sorgea Dsorgea@Kitchell.com, Ryan Wade Rwade@Kitchell.com, Robert Aldama at robert-aldama@scusd.edu, Tina Alvarez-Bevens at contracts@scusd.edu .

Section 1.03 Safety Requirements

In order to be eligible for award, Bidders must have an average Workers' Compensation Experience Modification Rate (EMR) of 1.25 or less over the last five (5) years OR the current published year. In addition, Bidders must have no

"serious" and "willful" violations of Labor Code sections 6300 *et seq.* in the past five (5) years. As a condition of award, the selected Bidder will be required to provide its Injury and Illness Prevention Program.

Section 1.04 Bid Security

A. Each Bid shall be accompanied by Bid Security, pledging that the Bidder will enter into a contract with the District in accordance with the terms stated in the proposal, and will furnish required payment and performance bonds. The Bid Security will be returned to Bidders within ten (10) days after the successful Bidder has executed and returned the contract for the Project. Should any Bidder awarded a contract fail or refuse to enter into such a contract or fail to furnish required bonds, the Bid Security shall be used to compensate the District for added costs associated with awarding the contract to another Bidder, including any costs of rebidding the Project if the District elects to rebid.

B. Bid Security shall be in the amount of ten percent (10%) of the total Bid(s), including additive Alternate Bids.

C. Bid Security shall be in the form of a Bid Bond from a surety company authorized to do business in California, Cashier's Check or a Certified Check, or Cash. The District shall be listed as obligee on the bond or payee on the check.

D. If a Bid Bond is submitted, the attorney-in-fact who executes the bond on behalf of the Surety shall attach to the Bond a certified, current copy of its Power of Attorney. The bid bond form supplied by the Surety is adequate

Section 1.05 Subcontractor Listing

Pursuant to the Subletting and Subcontracting Fair Practices Act, Sections 4100 to 4114, inclusive, of the California Public Contract Code, every Bidder shall in its bid set forth:

A. The name, contractor license number, DIR registration number, and location of the place of business of each subcontractor that will perform work valued at more than one-half of one percent (0.5%) of the Bidder's total Bid. Only subcontractors required to be listed by Public Contract Code section 4104 are required to be listed.

B. The portion of the Work that will be done by each Subcontractor, including for additive Alternate Bids. If the Bidder fails to specify a Subcontractor for any portion of the Work to be performed under the Contract in excess of one-half of one percent (0.5%) of the Bidder's total Bid, including additive Alternate Bids, the Bidder agrees that it is fully qualified to perform that portion itself, and that the Bidder shall perform that portion itself. The successful Bidder shall not, without the written consent of the District, either:

1. Substitute any person as Subcontractor in place of the Subcontractor designated in the original bid.
2. Permit any subcontract to be assigned or transferred or allow it to be performed by anyone other than the original Subcontractor listed in the bid. This requirement shall not prohibit a listed subcontractor from further subcontracting a portion of its work, so long as such subcontracting is otherwise permitted by law.
3. Sublet or subcontract any portion of the Work in excess of one-half of one percent (0.5%) of the total Bid, including additive Alternate Bids, as to which its original Bid did not designate a Subcontractor.

In addition, **Bidders shall list all Disabled Veteran Business Enterprises ("DVBE") for which the Bidder seeks credit**, even if the DVBE is not otherwise required to be listed by the Subletting and Subcontracting Fair Practices Act. If the DVBE is a lower tier subcontractor, the Bidder must identify the first tier subcontractor under which the DVBE will be performing its scope of work to avoid listing two subcontractors for the same portion of work.

Any subcontractor listed in accordance with Public Contract Code section 4104 shall be registered pursuant to Labor Code section 1725.5 at the time of bidding.

The District has entered into a Project Labor Agreement that is applicable to this Project. A copy of the Project Labor Agreement is available for review at the District Facilities Office and may be downloaded from the District's website,

www.scusd.ed, using the https://www.scusd.edu/pod/project-labor-agreement link. The successful bidder and all subcontractors will be required to agree to be bound by the Project Labor Agreement.

Section 1.06 Bid Submittal

Bids shall be submitted at the SCUSD Serna Center, 5735 47th Avenue, Sacramento, California 95824. Bids not received by the deadline will not be considered. Please be advised that there may be a heavy demand at the deadline for submitting Bids, and the District assumes no responsibility if the Bidder is unable to timely complete submission of its Bid. Bids will not be opened or reviewed until the Bid deadline.

By submitting a Bid, each Bidder certifies that:

A. The Bidder has read and understands the Bidding Documents,

B. The Bid is made in accordance with the Bidding Documents,

C. The Bidder has visited the project site and is familiar with the local conditions under which the work will be performed. The Bidder acknowledges that failure to visit the site will not relieve the Bidder of the responsibility for observing and considering those conditions which a contractor would have observed and considered during a site visit, estimating properly the difficulty and cost of successfully performing the work or proceeding to perform the work without additional cost to the District.

D. The Bidder agrees that the plans, specifications, and reports are adequate to the best of the Bidder's knowledge and that the work can be performed for the amount bid in strict accordance with the terms of the Contract Documents.

E. Bidder has attended the full duration of the mandatory Pre-Bid Conference.

Section 1.07 Bid Opening and Contract Awards

A. Bids will be opened publicly and read aloud at the time and date established in the Notice to Bidders. Bid Summaries may be made available to Bidders not sooner than 72 hours after the Bid Date.

B. Contract award, if any, will be to the lowest responsive, responsible Bidder. If the Bidding Documents include Bid Alternates, the lowest Bid will be determined based on any combination of Base Bid and Alternates as determined by the District. This process is conducted by the District in a "blind selection" format, i.e., without knowledge of the identity of any of the Bidders before ranking of all Bidders from lowest to highest has been determined. All awards will be made in the District's best interest. No award will be made to a Bidder which is not pre-qualified if pre-qualification is required, and no award will be made to a Bidder that is not registered in accordance with Labor Code section 1725.5.

C. The District reserves the right to waive any informality or irregularity in any Bid.

D. The District reserves the right to reject any and all Bids.

E. If the District elects to award the Contract, then the District will issue a Notice of Intent to Award to the successful Bidder and post the notice on its website and Online Bid Platform. The Notice will require the selected Bidder to submit specified documents to the District prior to the Board meeting at which award will be considered.

Section 1.08 Bid Protests

A. Any Bidder may file a protest against the award of the Contract to any other Bidder. The protest must be in writing, filed within five (5) calendar days after the posting of the Notice of Intent to Award the contract, and must set forth all factual and legal grounds for the protest. These requirements are to be strictly construed. Untimely protests and/or grounds not set forth in the protest will not be considered. Further, the failure to

comply with these protest requirements will constitute a waiver of the right to challenge and forever bar the Bidder from challenging, whether before the District or any administrative or judicial tribunal, any particular Bid(s), the bidding process, or any ground not set forth in the protest.

B. The District will provide a written response to any timely bid protest.

Section 1.09 Post-Bid Interviews

A. Bidders in contention for contract awards may be asked to attend a Post-Bid interview and submit Post-Bid submittals in rough draft form for review.

Section 1.10 Post-Bid Submittals

The successful Bidder shall submit all required Post-Bid documents by the date identified in the Notice of Intent to Award. The Post-Bid documents include:

1. Payment Bond
2. Performance Bond
3. Local contact for Surety
4. Insurance Certificates
5. Agreement: To be executed by successful Bidder. Submit one (1) original, hard copy, each bearing an original signature. Agreements can also be electronically sent to contracts@scusd.edu.
6. Criminal Background Investigation/Fingerprinting Certification.
7. Worker's Compensation Certification
8. Prevailing Wage and Related Labor Requirements Certification.
9. Drug-Free Workplace Certification.
10. Tobacco-Free Environment Certification.
11. Hazardous Materials Certification.
12. Lead-Based Materials Certification.
13. Imported Materials Certification.
14. Disabled Veteran Business Enterprise Participation Certification.
15. List of all Subcontractors and suppliers with their contractor license numbers, contractor registration number (DIR), addresses, telephone and fax numbers (2 copies required)
16. Name of the full-time superintendent
17. Emergency contact names and numbers
18. The name of the safety supervisor
19. Copy of Safety Manual (Illness and Injury Prevention Program)
20. Name of the person(s) authorized to sign documents for this project
21. Resume for full-time superintendent
22. W9
23. Escrow Agreement in Lieu of Retention (Contractor's Option)

The contract will not be submitted to the District's Board for approval and award until all required pre-award documents are received. If the intended awardee fails to submit the required documents in the time specified, the District may reject its Bid and award to the next lowest responsive, responsible Bidder.

END OF SECTION

Section 00 21 16 - BID FORM INSTRUCTIONS

ARTICLE 1. INSTRUCTIONS

Section 1.01 Bid Forms

Bidders are required to use the Bid Form provided.

The "Bid" stated in the Bid Form is the total amount for which the Bidder proposes to perform the Work.

Where bid Alternates are required, "Base Bid" is the total amount stated on the Bid Form for which the Bidder offers to perform Work that necessarily is part of any contract awarded, and from which "Alternates" may be added or deleted at the District's discretion. The "Total Base Bid Amount" stated on the Bid Form is the total of the Base Bid plus the required allowances, if any. Where the Bid Form requests unit prices, "Unit Prices" are amounts bid by unit measure of materials and/or services, as required in the Bidding Documents; amounts paid under a contract will be based on actual units multiplied by the unit price. Estimated units stated in the Bid Form are for evaluation purposes only, and are not a guarantee of any specific amount of units of work.

Section 1.02 Bids

A. A responsive Bid must include all of the following:

1. Completion of all sheets of the Bid Form, Section 00 42 00, as required
2. Bid Security (see Section 00 21 13, Article 1.06)

B. Bids shall be submitted at the SCUSD Serna Center, 5735 47th Avenue, Sacramento, California 95824

C. All spaces provided on the Bid Forms shall be filled in. If any space provided is not utilized by the Bidder, that space shall be filled in with the notation "NA" (Not Applicable).

D. Complete Bid Forms legibly, preferably by typewriter or computer. At the District's discretion, if any bid amount on the Bid Form is not legible, the District may reject the Bid as uncertain and unavailable for award.

E. Where indicated, all amounts shall be expressed in words and in figures. In case of discrepancy, the words shall govern. In the case of a discrepancy between the Total Bid Amount stated on the Bid Form and the actual total, the actual mathematical total will govern. In the case of a discrepancy between a Unit Price and an extended price, the unit price shall govern. Failure to list a Unit Price or lump sum price for a type of work where indicated shall be understood to be a unit price/lump sum price of $0.

F. Bidders shall not make unsolicited notations or statements on the Bid Forms. If the District determines that any notation indicates a conditional Bid, the Bid shall be rejected as being non-responsive.

G. All changes to and erasures or crossing out of the Bidder's entries shall be initialed by the signer of the Bid.

H. Each Bid shall include the legal name of the Bidder and a statement regarding whether the Bidder is a sole proprietor, a partnership, a corporation, a limited liability company, or other type of legal entity. Bids submitted by corporations shall have the state of incorporation noted. Any Bid submitted by an agent shall have a current Power of Attorney attached, certifying the agent's power to bind the Bidder.

I. If the Bid Form includes Bid Alternates, all requested Alternates shall be bid or the Bid will be incomplete and non-responsive.

Section 1.03 Completion of Bid Form

A. Submit only one Bid Form for each Bid Package.

B. List Contractor's License number, contractor registration number (DIR), and expiration dates of both. Sign and date this section in the space provided.

C. Fill in the numbers and dates of all Addenda received and considered in the Proposal. Bids must include acknowledgment of all Addenda issued prior to the Bid Date. Failure to acknowledge any Addendum containing substantive information about, or changes to, the Bidding Documents shall make the Bid non-responsive and unavailable for award.

D. Fill in the amount of Bid Alternates, as applicable.

E. Fill out and sign the Non-Collusion Declaration, Iran Contracting Act certification (if applicable), Certification Regarding Russian Sanctions, and Site Visit Certification.

F. Fill in Subcontractors list, **including all DVBEs for which the Bidder claims credit**; if there will not be any Subcontractors, check the appropriate blank. State whether the DVBE goal was met [or good faith efforts documentation will be submitted.

G. Type or print the signer's name and title in the spaces provided below the signature.

H. Date the form in the spaces provided.

I. Sign in the spaces provided.

Section 1.04 Submission of Bids

A. Bids shall be submitted at the SCUSD Serna Center, 5735 47th Avenue, Sacramento, California 95824.

B. Bids shall be submitted by the time and date stated in the Notice to Bidders. Late Bids will not be accepted.

C. If the DVBE participation goal is not met, submit documentation of DVBE Good Faith Efforts ("GFE") **within 24 hours after the proposal deadline**. Bidders are encouraged to submit GFE documentation even if they believe they have met the DVBE goal in the event there is a problem with a listed DVBE. Late GFE documentation will not be accepted and will result in any Bid that fails to meet the DVBE goal being rejected as non-responsive.

D. Bidders shall bear full responsibility for ensuring that Bids are received by the time and date designated for receipt of Bids. There may be a heavy demand at the deadline for submitting Bids, and the District assumes no responsibility if the Bidder is unable to complete the submission of its Bid by the deadline.

E. No telephones, fax machines, scanners, or computers will be provided by the District or the District Representative.

Section 1.07 Modification or Withdrawal of Bids

A. A Bid may not be withdrawn by the Bidder following the time and date designated for the receipt of Bids, except in accordance with Sections 5100 - 5108 of the Public Contract Code.

B. Prior to the time and date designated for receipt of Bids, Bids may be withdrawn and a revised Bid may be submitted before the Bid deadline. Withdrawals shall be through the Online Bid Platform. Telephone, fax, and email withdrawals will not be accepted.

C. Withdrawn Bids may be resubmitted up to the time and date designated for receipt of Bids.

END OF SECTION

Section 00 42 00 - BID FORM

PROPOSAL FOR: Sacramento City Unified School District

TO: Sacramento City Unified School District
5735 47th Avenue, Sacramento, California 95824

COVERING BID PACKAGE: **0350-431 Genevieve Didion K-8 TK Expansion Project**

SUBMITTED BY: _____
Name of Bidder

_____
Address

_____
Phone #/Fax #:

License number: _____. License type: ____. License expiration date: _____.

Public Works Contractor DIR Registration #_____ Expiration date: _____

Average EMR (past 5 years): _____ Total "serious" and "willful" OSHA violations (past 5 years): ___

Bidder:

On behalf of Bidder, the undersigned represents that Bidder's authorized representative attended the full duration of the Pre-Bid Conference, and that Bidder has carefully examined the Site, the proposed Contract Documents consisting of the Notice to Bidders, the Instructions for Bidders, the Proposal Form, the Agreement for Construction, the Bid Bond, the Performance Bond, the Payment Bond, the General Conditions, the Special Provisions, the General Requirements, Exhibits, the Technical Specifications, the Contract Drawings and Plans, any and all Addenda prepared by the Architect pertinent to the construction of the above-referenced Project, the Contractor's Guarantee and Bond, the Hazardous Materials Requirements (if any), and the Construction Forms Manual, and further, being reasonably familiar with all other conditions affecting the Work, Bidder hereby proposes and agrees to furnish and provide all labor, materials, supervision, transportation, tools, equipment, services and other facilities necessary and required for the expeditious completion of the Work included in the Bid Package indicated above, in strict conformity with said conditions and Contract Documents. Bidder agrees to comply with all requirements of the Project Labor Agreement.

Bidder has reviewed the Work outlined in the Bid Package and fully understands the Scope of Work encompassed by this Bid, and acknowledges that its Bid includes the Work of all trades within the Bid Package covered in the Bid and understands that, if awarded the Contract, Bidder shall be the Prime Contractor to the District and agrees that its Bid, if accepted by the District, will be the basis for a contract with the District in accordance with the intent of the Contract Documents.

Bidder agrees to complete the Work required within the Bid Package within the time indicated in the Special Provisions, subject to liquidated damages as specified in the Special Provisions.

The undersigned has the authority to so bind Bidder to these representations and agreements.

_____ _____ ***Affix Corporate Seal Here***
Signed Date

_____
Print Name

_____
Title

Enclosed is a certified check, cashier's check, or bid bond for ten percent (10%) of the amount of the Base Bid including additive Alternates (if any), made payable to the District to be left in escrow with the District as a guarantee that Bidder will enter into a contract and will furnish specified insurance and bonds. It is understood that refusal to do so will result in the forfeit of this guarantee. If this Bid is not accepted within the time set for acceptance of bids, or any extension thereof, or if the contract is fully executed with another Bidder, or if the District elects not to award a contract, then the check or bid bond shall be returned to the Bidder.

Bidder has notified the District of any discrepancies, ambiguities, inconsistencies, errors or omissions in the Bidding Documents, Contract Documents, applicable Federal, State, and local regulations or requirements, and/or of any doubt about the meaning of any of the Contract Documents, and has contacted the District before bid date to verify the issuing of any clarifying Addenda.

The undersigned further acknowledges receipt of the following Addenda, which are a part of the Contract Documents:

NO.____ DATE_____ NO.____ DATE_____
NO.____ DATE_____ NO.____ DATE_____ ***(Include All Addenda)***
NO.____ DATE_____ NO.____ DATE_____
NO.____ DATE_____ NO.____ DATE_____

_____
Signed

_____
Print Name

_____
Title

BID PACKAGE: 0350-431 Genevieve Didion K-8 TK Expansion Project

1. TOTAL BID (Fern Bacon to Genevieve Didion)

Lump Sum (in words) _____

_____ **Dollars**

Lump Sum (in figures) **$**_____

2. TOTAL BID (Fern Bacon to Capital City)

Lump Sum (in words) _____

_____ **Dollars**

Lump Sum (in figures) **$**_____

46 DSA and Unforeseen Allowance **$250,000**

TOTAL BASE BID equals sum of Items 1 through 3 above. The undersigned proposes to provide and construct the Work required for the above listed Bid Package in accordance with said Contract Documents for the amount of:

TOTAL BASE BID (in words): _____

_____ **DOLLARS**

TOTAL BASE BID (in figures): **$**_____

_____
Signed (Signature of Bidder)

_____
Name of Firm

AGREEMENT

It is understood and agreed that if written notice of the District's acceptance of this Bid is mailed, emailed, or otherwise delivered to the undersigned Bidder after the opening of the Bid, and within the time in which the District may accept the Bid, the undersigned Bidder will execute and deliver to the District a contract in the form included with the Bidding Documents within ten (10) days after receipt of the Notice of Intent to Award or other notification of award, and that the Work under the Contract shall be commenced by the undersigned Bidder, if awarded the Contract, on the date to be stated in a Notice to Proceed and shall be completed in the time specified in the Contract Documents. In the event the Bidder to whom an award is made fails or refuses to timely execute the Contract, the District may declare the Bidder's bid security forfeited.

Enclosed herewith is a listing of Subcontractors and major materials suppliers in accordance with Sections 4100 to 4114 of the California Public Contract Code and the Instructions to Bidders and a listing of Disabled Veteran Business Enterprises, including any DVBE acting as a material supplier, lower tier subcontractor, or other entity not required to be listed by the Subletting and Subcontracting Fair Practices Act.

Also enclosed herewith are the Non-Collusion Affidavit, Iran Contracting Act certification, and Certification regarding Russian Sanctions, as required by law. Site Visit Certification shall also be enclosed herewith if pre-bid site visit was mandatory.

The undersigned Bidder agrees that the information and representations provided herein are made under penalty of perjury.

NOTE: If Bidder is a corporation, the legal name of the corporation shall be set forth below, together with the signatures of authorized officers or agents, who shall be either a) the president or b) any vice president and the secretary, any assistant secretary, the chief financial officer, or any assistant treasurer. If Bidder is a partnership or limited liability company, the true name of the firm shall be set forth below together with the signature of a partner or member authorized to sign contracts on behalf of the partnership or LLC. If Bidder is an individual, his/her signature shall be placed below.

NAME OF BIDDER:

_____

BY: _____ _____
Signature Title

_____
Type/Print Name

_____ _____
Signature Title

_____
Type/Print Name

_____ _____
Signature Title

_____
Type/Print Name

DATE: _____

NON-COLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

STATE OF _____)
) ss.
County of _____)

I, _____, declare that I am _____ of _____ the party making the foregoing bid, that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the Bidder has not directly or indirectly induced or solicited any other Bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any Bidder or anyone else to put in a sham bid or to refrain from bidding; that the Bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other Bidder. All statements contained in the bid are true. The Bidder has not, directly or indirectly, submitted its bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____[date] at _____[city], California..

_____ _____
Signature of Bidder Date

_____
Print Name

IRAN CONTRACTING ACT CERTIFICATION FORM

Pursuant to California Public Contract Code (PCC) section 2204, an Iran Contracting Act certification is required for solicitations of goods or services of $1,000,000 or more.

To submit a proposal to the District, you must complete ONLY ONE of the following two paragraphs. To complete paragraph 1, check the corresponding box and complete the certification for paragraph 1. To complete paragraph 2, simply check the corresponding box.

☐ 1. We are not on the current list of persons engaged in investment activities in Iran created by the California Department of General Services ("DGS") pursuant to PCC 2203(b), and we are not a financial institution extending twenty million dollars ($20,000,000) or more in credit to another person, for 45 days or more, if that other person will use the credit to provide goods or services in the energy sector in Iran and is identified on the current list of persons engaged in investment activities in Iran created by DGS.

OR

☐ 2. We have received written permission from the District to submit a proposal pursuant to PCC 2203(c) or (d). A copy of the written permission from the District is included with our Bid.

CERTIFICATION FOR PARAGRAPH 1:

I, the official named below, CERTIFY UNDER PENALTY OF PERJURY, that I am duly authorized to legally bind the Bidder to the clause in paragraph 1. This certification is made under the laws of the State of California.

Company Name (Printed) Click here to enter text.	*Federal ID Number* Click here to enter text.
By (Authorized Signature)	
Printed Name and Title of Person Signing Click here to enter text.	
Date Executed Click here to enter text.	*Executed in the County of _____ in the State of _____*

CERFIFICATION REGARDING RUSSIAN SANCTIONS

On March 4, 2022, Governor Gavin Newsom issued Executive Order N-6-22 regarding Economic Sanctions against Russia and Russian entities and individuals. "Economic Sanctions" hereunder refers to sanctions imposed by the United States government in response to Russia's actions in Ukraine, as those sanctions may be updated from time to time, as well as any sanctions imposed under state law. By its signature below, the Respondent represents that it is not a target of Economic Sanctions.

Should the District determine that the Respondent is a target of Economic Sanctions or is conducting prohibited transactions with sanctioned individuals or entities, that shall be grounds for rejection of the Respondent's Proposal **for lack of responsibility** any time prior to contract execution, or, if determined after contract execution, shall be grounds for termination for default by the District. The Contractor will be required to obtain a similar certification from all proposed trade contractors subject to the protections of Public Contract Code section 4100 *et seq.;* failure to obtain such certification and/or a determination that any such proposed subcontractor is a target of Economic Sanctions or is conducting prohibited transactions with sanctioned individuals or entities will be grounds for rejection of the proposed subcontractor.

I, the official named below, declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this certification is executed on _____ at _____, California.

[Date] [City]

RESPONDENT: _____

BY: _____

Signature

_____

Type/Print Name

_____

Title

SITE VISIT CERTIFICATION

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID
IF SITE VISIT WAS MANDATORY

Check option that applies:

_____ I certify that I visited the Site of the proposed Work, received the attached _____ pages of information, and became fully acquainted with the conditions relating to construction and labor. I fully understand the facilities, difficulties, and restrictions attending the execution of the Work under contract.

_____ I certify that _____ (Bidder's representative) visited the Site of the proposed Work, received the attached _____ pages of information, and became fully acquainted with the conditions relating to construction and labor. The Bidder's representative fully understood the facilities, difficulties, and restrictions attending the execution of the Work under contract.

Bidder fully indemnifies the Sacramento City Unified School District, its Architect, its Engineers, its Construction Manager, and all of their respective officers, agents, employees, and consultants from any damage, or omissions, related to conditions that could have been identified during my visit and/or the Bidder's representative's visit to the Site.

I certify under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Date: _____

Proper Name of Bidder: _____

Signature: _____

Print Name: _____

Title: _____

ATTACHMENTS:

1.

2.

3.

INSTRUCTIONS TO SUBCONTRACTOR AND DVBE LISTING FORM

1. Insert Bidder's name where indicated. Note: Bidder's name is to be inserted below the table on the second page as well as at the top of the first page.

2. Check next to either the Bidder is not using any Subcontractors/DVBEs OR all Subcontractors required to be listed and DVBEs for which credit is claimed have been listed.

3. For each listed entity, identify the portion of work to be performed by the subcontractor/DVBE. Where not all work will be performed by a single subcontractor, Bidder may designate "partial" and further define the portion of the work to be performed. The "portion" of work must specify which subcontractor will be responsible for applicable mechanical, electrical, and plumbing (MEP) work, even if that work will be further subcontracted to a lower-tier subcontractor. **If any first-tier subcontractor identified for MEP work is not prequalified, then the bidder must identify the prequalified lower-tier subcontractor who will perform the work**; failure to do so will result in the bid being deemed non-responsive. If the portion of work does not identify one or more MEP subcontractors, if required for the work, then the prime contractor must perform that work with its own forces.

4. **All DVBEs** for which the Bidder is claiming credit must be listed on the form and identified as DVBEs, even if the work to be performed is less than one-half of one percent (0.5%) of the bid amount, involves supply of materials, or is to be performed by a lower-tier subcontractor. ***Note:*** Equipment Brokers, as defined in the DVBE Requirements, are not eligible for credit towards the DVBE participation goal.

5. In the column for "portion of work," if the listed entity is a DVBE, state **both** a description of the portion of work **and** a dollar amount. Subcontractors that are not DVBEs are not required to, but may, include a dollar amount of work. For DVBE entities that will not be contracting directly with Bidder (second tier or lower subcontractors), identify the subcontractor with which the DVBE will be contracting.

6. For each listed entity, fill in its name, license number and DIR registration number, and location of the place of business. For all DVBEs, also include the DVBE certification number assigned by the California Department of General Services.

7. For each listed entity, indicate either Y (yes) or N (no) in the column to specify whether the listed entity is a certified DVBE.

8. Ensure that Bidder's name is inserted where indicated. Mark the box for **either** the Bidder is a DVBE, **or** the Bidder will meet the DVBE goal with the listed DVBEs, **or** the Bidder has not met the goal. If the Bidder has not met the goal, state the percentage of DVBE participation achieved.

9. Sign the form where indicated.

10. Additional pages may be copied if necessary. Signature is only required once.

LIST OF SUBCONTRACTORS FOR _____ (BIDDER)

PROJECT: **0350-431 Genevieve Didion K-8 TK Expansion Project**

Pursuant to the provisions of Sections 4100 to 4114 inclusive, of the California Public Contract Code, and as set forth in Instructions to Bidders, and the General Conditions, the above named Contractor hereby designates below the portion of work to be performed by each Subcontractor and DVBE and the names, contractor license numbers, DIR registration numbers, and locations of the place of business of each Subcontractor and DVBE. Listed subcontractors shall be entitled to the protections of Public Contract Code sections 4100 to 4114. Please check one of the boxes and sign below:

☐ We are not using any Subcontractors or DVBEs.

☐ All of our Subcontractors who are performing at least 1/2 of 1% of the Work, including for any additive Alternates, **and** any DVBEs for which the Bidder claims credit, are listed below.

PORTION OF WORK TO BE PERFORMED (1)	NAME OF SUBCONTRACTOR	LICENSE, DIR AND DVBE NUMBERS	DVBE [Y/N]	LOCATION OF PLACE OF BUSINESS
		CSLB: DIR: DVBE #:		
		CSLB: DIR: DVBE #:		
		CSLB: DIR: DVBE #:		
		CSLB: DIR: DVBE #:		
		CSLB: DIR: DVBE #:		
		CSLB: DIR: DVBE #:		

PORTION OF WORK TO BE PERFORMED (1)	NAME OF SUBCONTRACTOR	LICENSE, DIR AND DVBE NUMBERS	DVBE [Y/N]	LOCATION OF PLACE OF BUSINESS
		CSLB: DIR: DVBE #:		
		CSLB: DIR: DVBE #:		
		CSLB: DIR: DVBE #:		
		CSLB: DIR: DVBE #:		
		CSLB: DIR: DVBE #:		

_____ (Insert Bidder name):

☐ Is a certified DVBE.

☐ Will meet the stated DVBE participation goal and has listed all DVBEs above.

☐ Has not met the goal but will achieve ___ % DVBE participation based on the DVBEs listed above.

By the signature below, the Bidder certifies under penalty of perjury under the laws of the State of California that, in performing the portion of work identified above, each listed DVBE shall perform a commercially useful function, as defined in Military & Veterans Code section 999(b)(5)(B)(i).

_____

Signed

(1) For DVBE subcontractors or suppliers, the work must be identified by description and a dollar amount. For second tier or lower subcontractors, identify the subcontractor with which the DVBE will be contracting.

END OF SECTION

DVBE REQUIREMENTS

Section 1.01 DVBE Policy

Definitions:

The term "Disabled Veteran Business Enterprise" (DVBE) means a business concern that is certified as a DVBE by the Department of General Services, Office of Small Business and Disabled Veteran Business Enterprise Services (OSDS).

The term "Bidder" means any person or persons, firm, partnership, corporation, or combination thereof making an offer, a proposal, or submitting a response to the Bidding Documents with the intent of forming a Contract with the District on the Project.

The term "Contractor" means the Bidder to whom the Contract is awarded.

The term "Participation Goal" or "Goal" means a numerically expressed DVBE objective that Bidders are required to make efforts to achieve in accordance with Section 17076.11 of the Education Code.

The term "Equipment Broker" means a DVBE that rents equipment ***unless*** one or more disabled veterans has at least a 51% ownership of the equipment. If the equipment is owned by one or more disabled veterans, then, to avoid being an Equipment Broker, each disabled veteran owner shall, prior to performance, submit a declaration signed by the disabled veteran owner stating that the owner is a disabled veteran and providing the name, address, telephone number, and tax identification number of the disabled veteran owner.

DVBE Goals:

In accordance with Education Code section 17076.11, the District has a Participation Goal for DVBEs of three percent (3%). Prior to, and as a condition precedent for, final payment, the Contractor shall provide documentation to the District identifying the amount paid to DVBEs under the Contract, so that the District can assess its success at meeting this Participation Goal.

For any work performed by a prime contractor or subcontractor (including materials suppliers) to be counted toward meeting the DVBE Participation Goal, such business concern must possess current and valid certification as a DVBE through the OSDS. In addition, the work must conform to the most current regulations and requirements as published by the California Department of General Services (DGS) and/or OSDS. For additional information see http://www.dgs.ca.gov/pd/Programs/OSDS.aspx.

Section 1.02 Participation Goal

The Participation Goal for this contract is 3%. Rental of equipment from an Equipment Broker shall not be credited towards the DVBE goal.

The Bidder shall perform the portion of work identified in its subcontractor list with the listed DVBEs.

In attempting to meet the Participation Goal, Bidders are expected to do the following:

1. Select portions of the work for which to solicit DVBEs. This may include breaking out contract work into smaller units or soliciting DVBEs for portions of the work that the Bidder might prefer to perform itself.

2. Search at least the OSDS DVBE database to identify DVBEs to solicit to perform the portions of work.

3. Advertise for DVBE participation in focus or trade publications reasonably expected to reach DVBEs in the region as early in the process as is practicable.

4. Solicit interest from identified DVBEs as early in the bidding process as practicable to allow the DVBEs to respond to the solicitation and submit a timely bid.

5. Follow up initial solicitations.

6. Work with interested DVBEs, including providing adequate information about the Project and portions of work available and negotiating in good faith with interested DVBEs to assist them with being able to bid.

Section 1.03 Substitutions

The Contractor must use the DVBE subcontractor(s) and/or supplier(s) proposed unless the Contractor requests and receives authorization to substitute from the District. A DVBE subcontractor or supplier shall be replaced by another DVBE, if possible. The DVBE will be given the rights afforded by Public Contract Code section 4107 prior to the District acting on a requested substitution.

FAILURE TO ADHERE TO THE DVBE PARTICIPATION PROPOSED BY THE SUCCESSFUL BIDDER MAY BE CAUSE FOR CONTRACT TERMINATION AND/OR RECOVERY OF DAMAGES UNDER THE RIGHTS AND REMEDIES UNDER THE DEFAULT SECTION OF THE CONTRACT.

DVBE AND GOOD FAITH EFFORTS REQUIREMENTS

Section 1.01 DVBE Policy

Definitions:

The term "Disabled Veteran Business Enterprise" (DVBE) means a business concern that is certified as a DVBE by the Department of General Services, Office of Small Business and Disabled Veteran Business Enterprise Services (OSDS).

The term "Bidder" means any person or persons, firm, partnership, corporation, or combination thereof making an offer, a proposal, or submitting a response to the Bidding Documents with the intent of forming a Contract with the District on the Project.

The term "Contractor" means the Bidder to whom the Contract is awarded.

The term "Participation Goal" or "Goal" means a numerically expressed DVBE objective that Bidders are required to make efforts to achieve in accordance with Section 17076.11 of the Education Code.

The term "Equipment Broker" means a DVBE that rents equipment ***unless*** one or more disabled veterans has at least a 51% ownership of the equipment. If the equipment is owned by one or more disabled veterans, then, to avoid being an Equipment Broker, each disabled veteran owner shall, prior to performance, submit a declaration signed by the disabled veteran owner stating that the owner is a disabled veteran and providing the name, address, telephone number, and tax identification number of the disabled veteran owner.

The term "Good Faith Efforts" or "GFE" means that the Bidder took all necessary and reasonable steps to achieve the DVBE Participation Goal which, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to obtain sufficient DVBE participation, even if they were not fully successful. Good Faith Efforts are further delineated in Section 1.02 below.

DVBE Goals:

In accordance with Education Code section 17076.11, the District has a Participation Goal for DVBEs of three percent (3%). Prior to, and as a condition precedent for, final payment, the Contractor shall provide documentation to the District identifying the amount paid to DVBEs under the Contract, so that the District can assess its success at meeting this Participation Goal.

For any work performed by a prime contractor or subcontractor (including materials suppliers) to be counted toward meeting the DVBE Participation Goal, such business concern must possess current and valid certification as a DVBE through the OSDS. In addition, the work must conform to the most current regulations and requirements as published by the California Department of General Services (DGS) and/or OSDS. For additional information see http://www.dgs.ca.gov/pd/Programs/OSDS.aspx.

Section 1.02 Requirements; Good Faith Efforts (GFE)

The Participation Goal for this contract is 3%. Rental of equipment from an Equipment Broker shall not be credited towards the DVBE goal.

The Bidder shall either commit to meeting the Participation Goal or demonstrate Good Faith Efforts to do so, as described below. If the Bidder is a DVBE, then the Bidder must clearly identify that fact in its bid. If the Bidder is not a DVBE, then all DVBEs for which the Bidder is claiming credit must be listed on the Subcontractor listing form and identified as DVBEs, even if the work to be performed is less than one-half of one percent (0.5%) of the bid amount, involves supply of materials, or is to be performed by a lower-tier subcontractor. Work to be performed by a lower tier subcontractor must be identified as such on the listing form to avoid the Bidder listing two subcontractors for the same scope of work.

Although GFE have been eliminated from Public Contract Code sections 10115 *et seq*., the District's obligation is separately stated under Education Code section 17076.10 and its OPSC grant, so the District may find a Bidder to have complied with the DVBE requirements if it establishes GFE. To establish GFE, the Bidder must demonstrate at least the following:

1. Select portions of the work for which to solicit DVBEs in order to increase the likelihood that the DVBE goals will be achieved. This may include breaking out contract work items into smaller units or soliciting DVBEs for portions of the work that the Bidder might otherwise prefer to perform itself. ***Identify the selected portions of work in the GFE documentation.***

2. Search at least the OSDS DVBE database to identify DVBEs to solicit to perform the portions of work identified. ***Print the search results to include with the GFE documentation.***

3. Advertise for DVBE participation in focus or trade publications reasonably expected to reach DVBEs in the region as early in the process as is practicable. Depending on the project and results, multiple advertisements may be appropriate. Generally, the first publication should occur **no later than** one week after the pre-bid conference. ***Submit a copy of the advertisement(s) with the GFE documentation.***

4. Solicit interest from identified DVBEs (from the OSDS database or otherwise) as early in the bidding process as practicable to allow the DVBEs to respond to the solicitation and submit a timely bid. Solicitations may be by phone, fax, email, letter, or other reasonable means, but must be documented. ***Submit documentation of all outreach efforts with the GFE documentation. Include copies of all DVBE responses.***

5. Follow up initial solicitations. ***Document all such efforts and DVBE responses as part of the GFE documentation.***

6. Work with interested DVBEs, including providing adequate information about the Project and portions of work available and negotiating in good faith with interested DVBEs to assist them with being able to bid. ***Document all such efforts with the GFE documentation.***

All documentation of GFE must be submitted within 24 hours following the bid deadline. Documentation submitted after that time will not be considered.

Bidders planning to meet the Participation Goal may still want to document GFE in the event of a shortfall in planned DVBE participation or other disqualification of a listed DVBE.

Section 1.03 Substitutions

The Contractor must use the DVBE subcontractor(s) and/or supplier(s) proposed unless the Contractor requests and receives authorization to substitute from the District. A DVBE subcontractor or supplier shall be replaced by another DVBE, if possible. The DVBE will be given the rights afforded by Public Contract Code section 4107 prior to the District acting on a requested substitution.

FAILURE TO ADHERE TO THE DVBE PARTICIPATION PROPOSED BY THE SUCCESSFUL BIDDER MAY BE CAUSE FOR CONTRACT TERMINATION AND/OR RECOVERY OF DAMAGES UNDER THE RIGHTS AND REMEDIES UNDER THE DEFAULT SECTION OF THE CONTRACT.

Good Faith Effort Checklist

The following checklist is provided to assist Bidders in compiling their good faith efforts documentation. Bidders are encouraged, but not required, to submit the checklist with their documentation. Bidders should not consider the following checklist to identify all actions that can or must be taken to establish good faith efforts, which will depend on the circumstances encountered by the Bidder. Bidders should explain any circumstances that they want the District to consider in evaluating the good faith efforts.

Item #	Description	Items Attached
1.	Identify portions of work for which DVBEs were solicited (can be done below).	☐
2.	Provide copies of printed search results from California Office of Small Business & Disabled Veterans' (OSDS) DVBE Database **Recommendation:** If the bidder does not solicit substantially all of the DVBEs identified on the printout(s), explain how the bidder selected the DVBEs to solicit.	☐
3.	Provide copies of DVBE Advertisements	☐
4.	Provide copies of all solicitation efforts including phone calls, fax, email, letter or other reasonable means, as well as all responses. **Recommendation:** If significant numbers of the solicited DVBEs cannot be reached or indicate that they do not intend to bid, then the Bidder is encouraged to identify additional DVBEs to solicit for participation.	☐
5.	Provide copies of follow-up to initial solicitations and all responses. Identify the date, time, and manner of the follow-up and any responses received. **Recommendation:** If significant numbers of the solicited DVBEs cannot be reached or indicate that they do not intend to bid, then the Bidder is encouraged to identify additional DVBEs to solicit for participation.	☐
6.	If the Bidder worked with interested DVBEs, describe all such efforts.	☐
7.	Describe any additional circumstances that the Bidder wants the District to consider in evaluating good faith efforts, including any additional actions taken to secure DVBE participation.	☐

SECTION 00 45 90 - POST BID INTERVIEW

SUMMARY

If requested by the District, this Section requires the apparent low bidder to attend and participate in a Post Bid Interview with the Construction Manager, prior to award of any contract by the District. The Post Bid Interview will be scheduled by the Construction Manager within three (3) calendar days after the date of bid.

REQUIRED ATTENDANCE

A duly authorized representative of the apparent low bidder is required to attend the Post Bid Interview, in person.

The apparent low bidder's authorized representative(s) must have (1) knowledge of how the bid submitted was prepared, (2) the person responsible for supervising performance of the Work, and (3) the authority to bind the apparent low bidder.

Failure to attend the Post Bid Interview as scheduled will be considered just cause for the District to reject the Bid as nonresponsive.

POST BID INTERVIEW PROCEDURE

The Construction Manager will review the Bid with the attendees.

The Construction Manager will review the Contract Documents with the attendees, including but not limited to:

Insurance

Bonding

Addenda

Pre-Bid Clarifications

Scope of Work

Bid Packages Descriptions

Bid Alternates

Contract Plans

Contract Specifications

Project Schedule and Schedule Requirements

Critical Dates Requirement for Other Bid Packages

Prevailing Wage Requirements

Liquidated Damages

Required Documentation for Contract Administration

Contract Coordination Requirements

POST BID INTERVIEW DOCUMENTATION

The Construction Manager will document the Post Bid Interview on the form attached to this Section. Both the apparent low bidder and the Construction Manager are required to sign the Post Bid Interview Documentation.

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POST BID INTERVIEW

CONSTRUCTION MANAGER

[Name]
[Address 1]
[Address 2]
[Phone] [Fax]

BIDDER: _____

DATE: _____ TIME: _____ PHONE: _____

1. INTRODUCTIONS:
   Present
   a.

_____	_____
CONTRACTOR	CONTRACTOR
_____	_____
_____	_____
[CM]	[CM]

2. PROPOSED CONTRACT:

3. PURPOSE OF INTERVIEW IS TO ASSURE A MUTUAL UNDERSTANDING OF THE FOLLOWING:

a.	Do you acknowledge submission of a complete and accurate bid?	Yes	No
b.	Do you acknowledge the Bid Document submittal timelines after NOA and NTP and can you meet those timelines?	Yes	No
c.	Do you acknowledge the requirements for the escrow of bid documents?	Yes	No
d.	Are you comfortable with your listed subcontractors?	Yes	No

4. CONTRACTUAL REQUIREMENTS:

a.	Do you understand you are a prime contractor?	Yes	No
b.	Can you meet specified insurance requirements?	Yes	No
(1)	Do any of your policies that require Additional Insured endorsements exceed the minimum coverage requirements?	Yes	No
(2)	Are you requesting that the District accept an Excess Liability Insurance Policy to meet the policy limit?	Yes	No
(3)	Will there be a gap between the per occurrence amount of any underlying policy and the start of the coverage under the Umbrella or Excess Liability Insurance Policy?	Yes	No

c. Will you provide the Performance Bond and Labor and Material Bond for 100% of the Contract Price as stipulated? Yes No

(1) Cost for bonds: _____% Yes No

(2) Is the cost of your bonds in your base bid? Yes No

(3) Is your surety licensed to issue bonds in California? Yes No

d. Do you understand the fingerprinting requirements? Yes No

e. Is it understood that all workers must be paid prevailing wage? Yes No

f. Is it understood that all subcontractors of every tier must be registered as a public works contractor with the Department of Industrial Relations? Yes No

5. SCOPE OF WORK:

a. Acknowledged Receipt of Addenda #1-_ Yes No

b. Are the costs for addenda items included in your bid? (if applicable) Yes No

c. Do you have a complete understanding of your Scope of Work under the proposed Agreement? Yes No

d. You have re-reviewed the documents and understand the Scope of the Work. Are there any items that require clarification? Yes No
If yes, please identify them.

(1) _____

_____

(2) _____

_____

(3) _____

_____

Is (are) there additional cost(s) for the above item(s)? Yes No

e. Is the cost for allowance included in your bid? Yes No

f. Have you reviewed bid alternative(s) #1-___? (if applicable) Yes No

g. Are the costs for bid alternatives included in your bid? Yes No

h. Are the plans and specifications clear and understandable to your satisfaction? Yes No

i. Do you acknowledge that the time to submit notice of requests for substitution of specified materials has expired? Yes No

6. SCHEDULE:

a. Do you acknowledge and agree to the stipulated completion dates and milestones in the contract? Yes No

(1) Will you provide a detailed construction schedule to _____ within the required ten (10) days of the Notice to Proceed, per the contract? Yes No

(2) Can you meet the submittal deadline? Yes No

(3) It is understood that the Project schedule is critical and that that weekend and overtime work may be required to meet the milestones. Yes No

(4) It is understood that if rain does occur, then all dewatering and protection of work is required, per the contract. Yes No
If not, what do you believe must change and why?

_____

_____

_____

b. Identify critical materials, deliveries, long lead items and other dependencies, including Owner Furnished items that could affect the completion of your work. Yes No

(1) _____

(2) _____

(3) _____

(4) _____

(5) _____

c. Do you understand that there is going to be maintenance and other construction taking place on site during the course of the project? Yes No

7. EXECUTION OF WORK

a. Do you understand the access to the site? Yes No

b. Do you understand the staging area restrictions? Yes No

c. Have you included protection of [asphalt, floors, and roofs]? Yes No

d. Do you understand that the site is occupied by students, teachers, administrators, parents, etc.? Yes No

8. CONTRACTOR COMMENTS/SUGGESTIONS:

(1) _____

(2) _____

(3) _____

(4) _____

(5) _____

9. CONTRACTOR

You agree the information contained herein is part of your contractual obligations. Your signature acknowledges your agreement to perform all Work in the Contract Documents, and that costs for all Work are included in your bid.

The foregoing information is true and accurate, and I am authorized to sign as an officer of the company I am representing.

[Company Name]

_____

Signature _____ Title: _____

Date: _____

10. CONSTRUCTION MANAGER

Signature _____ Title: _____

Date: _____

Title of Document: POST BID INTERVIEW
Number of Pages: _____
Date of Document: _____

Section 00 52 00 - FORM OF CONTRACT

ARTICLE 1. AGREEMENT FOR CONSTRUCTION

This contract is contingent upon Sacramento City Unified School District Board approval and will not be valid unless approved.

THIS AGREEMENT is made and entered into as of this **[Date written out]**, by and between the Sacramento City Unified School District ("District"), and _____, a California corporation, Contractors State License Board license number _____ ("Contractor").

District and Contractor hereby mutually agree as follows:

Section 1 - SCOPE OF WORK.
Contractor agrees to furnish all tools, equipment, apparatus, facilities, labor and materials and transportation necessary to perform and complete in a good and workmanlike manner to the satisfaction of District, all work called for and in the manner designated in, and in strict accordance with, the Contract Documents as defined in Section 2 hereof, the Work for the **0350-431 Genevieve Didion K-8 TK Expansion Project.**

Section 2 - CONTRACT DOCUMENTS.
The Contract Documents, sometimes also referred to as "the Contract", consist of the Notice to Bidders, the Instructions for Bidders, the Bid, the Agreement for Construction, the Performance Bond, the Payment Bond, these General Conditions, the Special Provisions, the General Requirements, Exhibits, the Technical Specifications, the Contract Drawings and Plans, all duly issued addenda, Interpretations, Change Orders, supplemental drawings, Architect's Instruction Bulletins, the Contractor's Guarantee and Bond, the Hazardous Materials Requirements (if any), the Construction Forms Manual, and the Contract Schedule.

Section 3 - DEFINITIONS.
Unless otherwise specifically provided herein, all words and phrases defined in the General Conditions shall have the same meaning and intent in this Agreement.

Section 4 - CONTRACT AMOUNT AND PAYMENT.
District agrees to pay and Contractor agrees to accept, for the full and complete performance of this Agreement for the Work performed the sum of _____ DOLLARS $_____ ("Contract Sum"), subject to adjustment as provided in the Contract Documents.

Monthly progress payments shall be made in accordance with Article 12 of the General Conditions of the Contract Documents.

Final payment shall be made in accordance with Article 21 of the General Conditions.

Section 5 – CONTRACT TIME.
The Work shall be commenced on the date specified in the District's "Notice to Proceed," and shall be fully completed as described in the Contract Documents, including, without limitation, submittal of all close-out documentation **within 70 calendar days from the commencement date stated in the "Notice to Proceed"** together with such additional time as may be provided by any change order issued pursuant to the Contract Documents.

Time is of the essence in this Agreement and the Contract Documents. Failure of Contractor to complete the Work by the completion date and in the manner provided for by the Contract Documents, as that time may be extended by Change Order, shall subject Contractor to liquidated damages as hereinafter provided in this Agreement and the Contract Documents.

Section 6 - NO WAIVER BY PERFORMANCE; REMEDIES.
No action by the District or its representatives in performing this Agreement, including without limitation inspection or payment, shall operate as a waiver of any provision of this Agreement or the Contract Documents or of any legal right of District unless such waiver is expressly stated in writing. No waiver of any breach of this Agreement or of the Contract Documents shall waive any other or subsequent breach. In addition to each and every remedy provided in this Agreement and/or the Contract Documents, District shall have any and all equitable and legal remedies otherwise available to it.

Section 7 - LIQUIDATED DAMAGES.
Liquidated damages may be assessed against Contractor in accordance with Article 14 of the General Conditions and the Special Provisions, in the amount of **$2,500** per calendar day if Contractor fails to substantially complete the Work within the Contract Time, as that time may be extended by change order, and in the amount of $100 per calendar day after substantial completion and until final completion. The provision for liquidated damages in the Contract Documents shall not act as a limitation upon District if Contractor abandons the Work. In such event, Contractor shall be liable to District for all losses incurred.

Section 8 - PERFORMANCE AND PAYMENT BONDS.
As a condition of award of this Agreement, Contractor was required to file a Performance Bond and a Payment Bond with District. These bonds shall be maintained during the entire life of the Agreement at the expense of Contractor. Each bond shall be in the amount of one hundred percent (100%) of the Contract Sum. Any alteration or alterations made in any provision of the Contract shall not operate to release any surety from any liability on any bond required hereunder and the consent to make such alterations is hereby given, and any surety on said bonds must waive the provisions of Section 2819 of the Civil Code.

Section 9 - UNFAIR COMPETITION.
The following provision is included in this Agreement pursuant to California Public Contract Code section 7103.5.

> "In entering into a public works contract or subcontract to supply goods, services, or materials pursuant to a public works contract, the contractor or subcontractor offers and agrees to assign to the awarding body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700 of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or subcontract. This assignment shall be made and become effective at the time the awarding body tenders final payment to the contractor, without further acknowledgment by the parties."

Section 10 - ASSIGNMENT.
Neither this Agreement nor any rights herein of Contractor shall be assigned without the written consent of District first obtained.

Section 11 - NO THIRD PARTY BENEFICIARIES.
This Agreement is entered into solely between District and Contractor. There are no third-party beneficiaries, intended, unintended, or otherwise to this Agreement.

Section 12 - AGREEMENT BINDING.
This Agreement shall bind and insure to the heirs, devisees, assignees, and successors in interest of Contractor and to the successors in interest of District in the same manner as if such parties had been expressly named herein.

Section 13 - AGREEMENT CONTROLS.
In the event of a conflict between the terms and conditions set forth in this Agreement and the terms and conditions set forth in the other Contract Documents, the terms and conditions set forth in this Agreement shall prevail.

Section 14 - FINGERPRINTING.
Education Code sections 45125.1 and 45125.2 apply to this Agreement. Contractor shall, prior to commencement of Work, comply with either of the methods of ensuring safety set forth in Education Code section 45125.2(a)(1) (installation of a physical barrier) or 45125.2(a)(2) (continual supervision by an employee of Contractor who has not been convicted of a serious or violent felony). If Contractor elects to provide continual supervision pursuant to Education Code section 45125.2(a)(2), Contractor shall require the person(s) who will provide that continual supervision to be fingerprinted by the Department of Justice ("DOJ"). Upon verification from DOJ that those persons fingerprinted have no record of a serious or violent felony, Contractor will so certify by signing and submitting to District, through the District Representative, the certification form attached as Exhibit A and incorporated by reference. In addition, Contractor shall submit the names of those persons who have received clearance on a form as indicated in Exhibit B. Any person whose name is not on the cleared list may not have such access. In that case, Contractor must make arrangements with District for appropriate access. No person with a violent or serious felony as reported by DOJ may have access to the school campuses.

Failure to comply with this Section of this Agreement at all times, or permitting unsupervised access by an employee whose name has not been cleared by DOJ as certified by Contractor, shall constitute grounds for termination of this Agreement.

Section 15 - GOVERNING LAW.
This Agreement will be governed by and construed in accordance with the laws of the State of California.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the day and year first above written.

Contractors are required by law to be licensed and regulated by the Contractor's State License Board, which has jurisdiction to investigate complaints against contractors if a complaint is filed within three years of the date of the alleged violation. Any questions concerning a contractor may be referred to the Registrar, Contractors' State License Board, P.O. Box 26000, Sacramento, California 95826.

District: Sacramento City Unified School District

By: _____
Name

Its: Mary Hardin Young, Deputy Superintendent

Contract Amount: _____

By: _____
Name

Its: _____

(Signatures continued on following page)

Board Approval Date:_____

Contractor:_____

By: _____

Its: _____

Business Address:_____
_____
License Number:_____
Contractor DIR Registration #:_____
Federal I.D. #:_____

CORPORATE CERTIFICATE

I, _____, certify that I am the Secretary of the corporation named as Contractor in the foregoing contract; that _____, who signed said contract on behalf of said corporation is authorized to fully bind the corporation to this Agreement; that said contract was duly signed for and on behalf of said corporation by authority of its governing body and is within the scope of its corporate powers.

_____
Secretary

EXHIBIT A TO FORM OF CONTRACT

CRIMINAL BACKGROUND INVESTIGATION /FINGERPRINTING CERTIFICATION

The undersigned does hereby certify to the District that I am a representative of the Contractor currently under contract with the District; that I am familiar with the facts herein certified; and that I am authorized and qualified to execute this certificate on behalf of Contractor.

Contractor certifies that it has taken at least one of the following actions (check all that apply):

☐ Pursuant to Education Code section 45125.2(a), Contractor has installed or will install, prior to commencement of Work, a physical barrier at the Work Site, that will limit contact between Contractor's employees, Subcontractors or suppliers and District pupils at all times; and/or

☐ Pursuant to Education Code section 45125.2(a), Contractor certifies that all employees will be under the continual supervision of, and monitored by, an employee of the Contractor who the California Department of Justice ("DOJ") has ascertained, or as described below, will ascertain, has not been convicted of a violent or serious felony. The name and title of the employee who will be supervising Contractor's and its subcontractors' or suppliers' employees is:

Name: _____

Title: _____

NOTE: If Contractor is a sole proprietor, and elects the above option, Contractor must have the above-named employee's fingerprints prepared and submitted by District for submission to the DOJ, in accordance with Education Code section 45125.1(h). No work shall commence until such determination by DOJ has been made.

☐ Pursuant to Education Code section 45125.2(a), the District will take appropriate steps to protect the safety of any pupils that may come in contact with Contractor's employees, subcontractors or suppliers so that the fingerprinting and criminal background investigation requirements of Education Code section 45125.2 shall not apply to Contractor under the Contract.

☐ The Work on the Contract is either (i) at an unoccupied school site and no employee of Contractor and/or subcontractor or supplier of any tier of the Contract shall come in contact with the District pupils or (ii) if Contractor's employees or any subcontractor or supplier of any tier of the Contract interacts with pupils, such interaction shall only take place under the immediate supervision and control of the pupil's parent or guardian or a school employee, so that the fingerprinting and criminal background investigation requirements of Education Code section 45125.1 shall not apply to Contractor under the Contract.

☐ The Contractor, who is not a sole proprietor, has complied with the fingerprinting requirements of Education Code section 45125.1 with respect to all Contractor's employees and all of its Subcontractors' employees who may have contact with District pupils in the course of providing services pursuant to the Contract, and the DOJ has determined (A) that none of those employees has been convicted of a felony, as that term is defined in Education Code section 45122.1 and/or (B) that the prohibition does not apply to an employee as provided by Education Code section 45125.1(e)(2) or (3). When the Contractor performs the criminal background check, it shall immediately provide any subsequent arrest and conviction information it receives to the District pursuant to the subsequent arrest service. No work shall commence until the Department of Justice ascertains that Contractor's employees and any subcontractors' employees have not been convicted of a felony as defined in Government Code Section 45122.1.

A complete and accurate list of Contractor's employees and of all of its subcontractors' employees who may come in contact with District pupils during the course and scope of the Contract is attached hereto as EXHBIT B FORM OF CONTRACT" and/or

☐ The Contractor is a sole proprietor and intends to comply with the fingerprinting requirements of Education Code section 45125.1(h) with respect to all Contractor's employees who may have contact with District pupils in the course of providing services pursuant to the Contract, and hereby agrees to the District's preparation and submission of fingerprints such that the DOJ may determine (A) that none of those employees has been convicted of a felony, as that term is defined in Education Code section 45122.1 and/or (B) that the prohibition does not apply to an employee as provided by Education Code section 45125.1(e)(2) or (3). No work shall commence until the Department of Justice ascertains that Contractor's employees and any subcontractors' employees have not been convicted of a felony as defined in Government Code Section 45122.1.

Contractor's responsibility for background clearance extends to all of its employees, Subcontractors or suppliers, and employees of Subcontractors or suppliers coming into contact with District pupils regardless of whether they are designated as employees or acting as independent contractors of the Contractor.

EXHIBIT B TO FORM OF CONTRACT

List of Employees/Subcontractors With DOJ Clearance

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

If further space is required for the list of employees/subcontractors, attach additional copies of this page.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

EXHIBIT C TO FORM OF CONTRACT

WORKERS' COMPENSATION CERTIFICATION

Labor Code section 3700, in relevant part, provides:

> Every employer except the State shall secure the payment of compensation in one or more of the following ways:
>
> By being insured against liability to pay compensation by one or more insurers duly authorized to write compensation insurance in this state; and/or
>
> By securing from the Director of Industrial Relations a certificate of consent to self-insure, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to his employees.

I am aware of the provisions of section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the Work of this Contract.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

(In accordance with Labor Code sections 1860 and 1861, the above certificate must be signed and filed with the awarding body prior to performing any Work under this Contract.)

EXHIBIT D TO FORM OF CONTRACT

PREVAILING WAGE AND RELATED LABOR REQUIREMENTS CERTIFICATION

I hereby certify that I will conform to the State of California Public Works Contract requirements regarding prevailing wages, benefits, on-site audits with 48-hours' notice, payroll records, and apprentice and trainee employment requirements, for all Work on the above Project including, without limitation, labor compliance monitoring and enforcement by the Department of Industrial Relations.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

EXHIBIT E TO FORM OF CONTRACT

DRUG-FREE WORKPLACE CERTIFICATION

This Drug-Free Workplace Certification form is required from the successful Bidder pursuant to Government Code section 8350 et seq., the Drug-Free Workplace Act of 1990. The Drug-Free Workplace Act of 1990 requires that every person or organization awarded a contract or grant for the procurement of any property or service from any state agency must certify that it will provide a drug-free workplace by doing certain specified acts. In addition, the Act provides that each contract or grant awarded by a state agency may be subject to suspension of payments or termination of the contract or grant, and the contractor or grantee may be subject to debarment from future contracting, if the contracting agency determines that specified acts have occurred.

The District is not a "state agency" as defined in the applicable section(s) of the Government Code, but the District is a local agency and public school district under California law and requires all contractors on District projects to comply with the provisions and requirements of the Drug-Free Workplace Act of 1990.

Contractor must also comply with the provisions of Health & Safety Code section 11362.3 which prohibits the consumption or possession of cannabis or cannabis products in any public place, including school grounds, and specifically on school grounds while children are present.

Contractor shall certify that it will provide a drug-free workplace by doing all of the following:

a. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited in the person's or organization's workplace and specifying actions which will be taken against employees for violations of the prohibition.

b. Establishing a drug-free awareness program to inform employees about all of the following:

   1. The dangers of drug abuse in the workplace.

   2. The person's or organization's policy of maintaining a drug-free workplace.

   3. The availability of drug counseling, rehabilitation, and employee-assistance programs.

   4. The penalties that may be imposed upon employees for drug abuse violations.

c. Requiring that each employee engaged in the performance of the contract or grant be given a copy of the statement required above, and that, as a condition of employment on the contract or grant, the employee agrees to abide by the terms of the statement.

I, the undersigned, agree to fulfill the terms and requirements of Government Code section 8355 listed above and will publish a statement notifying employees concerning (a) the prohibition of controlled substance at the workplace, (b) establishing a drug-free awareness program, and (c) requiring that each employee engaged in the performance of the Contract be given a copy of the statement required by section 8355(a), and requiring that the employee agree to abide by the terms of that statement.

I also understand that if the District determines that I have either (a) made a false certification herein, or (b) violated this certification by failing to carry out the requirements of section 8355, that the Contract awarded herein is subject to termination, suspension of payments, or both. I further understand that, should I violate the terms of the Drug-Free Workplace Act of 1990, I may be subject to debarment in accordance with the requirements of the aforementioned Act.

I acknowledge that I am aware of the provisions of and hereby certify that I will adhere to the requirements of the Drug-Free Workplace Act of 1990 and Health and Safety Code section 11362.3.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

EXHIBIT F TO FORM OF CONTRACT

TOBACCO-FREE ENVIROMENT CERTIFICATION

This Tobacco-Free Environment Certification form is required from the successful Bidder.

Pursuant to, without limitation, 20 U.S.C. section 6083, Labor Code section 6400 et seq., Health & Safety Code section 104350 et seq., Business and Professions Code section 22950 et seq., and District Board policies, all District sites, including the Project site, are tobacco-free environments. Smoking and the use of tobacco products by all persons is prohibited on or in District property. District property includes school buildings, school grounds, school-owned vehicles and vehicles owned by others while on District property. The prohibition on smoking includes the use of any electronic smoking device that creates an aerosol or vapor, in any manner or in any form, and the use of any oral smoking device for the purpose of circumventing the prohibition of tobacco smoking. Further, Health & Safety Code section 11362.3 prohibits the smoking or use of cannabis or cannabis products in any place where smoking tobacco is prohibited.

I acknowledge that I am aware of the District's policy regarding tobacco-free environments at District sites, including the Project site and hereby certify that I will adhere to the requirements of that policy and not permit any of my firm's employees, agents, subcontractors, or my firm's subcontractors' employees or agents, to use tobacco and/or smoke on the Project site.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

EXHIBIT G TO FORM OF CONTRACT

HAZARDOUS MATERIALS CERTIFICATION

11. Contractor hereby certifies that no asbestos, or asbestos-containing materials, polychlorinated biphenyl (PCB), or any material listed by the federal or state Environmental Protection Agency or federal or state health agencies as a hazardous material, or any other material defined as being hazardous under federal or state laws, rules, or regulations, ("New Hazardous Material"), shall be furnished, installed, or incorporated in any way into the Project or in any tools, devices, clothing, or equipment used to affect any portion of Contractor's work on the Project for District.

12. Contractor further certifies that it has instructed its employees with respect to the above-mentioned standards, hazards, risks, and liabilities.

13. Asbestos and/or asbestos-containing material shall be defined as all items containing but not limited to chrysotile, crocidolite, amosite, anthophyllite, tremolite, and actinolite. Any or all material containing greater than one-tenth of one percent (0.1%) asbestos shall be defined as asbestos-containing material.

4. Any disputes involving the question of whether or not material is New Hazardous Material shall be settled by electron microscopy or other appropriate and recognized testing procedure, at the District's determination. The costs of any such tests shall be paid by Contractor if the material is found to be New Hazardous Material.

5. All Work or materials found to be New Hazardous Material or Work or material installed with equipment containing New Hazardous Material will be immediately rejected and this Work will be removed at Contractor's expense at no additional cost to the District.

6. Contractor has read and understood the document titled Hazardous Materials Procedures & Requirements, and shall comply with all the provisions outlined therein. Contractor certifies that it is knowledgeable of, and shall comply with, all laws applicable to the Work including, but not limited to, all federal, state, and local laws, statutes, standards, rules, regulations, and ordinances applicable to the Work.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

EXHIBIT H TO FORM OF CONTRACT

LEAD-BASED MATERIALS CERTIFICATION

This certification provides notice to the Contractor that:

Contractor's work may disturb lead-containing building materials.

Contractor shall notify the District if any work may result in the disturbance of lead-containing building materials.

Contractor shall comply with the Renovation, Repair and Painting Rule, if lead-based paint is disturbed in a six-square-foot or greater area indoors or a 20-square-foot or greater area outdoors.

1. Lead as a Health Hazard

Lead poisoning is recognized as a serious environmental health hazard facing children today. Even at low levels of exposure, much lower than previously believed, lead can impair the development of a child's central nervous system, causing learning disabilities, and leading to serious behavioral problems. Lead enters the environment as tiny lead particles and lead dust disburses when paint chips, chalks, peels, wears away over time, or is otherwise disturbed. Ingestion of lead dust is the most common pathway of childhood poisoning; lead dust gets on a child's hands and toys and then into a child's mouth through common hand-to-mouth activity. Exposures may result from construction or remodeling activities that disturb lead paint, from ordinary wear and tear of windows and doors, or from friction on other surfaces.

Ordinary construction and renovation or repainting activities carried out without lead-safe work practices can disturb lead-based paint and create significant hazards. Improper removal practices, such as dry scraping, sanding, or water blasting painted surfaces, are likely to generate high volumes of lead dust.

Because the Contractor and its employees will be providing services for the District, and because the Contractor's work may disturb lead-containing building materials, CONTRACTOR IS HEREBY NOTIFIED of the potential presence of lead-containing materials located within certain buildings utilized by the District. All school buildings built prior to 1978 are presumed to contain some lead-based paint until sampling proves otherwise.

2. Overview of California Law

Education Code section 32240 et seq. is known as the Lead-Safe Schools Protection Act. Under this act, the Department of Health Services is to conduct a sample survey of schools in the State of California for the purpose of developing risk factors to predict lead contamination in public schools. (Ed. Code, § 32241.)

Any school that undertakes any action to abate existing risk factors for lead is required to utilize trained and state-certified contractors, inspectors, and workers. (Ed. Code, § 32243, subd. (b).) Moreover, lead-based paint, lead plumbing, and solders, or other potential sources of lead contamination, shall not be utilized in the construction of any new school facility or the modernization or renovation of any existing school facility. (Ed. Code, § 32244.)

Both the Federal Occupational Safety and Health Administration ("Fed/OSHA") and the California Division of Occupational Safety and Health ("Cal/OSHA") have implemented safety orders applicable to all construction work where a contractor's employee may be occupationally exposed to lead.

The OSHA Regulations apply to all construction work where a contractor's employee may be occupationally exposed to lead. The OSHA Regulations contain specific and detailed requirements

imposed on contractors subject to those regulations. The OSHA Regulations define construction work as work for construction, alteration, and/or repair, including painting and decorating. Regulated work includes, but is not limited to, the following:

a. Demolition or salvage of structures where lead or materials containing lead are present;

b. Removal or encapsulation of materials containing lead;

c. New construction, alteration, repair, or renovation of structures, substrates, or portions thereof, that contain lead, or materials containing lead;

d. Installation of products containing lead;

e. Lead contamination/emergency cleanup;

f. Transportation, disposal, storage, or containment of lead or materials containing lead on the site or location at which construction activities are performed; and

g. Maintenance operations associated with the construction activities described in the subsection.

Because it is assumed by the District that all painted surfaces (interior as well as exterior) within the District contain some level of lead, it is imperative that the Contractor, its workers and subcontractors fully and adequately comply with all applicable laws, rules and regulations governing lead-based materials (including title 8, California Code of Regulations, section 1532.1).

Contractor shall notify the District if any Work may result in the disturbance of lead-containing building materials. Any and all Work that may result in the disturbance of lead-containing building materials shall be coordinated through the District. A signed copy of this Certification shall be on file prior to beginning Work on the Project, along with all current insurance certificates.

3. Renovation, Repair and Painting Rule, Section 402(c)(3) of the Toxic Substances Control Act

The EPA requires lead safe work practices to reduce exposure to lead hazards created by renovation, repair and painting activities that disturb lead-based paint. Pursuant to the Renovation, Repair and Painting Rule (RRP), renovations in homes, childcare facilities, and schools built prior to 1978 must be conducted by certified renovations firms, using renovators with training by a EPA-accredited training provider, and fully and adequately complying with all applicable laws, rules and regulations governing lead-based materials, including those rules and regulations appearing within title 40 of the Code of Federal Regulations as part 745 (40 CFR 745).

The RRP requirements apply to all contractors who disturb lead-based paint in a six-square-foot or greater area indoors or a 20-square-foot or greater area outdoors. If a DPH-certified inspector or risk assessor determines that a home constructed before 1978 is lead-free, the federal certification is not required for anyone working on that particular building.

4. Contractor's Liability

If the Contractor fails to comply with any applicable laws, rules, or regulations, and that failure results in a site or worker contamination, the Contractor will be held solely responsible for all costs involved in any required corrective actions, and shall defend, indemnify, and hold harmless the District, pursuant to the indemnification provisions of the Contract, for all damages and other claims arising therefrom.

If lead disturbance is anticipated in the Work, only persons with appropriate accreditation, registrations, licenses, and training shall conduct this Work.

It shall be the responsibility of the Contractor to properly dispose of any and all waste products, including, but not limited to, paint chips, any collected residue, or any other visual material that may occur from the prepping of any painted surface. It will be the responsibility of the Contractor to provide the proper disposal of any hazardous waste by a certified hazardous waste hauler. This company shall be registered with the Department of Transportation (DOT) and shall be able to issue a current manifest number upon transporting any hazardous material from any school site within the District.

The Contractor shall provide the District with any sample results prior to beginning Work, during the Work, and after the completion of the Work. The District may request to examine, prior to the commencement of the Work, the lead training records of each employee of the Contractor.

THE CONTRACTOR HEREBY ACKNOWLEDGES, UNDER PENALTY OF PERJURY, THAT IT:

1. HAS RECEIVED NOTIFICATION OF POTENTIAL LEAD-BASED MATERIALS ON THE OWNER'S PROPERTY;

2. IS KNOWLEDGEABLE REGARDING AND WILL COMPLY WITH ALL APPLICABLE LAWS, RULES, AND REGULATIONS GOVERNING WORK WITH, AND DISPOSAL, OF LEAD.

THE UNDERSIGNED WARRANTS THAT HE/SHE HAS THE AUTHORITY TO SIGN ON BEHALF OF AND BIND THE CONTRACTOR. THE DISTRICT MAY REQUIRE PROOF OF SUCH AUTHORITY.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

EXHIBIT I TO FORM OF CONTRACT

IMPORTED MATERIALS CERTIFICATION

This form shall be executed by all entities that, in any way, provide or deliver and/or supply any soils, aggregate, or related materials ("Fill") to the Project Site and shall be provided to the District at least ten (10) days before delivery. All Fill shall satisfy all requirements of any environmental review of the Project performed pursuant to the statutes and guidelines of the California Environmental Quality Act, section 21000 et seq. of the Public Resources Code ("CEQA"), and all requirements of section 17210 et seq. of the Education Code, including requirements for a Phase I environmental assessment acceptable to the State of California Department of Education and Department of Toxic Substances Control.

Certification of: □ Delivery Firm/Transporter □ Supplier □ Manufacturer
□ Wholesaler □ Broker □ Retailer
□ Distributor □ Other _____

Type of Entity □ Corporation □ General Partnership
□ Limited Partnership □ Limited Liability Company
□ Sole Proprietorship □ Other _____

Name of firm ("Firm"): _____

Mailing address: _____

Addresses of branch office used for this Project: _____

If subsidiary, name and address of parent company: _____

_____

By my signature below, I hereby certify that I am aware of section 25260 of the Health and Safety Code and the sections referenced therein regarding the definition of hazardous material. I further certify on behalf of the Firm that all soils, aggregates, or related materials provided, delivered, and/or supplied or that will be provided, delivered, and/or supplied by this Firm to the Project Site are free of any and all hazardous material as defined in section 25260 of the Health and Safety Code. I further certify that I am authorized to make this certification on behalf of the Firm.

Date: _____

Proper Name of Firm: _____

Signature: _____

Print Name: _____

Title: _____

EXHIBIT J TO FORM OF CONTRACT

DISABLED VETERAN BUSINESS ENTERPRISE PARTICIPATION CERTIFICATION

GENERAL INSTRUCTIONS

Section 17076.11 of the Education Code requires school districts using, or planning to use, funds allocated pursuant to the State of California School Facility Program ("Program") for the construction and/or modernization of school buildings to have a participation goal for disabled veteran business enterprises ("DVBE") of at least three percent (3%) per year of the overall dollar amount expended each year by the school district on projects that receive state funding. Therefore, the lowest responsive responsible Bidder awarded the Contract must submit this document to the District with its executed Agreement, identifying the steps contractor took to solicit DVBE participation in conjunction with this Contract. **Do not submit this form with your bids. This Form must be provided to the District no later than 24 hours after bid opening.**

PART I – Method of Compliance with DVBE Participation Goals. Check the appropriate box to indicate your method of committing the contract dollar amount.

YOUR BUSINESS ENTERPRISE IS:	AND YOU WILL	AND YOU WILL
1.01 ☐ Disabled veteran owned and your forces will perform at least 3% of this Contract	Include a copy of your DVBE letter from Office of Small Business and Disabled Veterans Business Enterprise Services ("OSDS")*	Complete Part 1 of this form and the Certification
1.02 ☐ Disabled veteran owned but is unable to perform 3% of this Contract with your forces	Use DVBE subcontractors /suppliers to bring the Contract participation to at least 3%	Include a copy of each DVBE's letter from OSDS (including yours, if applicable), and complete Part 1 of this form and the Certification
1.03 ☐ NOT disabled veteran owned	Use DVBE subcontractors /suppliers for at least 3% of this Contract	
1.04 ☐ Unable to meet the required participation goals after good faith efforts	Make good faith efforts, including contacts, advertisement and DVBE solicitation	Complete all of this form and the Certification

* A DVBE letter from OSDS is obtained from the participating DVBE.

You must complete the following table to show the dollar amount of DVBE participation:

		TOTAL CONTRACT PRICE
1.01	**Prime Bidder, if DVBE (own participation)**	$
1.02	**DVBE Subcontractor or Supplier**	
	A.	
	B.	
	C.	
	D.	
1.03	**Subtotal (A & B)**	
1.04	**Non-DVBE**	
1.05	**Total Bid**	

PART II – Contacts. To identify DVBE subcontractors/suppliers for participation in your contract, you must contact each of the following categories. You should contact several DVBE organizations.

CATEGORY	TELEPHONE NUMBER	DATE CONTACTED	PERSON CONTACTED
A. The District, if any			*
B. OSDS, provides assistance locating DVBEs at https://caleprocure.ca.gov/pages/PublicSearch/supplier-search.aspx	(916) 375-4940		*
C. DVBE Organization (List)			*

*Write “recorded message” in this column, if applicable.

PART III – Advertisement. You must advertise for DVBE participation in both a trade and focus paper. List the advertisement you place to solicit DVBE participation. Advertisements should be published at least fourteen (14) days prior to bid/proposal opening; if you cannot advertise fourteen (14) days prior, advertisements should be published as soon as possible. Advertisements must include that your firm is seeking DVBE participation, the project name and location, and your firm’s name, your contact person, and telephone number. Attach copies of advertisements to this form.

FOCUS/TRADE PAPER NAME	CHECK ONE		DATE OF ADVERTISEMENT
	TRADE	FOCUS	

PART IV – DVBE Solicitations. List DVBE subcontractors/suppliers that were invited to bid. Use the following instructions to complete the remainder of this section (read the three columns as a sentence from left to right). If you need additional space to list DVBE solicitations, please use a separate page and attach to this form.

IF THE DVBE…..	**THEN…..**	**AND…..**
was selected to participate	Check "YES" in the "SELECTED" column	include a copy of their DVBE letter(s) from OSDS
was **NOT** selected to participate	Check "NO" in the "SELECTED" column	state why in the "REASON NOT SELECTED" column
did not respond to your solicitation	Check the "NO RESPONSE" column.	

DVBE CONTACTED	**SELECTED**		**REASON NOT SELECTED**	**NO RESPONSE**
	YES	**NO**		

A copy of this form must be retained by you and may be subject to a future audit.

CERTIFICATION

I, _____, certify that I am the bidder's _____ and that I have made a diligent effort to ascertain the facts with regard to the representations made herein. In making this certification, I am aware of section 12650 et seq. of the Government Code providing for the imposition of treble damages for making false claims.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

EXHIBIT K TO FORM OF CONTRACT

REGISTERED SUBCONTRACTORS LIST
(Labor Code Section 1771.1)

Date Submitted (for Updates): _____

Contractor acknowledges and agrees that it must clearly set forth below the name and Department of Industrial Relations (DIR) registration number of each subcontractor **for all tiers** who will perform work or labor or render service to Contractor or its subcontractors in or about the construction of the Work **at least two (2) weeks before the subcontractor is scheduled to perform work**. This document is to be updated as all tiers of subcontractors are identified.

Contractor acknowledges and agrees that, if Contractor fails to list as to any subcontractor of any tier who performs any portion of Work, the Contract is subject to cancellation and the Contractor will be subjected to penalty under applicable law.

If further space is required for the list of proposed subcontractors, attach additional copies of page 2 showing the required information, as indicated below.

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Date: _____

Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

Section 00 61 13.13 – PAYMENT BOND FORM

Bond No._____

PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, Sacramento City Unified School District (the "District") has awarded to

_____as Principal a contract dated the _____day of _____, 2___, for the furnishing if all labor, materials, equipment, transportation and services for the construction of **0350-431 Genevieve Didion K-8 TK Expansion Project,**
located in Sacramento County, California (hereinafter referred to as the "Contract"); 15

AND WHEREAS, Principal is required to furnish a bond in connection with the Contract to secure the payment of claims of laborers, mechanics, material suppliers, and other persons as provided by law;

NOW THEREFORE, we the undersigned Principal and

_____
as Surety, are held and firmly bound unto the District in the sum of _____ DOLLARS $_____ for which payment well and truly to be made we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

1. THE CONDITION OF THIS OBLIGATION IS SUCH, that if Principal, or its heirs, executors, administrators, successors, or assigns approved by the District or its Subcontractors shall fail to pay any of the persons named in State of California Civil Code Section 9100, or amounts due under the State of California Unemployment Insurance Code with respect to work or labor performed under the Contract, or for any amounts required to be deducted, withheld, and paid over to the State of California Employment Development Department from the wages of employees of Principal and subcontractors pursuant to Section 13020 of the State of California Unemployment Insurance Code with respect to such work and labor, that Surety will pay for the same in an amount not exceeding the sum specified in this bond, otherwise the above obligation shall become and be null and void.

2. This Bond shall inure to the benefit of any and all persons, companies and corporations entitled to file claims under California law, including but not limited to the persons named in State of California Civil Code Section 9100 so as to give a right of action to such persons or their assigns in any suit brought upon this bond.

3. Surety, for value received, hereby expressly agrees that no extension of time, change, modification, alteration, or addition to the undertakings, covenants, terms, conditions, and agreements of the Contract, or to the work to be performed thereunder, shall in any way affect the obligation of this bond; and it does hereby waive notice of any such extension of time, change, modification, alteration, or addition to the undertakings, covenants, terms, conditions, and agreements of the Contract, or to the work to be performed thereunder. Surety further waives the provisions of Section 2845 of the State of California Civil Code.

4. Amounts owed by the District to Principal under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under the Performance Bond. By Principal furnishing and the District accepting this Payment Bond, they agree that all funds earned by Principal in the performance of the Contract are dedicated to satisfy obligations of Principal and Surety under this Bond, subject to the District's priority to use the funds for the completion of the Work or the satisfaction of the District's claims, including liquidated damages, under the Contract.

5. Surety's obligations hereunder are independent of the obligations of any other surety for the payment of claims of laborers, mechanics, material suppliers, and other persons in connection with the Contract; and suit may be brought against Surety and such other sureties, jointly and severally, or against any one or more of them, or against less than all of them without impairing the District rights against the other.

6. In the event suit is brought upon this bond, the parties not prevailing in such suit shall pay reasonable attorneys' fees and costs incurred by the prevailing parties in such suit.

7. Correspondence or claims relating to this bond shall be sent to Surety at the address set forth below.

IN WITNESS WHEREOF, we have hereunto set our hands this _____day of _____, 20___.

Principal: _____ Surety: _____
(Name of Firm) (Name of Firm)

By: _____ By: _____

Title: _____ Title: _____

Address for Notices:

_____
_____
_____

Phone #_____

Fax # _____

Note: Notary Acknowledgement for Surety and Surety's Power of Attorney must be attached

Address for Owner Notices:

Sacramento City Unified School District
Attn: Chris Ralston, Assistant Superintendent – Facilities Support Services
5735 47th Avenue,
Sacramento, California 95824

Section 00 61 13.16 - PERFORMANCE BOND FORM

Bond No._____

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, Sacramento City Unified School District hereinafter referred to as "District" and _____ (hereinafter referred to as "Contractor"), have entered into a written contract dated the _____day of _____, 2___ for furnishing of all labor, materials, equipment, transportation and services for the construction of **0350-431 Genevieve Didion K-8 TK Expansion Project,** located in Sacramento County, California (hereinafter referred to as the "Construction Contract"); and

WHEREAS, Contractor is required by the terms of the Construction Contract to furnish a bond for the faithful performance of all terms and conditions of the Construction Contract;

NOW, THEREFORE, Contractor, as principal, and _____ (hereinafter referred to as "Surety"), as Surety, are held and firmly bound unto District and Claimants, as defined herein, in the penal sum of _____DOLLARS $_____, lawful money of the United States, for the payment of which sum well and truly to be made as provided in this Performance Bond.

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to District for the performance of the Construction Contract, which is incorporated herein by reference.

2. If Contractor timely performs each and every obligation under the Construction Contract, including all Guarantee and/or warranty obligations, Surety and Contractor shall have no obligation under this Bond, except to participate in conferences as provided in Subparagraph 3.1.

3. Surety's obligation under this Performance Bond shall arise after:

   3.1 District has declared a Contractor Default and has notified Contractor and Surety at its address described in Paragraph 10 below that District has declared a Contractor Default and has requested and attempted to arrange a conference with Contractor and Surety to be held not later than seven days after receipt of such notice to discuss methods of performing all remaining obligations of Contractor pursuant to the Construction Contract; and

   3.2 District has agreed to pay any remaining Balance of the Agreement Price, as calculated under the terms of the Construction Contract, to Surety in accordance with the terms of the Construction Contract or to a contractor selected to perform the Construction Contract in accordance with the terms of the Construction Contract with District.

4. When District has satisfied the conditions of Paragraph 3, Surety shall promptly and at Surety's expense take one of the following actions:

   4.1 Arrange for Contractor, with consent of District, to perform and complete the Construction Contract; or

   4.2 Undertake to perform and complete the Construction Contract itself, through its agents or through independent contractors; or

4.3 Obtain bids or negotiated proposals from qualified contractors acceptable to District for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by District and the contractor selected with District's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to District the amount of damages as described in Paragraph 6 in excess of the Balance of the Agreement Price, as calculated under the terms of the Construction Contract, incurred by District resulting from Contractor's Default; or

4.4 Waive its right to perform and complete, arrange for completion, or obtain a new Contractor and with reasonable promptness under the circumstances:

.1 After investigation, determine the amount for which it may be liable to District and, as soon as practicable after the amount is determined, tender payment thereof to District; or

.2 Deny liability in whole or in part and notify District citing specific reasons therefore.

5. If Surety does not proceed as provided in Paragraph 4 within twenty days from receipt of the notice described in paragraph 3.1 (whether or not a conference has been held pursuant to paragraph 3.1), or such longer period upon which District and Surety may agree in writing, Surety shall be deemed to be in default on this Bond. If Surety proceeds as provided in Subparagraph 4.4, and District refuses the payment tendered or Surety has denied liability, in whole or in part, without further notice District shall be entitled to enforce any remedy available to District.

6. After District has declared a Contractor Default, and if Surety elects to act under Subparagraph 4.1, 4.2, or 4.3 above, then the responsibilities of Surety to District shall not be greater than those of Contractor under the Construction Contract, and the responsibilities of District to Surety shall not be greater than those of the District under the Construction Contract. To the limit of the amount of this Performance Bond, but subject to commitment by District of any remaining Balance of the Agreement Price to mitigation of costs and damages on the Construction Contract, Surety is obligated without duplication for:

6.1 The responsibilities of Contractor for correction of defective Work, materials and equipment and completion of the Construction Contract, including all Guarantee and warranty obligations;

6.2 Additional legal, design professional, construction management and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of Surety under Paragraph 4; and

6.3 Liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of Contractor.

7. Surety shall not be liable to District or others for obligations of Contractor that are unrelated to the Construction Contract, and the Balance of the Agreement Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than District or its heirs, executors, administrators or successors.

8. Surety, for value received, hereby expressly agrees that no extension of time, change, modification, alteration, or addition to the undertakings, covenants, terms, conditions, and agreements of the Contract, or to the work to be performed thereunder, shall in any way affect the obligation of this bond; and it does hereby waive notice of any such extension of time, change, modification, alteration, or addition to the undertakings, covenants, terms, conditions, and agreements of the Contract, or to the work to be performed thereunder. Surety further waives the provisions of Section 2845 of the State of California Civil Code.

9. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction. The prevailing party in any such action shall be entitled to recover its attorneys' fees, to be taxed as an item of costs.

10. Notice to Surety, District or Contractor shall be mailed or delivered to the address, or sent via telecopier to the facsimile number, shown on the signature page.

11. DEFINITIONS

11.1 Balance of the Agreement Price: The total amount payable by District to Contractor under the Construction Contract after all proper adjustments have been made, including allowance to Contractor of any amounts received or to be received by District in settlement of insurance or other claims for damages to which Contractor is entitled, reduced by all valid and proper payments made to or on behalf of Contractor under the Construction Contract.

11.2 Construction Contract: The agreement between the District and the Contractor identified on the first page of this bond, including all Contract Documents and changes thereto.

11.3 Contractor Default: Failure of the Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Construction Contract.

CONTRACTOR, as Principal	SURETY
By: _____	By: _____
Its: _____	Its: _____
Address: _____	Address: _____
Phone #: _____	Phone #: _____
Fax #: _____	Fax #: _____
	Note: Notary Acknowledgement for Surety and Surety's Power of Attorney must be attached

Address for Owner Notices:

Sacramento City Unified School District
Attn: Chris Ralston, Assistant Superintendent – Facilities Support Services
5735 47th Avenue,
Sacramento, California 95824

Section 00 65 36 - GUARANTEE FORM

{Print on Contractor/Subcontractor Letterhead}

ARTICLE 1. GUARANTEE FORM

_____ [Contractor's Name] hereby unconditionally guarantees that the Work performed at **0350-431 Genevieve Didion K-8 TK Expansion Project,** has been done in accordance with the requirements of the Contract therefore and further guarantees the Work of the Contract to be and remain free of defects in workmanship and materials for a period of two (2) years from and after the recordation of the Notice of Completion of the Project and completion of all Contract obligations by the Contractor, including formal acceptance of the entire Project by the District, unless a longer guarantee period is called for by the Contract Documents, in which case the terms of the longer guarantee shall govern. The Contractor specifically waives any right to claim or rely on the statutory definition of completion set forth in Civil Code section 9200. The Contractor specifically acknowledges and agrees that completion shall mean the Contractor's complete performance of all Work required by the Contract Documents, amendments, change orders, construction change directives and punch lists, and the District's formal acceptance of the entire Project, without regard to prior occupancy, substantial completion doctrine, beneficial occupancy, or otherwise. The Contractor hereby agrees to repair or replace any and all Work, together with any adjacent Work which may have been damaged or displaced in so doing, that may prove to be not in accordance with the requirements of the Contract or that may be defective in its workmanship or materials within the guarantee period specified, without any expense whatsoever to the District, ordinary wear and tear and unusual abuse and neglect only excepted. The Contractor has provided contract bonds, which will remain in full force and effect during the guarantee period.

The Contractor further agrees that within ten (10) calendar days after being notified in writing by the District of any Work not in accordance with the requirements of the contract or any defects in the Work, it will commence and prosecute with due diligence all Work necessary to fulfill the terms of this guarantee, and to complete the Work within a period of time stipulated in writing. In the event it fails to so comply, Contractor does hereby authorize the District to proceed to have such Work done at the Contractor's expense and it will pay the cost thereof upon demand. The District shall be entitled to all costs, including reasonable attorneys' fees, necessarily incurred upon the Contractor's refusal to pay the above costs.

The guarantee period for corrected defective work shall continue for a duration equivalent to the original guarantee period.

Notwithstanding the foregoing paragraph, in the event of an emergency constituting an immediate hazard to the health or safety of the employees of the District, or its property or licensees, the District may undertake at the Contractor's expense without prior notice, all Work necessary to correct such hazardous condition when it was caused by the Work of the Contractor not being in accordance with the requirements of this contract, or being defective, and to charge the same to the Contractor as specified in the preceding paragraph.

The guarantee set forth herein is not intended by the parties, nor shall it be construed, as in any way limiting or reducing the District's rights to enforce all terms of the Contract referenced hereinabove or the time for enforcement thereof. This guarantee is provided in addition to, and not in lieu of, the District's rights on such contract.

Spec Sections: _____

_____
CONTRACTOR'S SIGNATURE

_____
PRINT NAME

Section 00 72 00 - GENERAL CONDITIONS

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ARTICLE 1. DEFINITIONS AND PRINCIPLES OF INTERPRETATION

Section 1.01. Whenever the following terms, titles, or phrases are used in the Contract Documents, the intent and meaning thereof shall be as defined in this article.

Section 1.02. Architect.
The "Architect" is the architectural or engineering firm engaged as an agent by the District to perform the services set forth in the Contract Documents.

Section 1.03. Architect's Instruction Bulletin.
"Architect's Instruction Bulletins" are supplemental drawings or instructions which may be issued as necessary from time to time to make clear or define in greater detail the intent of the Contract Drawings and Specifications.

Section 1.04. Bid.
"Bid" shall mean the offer of the bidder to do the work.

Section 1.05. Board of Education.
"Board of Education" shall mean the duly elected officials constituting the Board of Education of the Sacramento City Unified School District.

Section 1.06. Change Order.
"Change Order" shall mean a written order to the Contractor, issued after execution of the Contract, signed by the District and the Contractor, authorizing a change in the Work and/or an adjustment in the Contract Sum and/or the Contract Time. Change Orders may incorporate CCDs, some of which require DSA approval prior to being incorporated into the Change Order.

Section 1.07. Construction Change Directive .
"Construction Change Directive" or "Directive" shall mean a written order to the Contractor, issued after execution of the Contract, signed by the District or the District Representative directing a change in the Work and stating a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both, and which shall be used in the absence of total agreement with the Contractor on the terms of a Change Order or when time does not permit processing of a Change Order prior to implementation of the change.

Section 1.08. Construction Forms Manual.
The "Construction Forms Manual" is the District's manual containing sample forms extracted from the District's Project Management Information System which will be used during construction.

Section 1.09. Contract Change Document
"Contract Change Document" or "CCD" shall mean the following documents, which may be required to be submitted to DSA for approval prior to being implemented and incorporated into a Change Order: Architect's Instruction Bulletins, Construction Change Directives, Interpretations, RFIs, or Substitutions.

Section 1.10. Contract Documents.
The "Contract Documents" shall include the Notice to Bidders, the Instructions for Bidders, the Bid, the Agreement for Construction, the Performance Bond, the Payment Bond, these General Conditions, the Special Provisions, the General Requirements, the Project Labor Agreement, Exhibits, the Technical Specifications, the Contract Drawings and Plans, all duly issued pre-bid addenda, Interpretations, Change Orders, Directives, supplemental drawings, Architect's Instruction Bulletins, the Contractor's Guarantee and Bond, the Hazardous Materials Requirements (if any), the Construction Forms Manual, and the Contract Schedule.

Section 1.11. Contract Drawings or Plans.
The "Contract Drawings" (sometimes referred to as "Drawings" or "Plans") are the graphic and pictorial portions of the Contract Documents, showing the design, location, and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams. This information may be developed and stored in a 3D or 4D model of the Project.

Section 1.12. Contract Schedule.
The "Contract Schedule" is the schedule produced by the Contractor in response to the requirements of the Contract Documents in accordance with all District milestone and other timing requirements.

Section 1.13. Contract Sum.
"Contract Sum" is the total amount payable by the District to the Contractor for the performance of the Work under the Contract Documents. The Contract Sum is the amount stated in the Agreement for Construction, including authorized adjustments thereto.

Section 1.14. Contract Time.
"Contract Time" shall mean the period specified for completion of the Work, as set forth in the Agreement for Construction and adjusted by any Change Order issued pursuant to the Contract Documents.

Section 1.15. Contractor.
"The Contractor" shall mean the entity that has entered into the Agreement for Construction of the Work with the District. The Contractor is required by law to be licensed and will perform work or render services as a prime contractor in or about the construction of the Work.

Section 1.16. Date of Commencement.
"Date of Commencement" is the date established in the Notice to Proceed.

Section 1.17. Date of Completion.
The "Date of Completion" for the purpose of determining when the Work is complete is the date certified by the District Representative when construction of the Work is 100% complete, including acceptance by the Architect of all punch list corrections.

Section 1.18. Day.
Unless otherwise expressly defined, a "day" shall mean a calendar day of 24 hours.

Section 1.19. Disabled Veteran Business Enterprise.
"Disabled Veteran Business Enterprise" or "DVBE" shall mean a business concern that is certified as a DVBE by the Department of General Services, Office of Small Business and Disabled Veteran Business Enterprise Services (OSDS).

Section 1.20. District.
"District" shall mean the Sacramento City Unified School District, a California school district. The District is sometimes designated "Owner" in the Contract Documents.

Section 1.21. District Representative.
"District Representative" shall mean the District's designated agent engaged to perform all functions delegated to the District Representative by the Contract Documents. The District Representative may or may not be a construction manager. The District Representative will be the Contractor's primary contact during construction of the Project.

Section 1.22. Division of the State Architect.
"Division of the State Architect" or "DSA" is the California State agency responsible for checking contract documents for compliance with Title 24, California Code of Regulations, and monitoring compliance on the construction site.

Section 1.23. Equal (as in "or equal").
"Equal" shall mean a system, process, product or material which is similar in all respects to that shown or specified but produced by a manufacturer not listed in the specification.

Section 1.24. Interpretations.
"Interpretations" are all clarifications, additional instructions, and explanations issued by the Architect after award of the Contract.

Section 1.25. Materials and Equipment.
"Materials" is a generic term which shall include all building materials, articles, supplies, and equipment delivered to the project for incorporation in the Work. "Materials" includes everything incorporated into the Work except labor, unless otherwise noted.

"Equipment" shall mean all pre-manufactured or partially preassembled products or components, assembled or partially assembled before delivery to the Site.

Section 1.26. Notice to Proceed.
"Notice to Proceed" is the notice given to the Contractor following execution of the Agreement for Construction and receipt of all required preconstruction submittals as itemized in the Notice of Intent to Award. The Notice to Proceed establishes the start of the Work and authorizes the Contractor to begin construction.

Section 1.27. Project.
"Project" shall mean the total design and construction of the work of improvement described in the Contract Documents, of which the Work may be the whole or a part and which may include construction by District or by separate contractors.

Section 1.28. Project Inspector.
The "Project Inspector" shall mean the person or persons employed or engaged as (an) independent contractor(s) by the District to inspect the performance of the Work by the Contractor for compliance with the Contract Documents. The Project Inspector is hereby designated as an agent of the District for such purpose and no other. The Project Inspector is supervised by, and reports to, the Architect. The authority of the Project Inspector to monitor the work shall be strictly limited to that authority specified herein and in Title 24, California Code of Regulations, and no additional authority has been granted nor shall be inferred.

Section 1.29. Project Labor Agreement (or "PLA").
A prehire collective bargaining agreement in accordance with Public Contract Code section 2500 et seq. that establishes terms and conditions of employment for a specific construction project or projects and/or is an agreement described in Section 158(f) of Title 29 of the United States Code.

Section 1.30. Project Management Information System (PMIS).
The District owned, web based, software platform equipped with a suite of applications to manage data, generate reports, schedule tasks, allocate resources, assign responsibilities, and streamline workflows throughout the project lifecycle.

Section 1.31. Proposed Change Order/Work Order.
A "Proposed Change Order/Work Order" or "PCO" is the name given to a document issued by the Contractor proposing a change to the Work and stating a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both. A PCO shall be used by the Contractor to respond to a Request for Proposal, a Request for Information, or an Architect's Instructional Bulletin. A PCO is not effective to authorize the proposed change to the Work, to the Contract Sum or to the Contract Time unless it is accepted in writing by the District.

Section 1.32. Reference to Codes.
Unless otherwise noted, all references to statutes are to the laws of the State of California and/or of the United States as codified in the various specified codes.

Section 1.33. Request for Information.
"Request for Information" or "RFI" is the name given to a document issued by the Contractor seeking clarification and/or additional information regarding an aspect of the Work. The response to the RFI does not constitute authorization or direction to proceed with any changed or additional work. Changed or additional work must be separately authorized by the District.

1. Should the Contractor require clarification or additional information of the Contract Documents, the Contractor will direct the request to the District Representative through the RFI Application within the District's PMIS.

2. RFIs shall be submitted to the District Representative through the District's PMIS. The Contractor shall describe on the RFI the problem or clarification being requested. The description provided should be complete and adequate to permit a written response without additional communications with the Contractor. The Contractor shall attach any related information or correspondence that may have been received from Subcontractors or vendors on the subject. In instances where the Contractor believes there may be a conflict between elements of the plans and specifications, the Contractor should identify the conflict and indicate the manner in which it interprets the Contract Documents.

3. The District Representative will review the request and take one or more of the following steps:
   a. Return the request to the Contractor for additional information.
   b. Forward the request to the Architect for response, copying the Project Inspector.
   c. Provide response and return to the Contractor with copies to the Architect and Project Inspector.

4. The Architect or other appropriate party receiving the RFI, will attempt to provide a response to the District Representative within seven (7) calendar days of receipt. The District Representative will in turn review the response and forward it to the Contractor. Should the response to an RFI be required by a specific critical date the Contractor shall indicate that date on the RFI.

5. If the Architect's review indicates a change or revision is necessary to the Contract Documents, the Architect will prepare the appropriate drawings and/or specifications required to define the change or revision and obtain DSA approval, if necessary. These documents will be transmitted to the District Representative for review and incorporation into the Contract Documents. The District Representative will transmit the revised documents to the Contractor.

6. If the Contractor believes the clarification or direction provided by the response to the RFI will impact the cost or schedule of the Project, the Contractor shall provide prompt notification to the District Representative, according to the General Conditions. After consultation with the Architect, the District Representative may prepare a Request for Proposal, PCO/Work Order, and/or Change Order.

Section 1.34. Request for Proposal.
A "Request for Proposal" or "RFP" is the name given to a document issued by the District Representative requesting pricing information and/or an adjustment in Contract Time for a described scope of work. An RFP is not a Change Order, a Directive, or a direction to proceed with the scope of work described in the RFP. The Contractor's response to the RFP shall be in the form of a Proposed Change Order.

Section 1.35. Samples.
"Samples" shall mean physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

Section 1.36. Shop Drawings.
"Shop Drawings" shall mean drawings, diagrams, schedules and other data specifically prepared by the Contractor or any subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

Section 1.37. Site.
"Site" is the area within which the Project is to be constructed and may include a laydown area or other area for use by Contractor in connection with the Contractor's Work.

Section 1.38. Special Provisions.
The "Special Provisions" are specific clauses setting forth conditions or requirements peculiar to the Work, and supplementary to the General Conditions and Technical Specifications.

Section 1.39. Specifications.
"Specifications" include the Special Provisions, these General Conditions, general requirements and technical specifications applicable to the Work as they may be modified by duly executed and issued pre-bid addenda, interpretations, and other modifications approved by the District pursuant to a Change Order.

Section 1.40. Subcontractor.
"Subcontractor" shall mean each person or firm who is required by law to be and who is licensed to and will perform work, labor, or render services to the Contractor in or about the construction of the Work, or who, under subcontract to the Contractor, fabricates and installs a portion of the work or improvement.

Section 1.41. Submittal.
"Submittal" shall mean all product data, shop drawings, manufacturers' instructions, samples, substitution requests, and all other submissions that the Contractor is required to provide to the District and/or the Architect.

Section 1.42. Substitution.
"Substitution" shall mean a request to approve a system, process, product, or material similar in form or function and equal in quality and performance to that shown or specified, but differing in some element, e.g., manufacturer, chemical composition, mechanism of action, surface finish, dimensions, durability, or other requirements.

Section 1.43. Work.
The "Work" shall mean that scope of work to be performed by the Contractor, including all labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill its obligations. The Work may constitute the whole or a part of the Project.

ARTICLE 2. CONTRACT DOCUMENTS

Section 2.01. The Contract.
The Contract Documents form the Contract for Construction. This Contract represents the entire and integrated agreement between the District and the Contractor and supersedes all prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Change Order. Nothing contained in the Contract Documents shall create any contractual relationship between the District, the District Representative, or the Architect and any Subcontractor or sub-subcontractor, or between the District Representative or the Architect and the Contractor.

Section 2.02. General Intent of Contract Documents.
It is the overriding intent of the Contract Documents that the work performed shall result in a complete and operable project in satisfactory condition for occupancy, with all mechanical equipment in functional operating condition and fit for the use for which it is intended, and which complies in all respects with the Contract Documents. No extra compensation will be allowed for anything omitted but fairly implied to be included in the Contract Documents. The prices paid for the various items in the bid shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and doing all items necessary to complete the Work as provided by the Contract Documents.

Section 2.03. Labor and Materials.
Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, light, heat, utilities, transportation and other facilities and services necessary for the execution and completion of the Work in accordance with the Contract Documents and any applicable code or statute, whether or not specifically described herein, as long as same is reasonably inferable there from as being necessary to produce the intended results, whether temporary or permanent, and whether or not incorporated or to be incorporated in the Work.

Section 2.04. Complementary Feature of Various Parts of Contract Documents.
The Contract Documents, including the Specifications and Plans and Drawings, are complementary and what is called for by any one shall be as binding as if called for by all. In case of conflict, large scale (detail) Drawings shall govern over small-scale Drawings, the Specifications shall govern over both the Construction Administrative Procedures Manual and the Contract Drawings except as noted below, special provisions shall govern over both the Contract Drawings and the general conditions, and subsequent addenda, Interpretations, or approved change orders shall govern over the original documents, unless a different order of precedence is noted elsewhere in conjunction with a specific portion of the documents.

In case of conflict between the Drawings and Specifications, the Drawings shall govern in matters of quantity and size, the Specifications in matters of quality. In case of conflict within the Drawings involving quantities or within the Specifications involving quality, the greater quantity and the higher quality shall be provided.

Where on any Drawing a portion of the Work is drawn out and the remainder is indicated in outline, the drawn-out parts shall apply to all other like portions of the Work. Where ornament or other detail is indicated as starting, such detail shall be continued throughout the courses or parts in which it occurs and shall also apply to other similar parts in the Work, unless otherwise indicated.

Scale drawings, full-size details, and specifications are intended to be fully coordinated and to agree. Where not specifically stated otherwise, all work and materials necessary for each unit of construction, even though only briefly mentioned or indicated, shall be furnished and installed fully and completely, including, but not limited to, the manufacturer's instructions and/or recommendations, as part of this Contract.

Any material specified by reference to the number, symbol, or title of a specified standard such as a Commercial Standard, a Federal Specification, a trade association standard, or other similar standards, shall comply with the requirements in the latest approved revision thereof and any amendments or supplements thereto in effect on the date of Notice to Bidders, except as limited to type, class, or grade, or modified in such reference. The standards referred to, except as modified in the Specifications, shall have full force and effect as though printed in these Specifications.

Section 2.05. Ownership and Use of Documents.
All original Drawings and Specifications prepared by the Architect are and shall remain the property of the District.

Section 2.06. Successors and Assigns.
The District and the Contractor each binds itself, its partners, successors, assigns and legal representatives to the other party hereto and to the partners, successors, assigns and legal representatives of such other party in respect to all covenants, agreements and obligations contained in the Contract Documents. The Contractor shall not assign the Contract or sublet it in whole or part without the written consent of the District, which consent is granted for Subcontractors listed in Contractor's Bid for the portion of Work for which they were listed, nor shall the Contractor assign any moneys due or to become due to it hereunder without the prior written consent of the District.

Section 2.07. Written Notice.
Written notice may be accomplished by personal delivery, overnight mail, or delivery receipt email with a copy by U.S. Mail. The written notice shall become effective upon delivery. Delivery is complete when the notice is hand delivered to Contractor's home office, job-site office, or to Contractor's superintendent; or one business day after mailing by overnight mail; or upon actual delivery as evidenced by a delivery receipt.

Section 2.08. Rights and Remedies.
The duties and obligations of the Contractor imposed by the Contract Documents and the rights and remedies of the District available there under shall be in addition to and not a limitation of any duties, obligations, rights, and remedies otherwise imposed or available by law.

The failure of the District, the District Representative, the Project Inspector or the Architect to insist in any one or more instances upon the strict performance of any one or more of the provisions of this Contract or to exercise any right herein contained or provided by law, shall not be construed as a waiver or relinquishment of the performance of such provision or right(s) or of the right to subsequently demand such strict performance or exercise such right(s) and the rights shall continue unchanged and remain in full force and effect.

The Contractor agrees that it can be adequately compensated by money damages for any breach of this Contract which may be committed by the District and hereby agrees that no default, act, or omission of the District, the District Representative, the Project Inspector, or the Architect, shall constitute a material breach of the Contract entitling the Contractor to cancel or rescind the provisions of the Contract or to suspend or abandon performance of all or any part of the Work. **The Contractor hereby waives any and all rights and remedies to which it might otherwise be or become entitled, saving only its right to money damages.**

Section 2.09. Unenforceability of any Clause.
If any clause or provision of the Contract Documents is held to be unenforceable or invalid, then that provision of the Contract shall be stricken and the remaining portion shall remain in full force and effect.

ARTICLE 3. BONDS AND BONDING; INDEMNIFICATION AND INSURANCE

Section 3.01. Bonds: Time to Submit.
Within ten (10) days after receipt of Notice of Intent to Award, and before the District will execute the Agreement for Construction, the Contractor to whom the Work is awarded shall furnish and deliver to the District bonds as set forth below in Sections 3.03, 3.04 and 3.05, except that contracts for amounts less than $25,000 will not be required to be accompanied by bonds.

Section 3.02. Qualifications of Surety.
All bonds shall be duly executed by a responsible corporate surety listed in the current version of the United States Department of the Treasury circular entitled "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies," admitted by the State of California Department of Insurance to do business in the State of California and acceptable to District.

Section 3.03. Performance Bond.
The Contractor shall submit a faithful Performance Bond in substantially the form provided with the Contract Documents, conditioned upon the faithful performance by the Contractor of all requirements of the Contract Documents, and in an amount of no less than one hundred percent (100%) of the total Contract Sum.

Section 3.04. Labor and Materials Payment Bond.
The Contractor shall also submit a payment bond in substantially the form provided with the Contract Documents, which in all respects complies with California Civil Code sections 9550, 9552, and 9554 ("Payment Bond"), in an amount of no less than one hundred percent (100%) of the Contract Sum.

Section 3.05. Not Used.

Section 3.06. Additional Bonding Requirements.
All bonds submitted shall include the following:

1. Full name and address of the Contractor, Surety, and District
2. Contract Date
3. Exact Contract Sum
4. Bid package number.
5. Signature of the Contractor
6. Signature of authorized Surety representative.
7. Notarization of the Contractor and Surety
8. Power of Attorney
9. Local contact for Surety, with name, phone number, and address to which legal notices may be sent

Section 3.07. Bond Costs in Bids.
All costs for applicable Payment Bonds and Performance Bonds shall be included in the Bid amount, and shall be included in the base bid if bid alternates are used.

Section 3.08. Indemnification.
To the fullest extent permitted by law, the Contractor shall defend with counsel acceptable to the District, indemnify and save harmless the District, the District Representative, and the Architect and any of their respective officers, agents, and employees ("Indemnified Parties") from and against, any and all losses, claims, demands, damages, costs, expenses, attorney's fees, or liability of every nature arising out of or in any way connected with the performance or attempted performance of the provisions hereof, or in any way arising out of or connected with this Contract, including but not limited to, equitable relief, stop notice actions, or any acts or omissions, any wrongful act, or any negligent act or omission to act, whether active or passive, on the part of the Contractor or any of its agents, employees, independent contractors, subcontractors or suppliers; provided, further, without limiting the foregoing, that the defense and indemnity is intended to apply to any wrongful acts, or any actively or passively negligent acts or omissions to act, committed jointly or concurrently by the Contractor and the Contractor's agents, employees, independent contractors, or subcontractors or suppliers, and the District, its agents, employees, or independent contractors. Nothing contained in the foregoing indemnity provisions shall be construed to require the Contractor to

indemnify any of the Indemnified Parties in contravention of Section 2782 of the Civil Code for the active or sole negligence or willful misconduct of the District.

To the fullest extent permitted by law, the Contractor's duty to defend shall extend, without limitation, to any suit or action founded upon any losses, claims, demands, damages, costs, expenses, attorney's fees, or liability of every nature arising out of or in any way connected with the performance or attempted performance of the provisions hereof, or in any way arising out of or connected with this Contract.

The defense and indemnity obligations expressly extend to and include any and all claims, demands, damages, costs, expenses, or liability occasioned as a result of damages to adjacent property caused by the conduct of the Work.

The defense and indemnity obligations expressly extend to and include any and all claims, demands, damages, costs, expenses, or liability occasioned as a result of the violation by the Contractor, the Contractor's agents, employees, or independent contractors, subcontractors of any level, or suppliers of any provisions of federal, state or local law, including applicable administrative regulations.

The defense and indemnity obligations also expressly extend to and include any claims, demands, damages, costs, expenses, or liability occasioned by injury to or death of any person, or any property damage to property owned by any person while on or about the Site or as a result of the Work, whether such persons are on or about the Site by right or not, whenever the Work is alleged to have been a contributing cause in any degree whatsoever.

In claims against any person or entity herein indemnified that are made by an employee of the Contractor or an employee of any of the Contractor's agents, independent contractors, subcontractors or suppliers, a person indirectly employed by the Contractor or by any of the Contractor's agents, independent contractors, subcontractors or suppliers, or anyone for whose acts the Contractor or any of the Contractor's agents, independent contractors, subcontractors of any level, or suppliers may be liable, the defense and/or indemnification obligation herein shall not be limited by any limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or the Contractor's agents, independent contractors, subcontractors of any level, or suppliers under workers' compensation acts, disability acts, or other employee benefit acts.

The defense and indemnification obligations herein shall not be limited by any assertion or finding that the person or entity indemnified is liable by reason of a non-delegable duty.

The defense and indemnities set forth herein shall not be limited by the insurance requirements set forth in the Contract Documents.

The defense and indemnification requirements herein set forth shall extend to claims occurring after this Contract is terminated as well as while it is in force.

Section 3.09. Indemnification of Adjacent Property Owners.

In the event the Contractor enters any agreement with the owners of any adjacent property to enter upon or adjacent to such property for the purpose of performing this Contract, the Contractor shall fully indemnify, defend, and save harmless such person, firm, corporation, or state or other governmental agency which owns or has any interest in the adjacent property. The form and content of the indemnification agreement shall be approved by the District prior to commencement of any work on or about such property. These provisions shall be in addition to any other requirements of the owners of adjacent property.

Section 3.10. Insurance.

The Contractor shall obtain and maintain, at its sole cost and expense, all insurance required by Sections 3.13 through 3.15. The required insurance shall be maintained by Contractor in full force and effect at all times during prosecution of the Work and, with the exception of Builder's Risk, for two (2) years after the final completion and acceptance thereof by District. Certificates of such insurance and copies of the insurance policies and required endorsements, including but not limited to Additional Insured Endorsements and Waivers of Subrogation in favor of District, the Architect, the Construction Manager, and any other District consultants and their officers, directors, agents, employees, and volunteers ("Additional Insureds"), shall be delivered to the District within ten (10) days of the Notice of Intent to Award the Contract, and before execution of the Agreement for Construction by the District. Insurance Certificates must

indicate Bid Package number and school name. If District requests copies of any insurance policy, Contractor agrees to provide certified copies within thirty (30) days of the District's request.

Every policy shall be endorsed to state that it shall not be assigned, canceled, or materially reduced in coverage without thirty (30) days' prior written notice to District, or ten (10) days' written notice for non-payment of premium. The required insurance shall be with carriers and on forms acceptable to the District and shall be subject to the approval of the District.

Failure of Contractor to maintain all required insurance during the entire Contract Time shall constitute a default entitling the District to all rights and remedies that exist in the Contract Documents and/or by law.

The requirements as to the types and limits of insurance coverage, and any approval of said insurance by the District, is not intended and shall not in any manner limit or qualify the liabilities and obligations pursuant to this Agreement.

Section 3.11. Subcontractor's Insurance.
The Contractor shall not allow any Subcontractor to commence work on its subcontract until the Subcontractor has provided the insurance specified below. The Contractor shall require each of its Subcontractors to procure and to maintain, during the life of the subcontract and for two (2) years after completion of the Project, bodily and personal injury liability and property damage insurance, and workers' compensation insurance, of the type and in the same amount as specified herein, including, without limitation, the requirement that the Subcontractor's policy shall be endorsed (1) to include by name the Additional Insureds and shall provide that they are primary, with any insurance maintained by District as non-contributory and will have severability of interest endorsement, and (2) to waive all rights of subrogation against the Additional Insureds for losses arising from work performed by the Contractor for the District .

Should any subcontractor's work include any elements that may give rise to a pollution claim, the subcontractor shall be required to carry Pollution Liability coverage with limits of at least $2,000,000 per pollution event. The District may require higher limits by written request. The policy shall be endorsed to include by name the Additional Insureds as additional insureds and shall include a waiver of subrogation endorsement in favor of the Additional Insureds.

Should any Subcontractor maintain broader coverage and/or limits than those required herein, those limits/coverages shall be made available to the District. Upon written request by Contractor on behalf of any identified subcontractor(s), the District may, in its sole and absolute discretion, agree in writing to CGL limits for the identified subcontractor(s) that are half of that required from the Contractor.

Contractor shall not allow any subcontractor to commence work until the subcontractor has provided Contractor with a signed statement acknowledging compliance with Section 3700 of the Labor Code, as required in Section 3.13.

It shall be the responsibility of the Contractor to ensure that all subcontractors comply with all insurance requirements, and to verify their compliance when requested by the District.

If requested by the District, the Contractor shall deliver certificates of insurance or copies of the insurance policies and endorsements of all Subcontractors; provided, however, that this authority shall not relieve the Contractor of its obligation to ascertain the existence of such insurance.

Section 3.12. Not Used.

Section 3.13. Workers' Compensation and Employers' Liability Insurance.
In accordance with the provisions of Section 3700 of the Labor Code, the Contractor, and each subcontractor, shall secure the payment of compensation to its employees. The Contractor and each subcontractor shall provide workers' compensation insurance and occupational disease insurance as required by law and employers liability insurance with minimum limits of $1,000,000 covering all workplaces involved in the Contract Documents.

The Contractor shall sign and file with the District the following certificate on the form provided by the District:

> I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in

accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the work of this Contract.

The Contractor shall require each subcontractor to file such statement prior to allowing that subcontractor to commence work.

The Contractor shall furnish a certificate of insurance or a certificate of permission to self-insure under the Workers' Compensation and Employers' Liability Insurance statutes of the State of California. The certificate shall provide that at least thirty (30) days' prior written notice shall be served on District prior to the cancellation or change of such insurance or self-insurance. Said certificate shall also provide that the insurer shall waive all rights of subrogation against the Additional Insureds for losses arising from work performed by the Contractor for the District. Such insurance shall be delivered to the District Representative within ten (10) days of being notified of the intent to award the Contract, and before the District will execute the Agreement for Construction.

Section 3.14. Liability Insurance.

Insurance is to be placed with insurers approved by the State of California Department of Insurance and with a Bests' rating of no less than (A-) Level VII.

A. The Contractor and its Subcontractors shall procure and maintain insurance on all of their operations during the progress of the Work, with reliable insurance companies, on forms acceptable to District, for the following minimum insurance coverages:

1. **Commercial General Liability**: Occurrence form insurance policy (ISO CG 00 01 or equivalent) covering all operations by or on behalf of Contractor, not excluding coverage for:
    a. Premises and Operations
    b. Products and Completed Operations
    c. Contractual Liability insuring the obligations assumed by the Contractor in this Agreement or Blanket Contractual Liability Coverage
    d. Broad Form Property Damage (including Completed Operations)
    e. Explosion, Collapse, Subsidence, and Underground Hazards
    f. Personal Injury Liability

    Commercial General Liability Limits shall not be less than:
    $2,000,000 Each Occurrence (Combined Single Limit for Bodily Injury & Property Damage)
    $2,000,000 Personal Injury Liability Each Occurrence
    $4,000,000 Aggregate for Products and Completed Operations
    $4,000,000 General Aggregate

    The required General Liability limits must be present on the primary General Liability policy and cannot be met with Excess Liability limits.

2. **Commercial Automobile Liability**: Insurance policy (ISO CA 00 01 or equivalent) covering Bodily Injury, Property Damage, and Contractual Liability coverage for "Any Auto" (Symbol 1) which includes coverage for all owned, hired, borrowed, and non-owned automobile, trailer, and equipment with combined bodily injury and property damage liability of not less than $1,000,000.

3. **Pollution Liability:** Should the scope of work include any elements that may give rise to a pollution claim, the Contractor shall be required to carry Pollution Liability coverage with limits of at least $5,000,000. The District may require higher limits by written request. The policy shall be endorsed to include by name the Additional Insureds as additional insureds and shall include a waiver of subrogation endorsement in favor of the Additional Insureds.

4. Additional coverages and/or limits may be required in the Special Provisions, Section 00 73 00. If the Special Provisions require limits of general liability and automobile liability insurance exceeding those stated above, the Contractor shall carry excess or umbrella liability insurance providing excess coverage at least as broad as the underlying coverage with a limit equal to the amount stated in the Special Provisions per occurrence and aggregate.

5. Any excess liability coverage used to supplement the general and automobile liability must either (1) be from the same carrier as the primary insurance, or (2) include the policy statement wherein it describes what the underlying primary coverage must be before the excess liability coverage takes effect.

B. The following terms shall be included in the General Liability and Auto Liability insurance, either within the policy or by endorsement:

1. All policies shall be endorsed to include by name the Additional Insureds and shall provide that they are primary with any insurance, self-insurance, or Memorandum of Liability Coverage maintained by District as non-contributory. Such policies will have severability of interest endorsement.

2. Except with respect to bodily injury and property damage included within the Products and Completed Operations hazards, the aggregate limit established under Section 3.14 shall apply separately to the Contractor's Work under this agreement. All liability insurance shall be written on an occurrence basis. "Modified Occurrence" and "Sunset" type clauses are not acceptable.

3. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the Additional Insureds.

4. General Liability Coverage shall state that the Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability, and shall contain a severability of interest/cross liability clause to the effect that each Insured and Additional Insured is covered as if separate policies had been issued to each.

5. Each insurer(s) issuing the required policies shall, by policy provisions or by separate endorsement, agree to waive all rights of subrogation against the Additional Insureds for losses arising from work performed by the Contractor for the District. The General Liability waiver of subrogation must apply to Ongoing Operations as well as Completed Operations.

6. The policy(ies) shall provide, by policy provisions or endorsement, that it is primary insurance and that any insurance or self-insurance fund maintained by or available to the Additional Insureds shall be in excess of the Contractor's insurance and shall not be called upon to contribute to a loss covered by the policy.

7. The policy(ies) must provide, by policy provisions or endorsement, that it shall not be canceled, suspended, voided, or materially changed, nor may the "retroactive date" of the policy or any renewal or replacement policy be changed, without thirty (30) days' prior written notice to the District (ten [10] days for non-payment of premium). The standard cancellation clause on the certificate shall read:

> Should any of the above-described policies be canceled before the expiration date thereof, the issuing company will mail 30 days written notice to the certificate holder.

8. The contractual liability coverage may be either on a blanket basis or a policy which specifically identifies this Agreement with a contractual liability endorsement.

9. Any deductibles or self-insured retentions must be declared to and approved by the District; the District generally will not approve deductibles or self-insured retentions greater than $50,000. Any and all deductibles or self-insurance retentions in the above-described liability insurance policies shall be assumed by and be for the account of, and at the sole risk of the Contractor.

10. All policies and endorsements are subject to approval at the sole discretion of the District. Endorsements with expiration dates will not be accepted.

Section 3.15. Builder's Risk Insurance.

The Contractor shall, at its sole expense, purchase, maintain, and keep in force at all times during the term of the Contract and until the date of transfer of the insurable interest to and acceptance by the District, a Builder's Risk/Installation Floater policy (Property Insurance). Such insurance shall protect the District, the Contractor,

Subcontractors, sub-subcontractors, and material suppliers at every tier, as their interests may appear, from loss or damage to work in the course of construction. Property insurance shall be on a "Special Form" or equivalent policy and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, flood, windstorm, falsework, mechanical breakdown or electrical damage including testing and startup, magnetic disturbance, changes in temperature or humidity, temporary buildings, loss that ensues from defective material or workmanship, explosion, and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for the District's Representative's, District Architect's, Construction Manager's, other District Consultants' and Contractor's services and expenses required as a result of such insured loss in the amount of one hundred percent (100%) of the replacement cost of the Project. In addition there shall be coverage in the amount of twenty percent (20%) of the replacement cost for Extra Expense and Loss of Use and thirty percent (30%) of the replacement cost for Soft Costs coverage. Unless expressly required in the Special Provisions, Property Insurance **shall not** include coverage for earthquake or other losses caused by "Acts of God," as defined by California Public Contract Code section 7105.

A. The following terms shall apply to such coverage:

1. Coverage shall be written on a completed value, non-reporting form, on a replacement cost basis, and shall cover the property against all risks of physical loss or damage identified above.

2. The property covered shall include the Work, including any materials, equipment, or other items to be incorporated therein while the same are located at the construction site, with reasonable sub-limits for materials stored offsite or while in transit. The policy shall contain a provision that Contractor and the District are Named Insureds under this policy and that the Subcontractors, sub-Subcontractors, and Material Suppliers at every tier are Named Insureds or Additional Insureds as their interest may appear. A loss insured under the Builder's Risk/Installation Floater policy shall be adjusted by Contractor as fiduciary and made payable to Contractor as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause. Contractor shall pay subcontractors their just shares of insurance proceeds received by Contractor, and by appropriate agreements, written where legally required for validity, shall require subcontractors to make payments to their sub-subcontractors in similar manner.

3. When stated in the Special Provisions (Section 00 73 00), Builder's Risk insurance shall include Delay in Opening coverage with limits of liability, and for the period of time, as set forth in the Special Provisions. Coverage shall include interest and/or principal payments that become due and payable by the District upon completion of construction or other date as set forth in the Special Provisions, debt service, expense, loss of earnings or rental income or other loss incurred by the District, without deduction, due to the failure of the Project being completed on schedule.

4. The policy shall be endorsed to name the District as an additional payee.

5. The maximum deductible under this policy shall be one hundred thousand dollars ($100,000). All deductibles shall be borne solely by Contractor, and the District shall not be responsible to pay any deductible in whole or in part.

B. If not covered by Builder's Risk insurance or any other property or equipment insurance required by the Contract Documents, the Contractor shall, at its sole expense, purchase, maintain and keep in force at all times during the term of the Contract property insurance (equal to one hundred percent (100%) of the contract value) for portions of the Contractor's work and/or equipment to be incorporated therein stored offsite or in transit.

C. The insurer shall, by separate endorsement or policy provisions, agree to waive all rights of subrogation against the District, the Additional Insureds, the Contractor, Subcontractors, sub-Subcontractors, and material suppliers at every tier for losses covered by the policy. If the policies of insurance referred to in this Section require an endorsement or consent of the insurance company to provide for continued coverage where there is a waiver of subrogation, the owners of such policies will cause them to be so endorsed to obtain such consent.

D. Contractor shall provide a copy of the Builder's Risk/Installation Floater policy to the District for approval.

E. The District shall maintain in effect during the time for performance under the Contract Documents property insurance, including the perils of fire and flood on all pre-existing utilities, buildings, structures, paving, and equipment on the Site.

ARTICLE 4. PERMITS, LICENSES, ORDINANCES, AND REGULATIONS

Section 4.01. Basic Standard.
The Contractor shall conduct the Work so that all laws and ordinances for the protection of the public and the workers shall be obeyed fully both by the Contractor and by all subcontractors on the Site.

The Contractor shall comply with the requirements of the California State Licensing Board and have a valid contractor's license which is to be active as to the date of the receipt of bids and maintained in "Good Standing" from the receipt of bids throughout the Project.

The Contractor, and any subcontractor of any level, shall be registered pursuant to Labor Code section 1725.5 prior to engaging in the performance of any Work, and shall maintain current registration throughout the term of this Contract.

Section 4.02. Permits.
The District will pay all fees required by the Division of the State Architect, Department of General Services, State of California. The District will reimburse the Contractor for utility connection fees, encroachment permits, and utility service charges other than temporary utility charges, unless otherwise indicated, that are necessary for the completion of the Work. All other fees and permits shall be at the expense of the Contractor. Proper documentation of fee, permit, and utility service charges shall be submitted to the District through the District Representative. No mark-up shall be allowed the Contractor on these reimbursable charges.

The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations, or orders of any public authority bearing on the performance of the Work.

Except as provided above, the District shall secure and pay for necessary approvals, easements, assessments, and charges required for the construction, use, or occupancy of permanent structures or for permanent changes in existing facilities.

Section 4.03. Compliance with Laws and Regulations.
The Contractor shall keep itself fully informed of and shall observe and comply with, and shall cause any and all subcontractors employed by it or under it to observe and comply with all federal and state laws, and county or municipal ordinances, regulations, orders, and decrees which in any manner affect those engaged or employed on the Work, or the materials used in the Work, or in any way affect the conduct of the Work.

All work shall be performed in accordance with the rules and regulations, Title 24, Parts 1-5 and 9, California Code of Regulations, and Division of the State Architect, and a copy shall be kept on the job at all times during construction.

ARTICLE 5. INTERPRETATION OF DRAWINGS AND SPECIFICATIONS

Section 5.01. Familiarity with Project Site Conditions and Contract Documents.
By submitting its Bid, Contractor represented that it had visited the Site, was satisfied as to the nature and location of the Work, was satisfied as to the character, quality and quantity of the Work, had become familiar with the local conditions under which the Work is to be performed, had made whatever contact and investigation with utility companies that it deemed necessary, and had correlated its Site observations with the requirements of the Contract Documents. Failure to visit the Site does not relieve the Contractor of responsibility for observing and considering those conditions which a qualified contractor would have observed.

Section 5.02. Subsurface Conditions.
Where investigations of subsurface conditions have been made by or on behalf of the District with respect to subsurface conditions, utilities, foundations, or other structural designs, and that information is shown on the Drawings or Plans, it represents only a statement by the District as to the character of the materials which have been encountered by the District's investigation. If provided during bidding, this information was only included for the convenience of bidders, including the Contractor.

Investigations of subsurface conditions are made for the purpose of design only. The District assumes no responsibility with respect to the sufficiency or accuracy of borings or of the log of test borings or other preliminary investigations or of the interpretation thereof. There is no guaranty, express or implied, that the conditions indicated are representative of those existing throughout the Project or the Work, or any part of the Project or the Work, or that unanticipated conditions may not occur. When a log of test borings, soils studies, and/or any other report of subsurface conditions is included with the Drawings or Plans, it is expressly understood that such log, soils studies, and/or report of subsurface conditions does not constitute a part of the Contract Documents, represents only an opinion of the District as to the character of the materials to be encountered, and is included in the Drawings or Plans only for the convenience of bidders, including the Contractor. Making such information available to bidders, including Contractor, is not to be construed in any way as a waiver of the provisions of these General Conditions, and bidders, including Contractor, must satisfy themselves through their own investigations as to the conditions to be encountered.

Section 5.03. Sections of Drawings and Specifications.
For convenience, the specifications and drawings in the Contract Documents are arranged in several sections, but this separation shall not be considered as the limits of the work required of any separate trade. The scope of work is that indicated in Specification 00 73 00 Special Provisions, Article 1, Scope of Work. The terms and conditions of the work to be performed by any Subcontractor are strictly between the Contractor and the Subcontractor.

Section 5.04. Diagrammatic Drawings.
Drawings showing the locations of equipment, wiring, piping, etc., unless dimensioned, are diagrammatic, and conditions will not always permit their installation in the exact location shown. In such event, the Contractor shall submit an RFI and obtain a response before proceeding with the work in question. Unless there is a material increase in the Contractor's scope of work, installation as specified in the response to the RFI shall be without any additional compensation to the Contractor and without any increase in the Contract Time. Any work done after discovery of the issue, until authorization to proceed based on the response to the RFI, will be done at the Contractor's risk.

Section 5.05. Interpretation and Additional Instructions.
Should the Contractor discover any conflicts, omissions, or errors in the Contract Documents, or have any question concerning interpretation or clarification of the Contract Documents, or if it appears that the Work to be done or any matters relative thereto are not sufficiently detailed or explained in the Contract Documents, then, before proceeding with the work affected, the Contractor shall notify the District Representative in writing and request interpretation, clarification, or additional detailed instructions and/or drawings concerning the work. All such questions shall be resolved and instructions to the Contractor issued by the Architect.

Should the Contractor proceed with the work affected before receipt of instructions from the Architect, and, in the case of a change to the Work, before receipt of authorization to proceed, it shall remove and replace or adjust any work which is not in accordance therewith, and it shall be responsible for any resultant damage, defect, or added cost without an extension of the Contract Time or increase in the Contract Sum.

Section 5.06. Architect's Instruction Bulletins and Drawings.
In addition to the Drawings incorporated in the Contract Documents, the Architect, through the District Representative, may furnish such supplemental drawings or instructions from time to time as may be necessary to make clear or to define in greater detail the intent of the Contract Drawings and Specifications. In furnishing additional drawings or instructions, the Architect shall have the authority to make minor changes in the Work, not involving any extra cost, and not inconsistent with the overall design of the Project. If extra cost is known to be involved, these instructions will be accompanied by an RFP. These supplemental drawings and instructions shall become a part of the Contract Documents; the Contractor shall make its work conform to them.

Section 5.07. Notification of Disagreement Regarding Scope of Work.
If agreement cannot be reached as to cost, and the Contractor does not agree that work due to an interpretation or supplemental drawing or instruction is within the scope of the Contract Documents, the Contractor shall, within seven (7) days after receipt of the interpretation or instruction, submit a Proposed Change Order to the District Representative specifying in detail in what particulars the contract requirements were exceeded and the change in cost resulting therefrom. The District Representative shall then determine whether a Change Order shall be issued in accordance with Article 15 of these General Conditions. If the District Representative disagrees that a Change Order is appropriate, then, in its response to Contractor, the District Representative shall direct the Contractor in writing whether to proceed with the Work that the Contractor contends is changed. If so directed, Contractor shall perform such work without delay.

The time during which the District Representative is considering the Proposed Change Order shall not affect the Contract Time.

Section 5.08. As-Built Drawings and Specifications.
The Contractor shall maintain a PDF master set of red line Drawings and Specifications at the Site which shall be updated weekly to reflect current as-built conditions of the Work as the Work progresses. The information to be recorded by the Contractor will be determined by the Architect, who will be responsible for preparing the final, reproducible record drawings based upon the information submitted by the Contractor. The Contractor's as-built information shall be clear and legible, and at a minimum, the following information shall be inserted and dimensioned on those Drawings and Specifications, in RED, by the Contractor: the exact horizontal and vertical location of all installations in their finished condition, including all electrical, plumbing and mechanical installations; all changes in construction, materials, and installed equipment; posting of all issued addenda, Request for Information (RFI) signed by the Architect, and Architect's Instruction Bulletins with back-up to the bid documents in all applicable locations along with adequate dimensional data, both horizontal and vertical, to allow location of covered installations; the identification of each change authorized by Directive, and the number of that Directive. The updated drawings and specifications shall be available for review by the District Representative and the Inspector. If as-builts are marked up in PDF format, the file shall be made available on the District's PMIS.

Written confirmation from the Project Inspector that the as-builts have been properly updated weekly shall be submitted with each pay application request, and the existence of such properly updated as-builts shall be a condition precedent to payment. Failure to comply with the preparation and submission of as-builts may result in the District withholding the current progress payment.

As a condition to certification of final completion, the Contractor shall provide signed and dated original as-built drawings and specifications in a PDF color format, with a resolution of at least 600 DPI and each plan sheet and specification section bookmarked by name, number, or title, together with all additional information requested by the Architect to enable the Architect to prepare a set of final, reproducible as-built drawings and specifications. Timely submission of complete as-built documents shall be a condition precedent to certification of final completion and to final payment. Delays in the submission of complete as-built documents may subject the Contractor to liquidated damages.

ARTICLE 6. SUBCONTRACTOR LISTING AND SUBSTITUTION

Section 6.01. Subcontracting.
If the Contractor subcontracts any work to be performed or materials to be supplied pursuant to this agreement, the Contractor shall be as fully responsible to the District for the acts and/or omissions of such Subcontractor or supplier and of the persons either directly or indirectly employed or engaged as subcontractors by such Subcontractor or supplier as it is for its own acts and omissions.

The Contractor shall bind every Subcontractor or supplier, and every subcontractor of a Subcontractor, by the terms of the Contract Documents.

The Contractor shall cause each of its Subcontractors by contract to have an active contractor's license pertaining to its classification of work maintained in "good standing" from commencement of the Subcontractor's work through final completion of the Project.

All subcontractors shall be registered pursuant to Labor Code section 1725.5 prior to engaging in the performance of any Work and shall maintain current registration throughout the term of this Contract.

The Contractor shall not perform work on the Project with a Subcontractor who is ineligible to perform work on public works project pursuant to Labor Code sections 1777.1 or 1777.7.

Section 6.02. Disputes Between Subcontractors and/or the Contractor.
Contractor shall promptly take reasonable action to resolve any and all disputes with its subcontractors or suppliers at any level to ensure that such dispute does not interfere with the Work or the Project.

Section 6.03. Compliance With Listing of Subcontractors.
The Contractor shall comply with the requirements of the Subletting and Subcontracting Fair Practices Act, Public Contract Code Sections 4100 *et seq.* with respect to all listed Subcontractors and all DVBEs listed in Contractor's Bid. If the Contractor requests to substitute a listed DVBE, then the Contractor shall make all reasonable efforts to identify a DVBE as the replacement subcontractor or supplier. Violation any of the provisions of that statute is a material breach of this Contract and the District shall have all remedies provided by California law, including but not limited to those provided in Public Contract Code Section 4110, allowing termination of the Contract or a penalty assessment of up to ten percent (10%) of the subcontract amount.

In listing DVBE subcontractors and suppliers, the Contractor represented that the DVBE would perform a "Commercially Useful Function" ("CUF"). In the performance of the Work, the Contractor and any Subcontractor that contracts with a DVBE for which the Contractor claimed DVBE credit shall ensure that the DVBE: (a) is responsible for the execution of a distinct element of the Work; (b) actually performs, manages, and/or supervises the Work; (c) performs Work that is normal for its business services and functions; (d) for material suppliers, that the supplier negotiates price, determines quality and quantity, orders, installs (if applicable), and pays for the materials; and (e) does not further subcontract a portion of the Work greater than expected to be subcontracted by normal industry practices. A DVBE that is an extra participant in a transaction through which funds are passed to obtain the appearance of DVBE participation will not be considered to perform a CUF.

Section 6.04. Dealings with Subcontractors.
The District and its representatives will deal only with the Contractor, and the Contractor shall be responsible for the proper execution of the Work. Any and all discussions between any subcontractor or supplier and the District or any of its representatives shall be initiated through the Contractor or its representative.

Nothing contained in the Contract Documents shall create any contractual relationship between any subcontractor or supplier and the District or any of its representatives, nor shall this Contract be construed to be for the benefit of any subcontractor or supplier.

Section 6.04. Subcontractor List.
No later than ten (10) days following award of the Agreement, Contractor shall provide the District with a list of all subcontractors performing work on the Project, including their address, contractor license number, and DIR registration number, telephone number, email address, and contact person(s), regardless of subcontract amount and regardless of whether the subcontractor is under contract with the Contractor or under contract with a Subcontractor. At the same time, Contractor shall provide the District with a list of all known material suppliers. The list shall identify all subcontractors of any level and all suppliers that are DVBEs, and the Contractor shall provide the DGS DVBE certification number for all identified DVBEs. It shall be the Contractor's responsibility to notify the District of any additions or deletions to this subcontractor and supplier list from the commencement of the Work through final payment.

Section 6.05. Termination of Unsatisfactory Subcontractors.
When any portion of the Work that has been subcontracted by the Contractor is not being prosecuted in a satisfactory manner, or when materials supplied do not conform to the Contract Documents, and these deficiencies form the basis of a default notice issued pursuant to Article 16, the District may direct the Contractor to discharge the subcontractor or supplier. The District shall not be responsible for any added costs associated with such termination.

Any subcontractor or supplier which is discharged shall not again be employed on this Project.

Any termination of a Subcontractor pursuant to this Section shall be in strict conformity with the requirements of the Subletting and Subcontracting Fair Practices Act, Part 1 of Division 2 of the Public Contract Code, commencing with Section 4100.

Section 6.06. Payment of Subcontractors and Suppliers.
The Contractor shall make all payments to Subcontractors and suppliers as expeditiously and timely as possible, consistent with any applicable law so as to prevent any stop notices or claims from being filed against the District or the Project. Without limiting the generality of the foregoing, Contractor shall pay all undisputed amounts to Subcontractors and material suppliers within seven (7) days of receipt of payment by District.

ARTICLE 7. STATE REQUIREMENTS REGARDING WAGES, HOURS, AND EQUAL OPPORTUNITY

Section 7.01. Prevailing Wage Rate; Notice.

As provided under Labor Code Sections 1726-1861, the Director of the Department of Industrial Relations (DIR) of the State of California has determined the prevailing rate of wages in the locality in which the work on the project is to be performed for each craft, classification, or type of worker needed to execute this Contract. The prevailing rates so determined are on file with the District, and they are available for public inspection. They may also be obtained on the internet at http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. Those prevailing wage rates hereby are incorporated in this agreement and made a part hereof.

The Contractor shall obtain and post copies of these prevailing wage rates in a prominent place at the job site, in accordance with the regulations of the Department of Industrial Relations.

The Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

The Contractor shall post on the jobsite a Notice containing the following language:

> This public works project is subject to monitoring and investigative activities by the Department of Industrial Relations ("DIR"), State of California. This Notice is intended to provide information to all workers employed in the execution of the contract for public work and to all contractors and other persons having access to the job site to enable the DIR to ensure compliance with and enforcement of prevailing wage laws on public works projects.
>
> The prevailing wage laws require that all workers be paid at least the minimum hourly wage as determined by the Director of Industrial Relations for the specific classification (or type of work) performed by workers on the project. These rates are listed on a separate job site posting of minimum prevailing rates required to be maintained by the public entity which awarded the public works contract. Complaints concerning nonpayment of the required minimum wage rates to workers on this project may be filed with the DIR at any office of the Division of Labor Standards Enforcement ("DLSE").
> Local Office Telephone Number: 916-263-1811
>
> Complaints should be filed in writing immediately upon discovery of any violations of the prevailing wage laws due to the short period of time following the completion of the Project that the DIR may take legal action against those responsible.
>
> Complaints should contain details about the violations alleged (for example, wrong rate paid, not all hours paid, overtime rate not paid for hours worked in excess of 8 per day or 40 per week, etc) as well as the name of the employer, the public entity which awarded the public works contract, and the location and name of the project.
>
> For general information concerning the prevailing wage laws and how to file a complaint concerning any violation of these prevailing wage laws, you may contact any DLSE office. Complaint forms are also available at the DIR website found at:
> www.dir.ca.gov/dlse/PublicWorks.html.

Section 7.02. Payment of Prevailing Wage Rates.

Pursuant to Labor Code Section 1772, workers employed by contractors or subcontractors in the execution of any contract for public work are deemed to be employed upon public work as defined in Labor Code Sections 1720-1725. Therefore, the Contractor shall pay, and shall cause all subcontractors, whether under contract with the Contractor or under contract with any Subcontractor, to pay not less than the specified prevailing wage rates to all workers employed in the execution of this Contract.

In accordance with Labor Code Section 1775, the Contractor shall monitor the payment of the specified general prevailing rate of per diem wages by subcontractors to employees by periodic review of the certified payrolls of the subcontractors.

Section 7.03. Wage Rate for Crafts Not Listed.
The responsibility to check prevailing wage rates is the Contractor's. Pursuant to Labor Code Section 1773, the Contractor may file with the Director of DIR or the Chief of the Division of Labor Standards Enforcement ("DLSE") a petition to review a determination of any rate or rates made by the Director of DIR. The Contractor may also petition the Director of DIR to make a determination for a particular craft, classification or type of work not covered by a general determination. Pending the review or determination, the wages may be assumed to be those in the applicable collective bargaining agreement, but no adjustment in the bid or Contract Price shall be made if such assumption is incorrect.

Section 7.04. Records of Hours Worked and Wages.
The Contractor shall keep, and shall cause all subcontractors on the Project to keep, certified payroll records of the hours and wages of all employees employed on the Project, and those records shall be open at all times for inspection by the District and/or the Division of Labor Statistics and Enforcement, in accordance with Sections 1776 and 1812 of the Labor Code. The certified payroll records shall contain at least the following information: the name, address, social security number, work classification, dates of payroll period, straight time, and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by the Contractor and/or each subcontractor in connection with the Work.

In the event that the Contractor and/or any subcontractor fails to submit certified payroll records to the District within ten (10) calendar days of a request from the District for the records, the Contractor and/or the subcontractor shall, as a penalty, forfeit one hundred dollars ($100) per calendar day, per worker, until strict compliance is effectuated. These penalties shall be withheld from progress payments then due and/or to become due. The Contractor is not subject to this penalty assessment due to the failure of a subcontractor to comply with these requirements if the Contractor can demonstrate that it has fully complied with the provisions of Labor Code Section 1776.

The Contractor shall not carry on its payrolls any person not actually employed by the Contractor, nor shall it carry on its payrolls employees of any subcontractor. The Contractor shall show on its payrolls all persons actually employed by the Contractor on the Project, in any capacity. The Contractor shall cause all subcontractors on the Project, whether under contract with the Contractor or under contract with any Subcontractor, to comply with this Section.

In accordance with Government Code Section 8546.7, or any amendments thereto, all books, records, and files of the Contractor, or any subcontractor connected with the performance of this Contract, shall be subject to examination and audit by the Auditor General for a period of three (3) years after final payment. Contractor shall preserve and cause all subcontractors to preserve such books, records and files for the audit period.

Section 7.05. Additional Requirements for Labor Compliance.
The Contractor shall comply with the following additional requirements and shall cause all subcontractors on the Project, whether under contract with the Contractor or under contract with any Subcontractor, to comply. The records kept by the Contactor and all subcontractors of the hours and wages of all employees employed on Project also shall be open at all times for inspection by the DIR and DLSE, in accordance with Sections 1776 and 1812 of the Labor Code. Such records shall be furnished electronically to the Labor Commissioner of the DIR monthly, unless more frequent submission is required herein, and shall be furnished within 10 days of any separate request by the DIR or DLSE. Payroll records shall be furnished in a format prescribed by the DIR and uploaded into the electronic certified payroll reporting (eCPR) system.

On a random basis and at such other times as it deems appropriate, the DIR also may confirm the accuracy of payroll reports, including by corroboration of information in payroll reports through independent sources, including without limitation worker interviews, examination of any time and pay records found within the definition of "Payroll Records" in section 16000 of Title 8 of the California Code of Regulations, direct verification of "Employer Payments" (as defined at section 16000 of Title 8 of the California Code of Regulations) through third-party recipients of those payments, or any other legal and reasonable method of corroboration. As part of its confirmation process, the DIR may require Contractor and any of its subcontractors to furnish for inspection itemized statements prepared in accordance with Labor Code Section 226. The DIR may conduct random confirmation based on a recognized statistical sampling of the records submitted.

The DIR may conduct in-person inspection(s) at the site or sites at which the Work of the Project is being performed ("On-Site Visits"). On-Site Visits may include visual inspection of required job site notices, including but not limited to

(1) the determination(s) of the Director of DIR of the prevailing wage rate of per diem wages required to be posted at each job site in compliance with Labor Code Section 1773.2; (2) the Notice of pay days and time and place of payment required by Labor Code Section 207; and (3) any other notices prescribed by law. On-Site Visits may also include inspections of records, inspections of the work site and observation of work activities, interviews of workers and others involved with the Project, and any other activities deemed necessary by the DIR to ensure compliance with prevailing wage requirements. In accordance with Labor Code Section 90, the Labor Commissioner and his deputies and agents shall have free access to any construction site or other place of labor and may obtain any information or statistics pertaining to the lawful duties of the Labor Commissioner, including but not limited to evidence of compliance with Labor Code Section 226 (itemized wage statements for employees) and any other laws enforced by the Labor Commissioner.

In accordance with Section 16463 of Title 8 of the California Code of Regulations ("8 CCR Section 16463"), the District may, on its own or if required by the Labor Commissioner, withhold funds due to the Contractor when payroll records are delinquent or inadequate. The amount withheld shall be those payments due or estimated to be due to the Contractor or subcontractor whose payroll records are delinquent or inadequate, plus any additional amount that the Labor Commissioner has reasonable cause to believe may be needed to cover a back wage and penalty assessment against the Contractor or subcontractor whose payroll records are delinquent or inadequate. The Contractor shall cease all payments to a subcontractor whose payroll records are delinquent or inadequate until the Labor Commissioner provides notice that the subcontractor has cured the delinquency or deficiency. When payments are withheld under 8 CCR Section 16463, the Labor Commissioner will provide the Contractor and subcontractor, if applicable, with immediate written notice that includes all of the following: (1) a statement that payments are being withheld due to delinquent or inadequate payroll records, and that identifies what records are missing or states why records that have been submitted are deemed inadequate; (2) specifies what amounts the District has been directed to withhold; and (3) informs the Contractor or subcontractor of the right to request an expedited hearing to review the withholding of payments under Labor Code Section 1742, limited to the issue of whether the records are delinquent or inadequate or the Labor Commissioner has exceeded his or her authority under 8 CCR Section 16463. Where the violation is by a subcontractor, the Contractor shall be notified of the nature of the violation and reference shall be made to Contractor's rights to withhold or recover payments from the subcontractor under Labor Code Section 1729. The withholdings under 8 CCR Section 16463 do not preclude assessment of penalties under Labor Code Section 1776(g) for failure to timely comply with a written request for certified payroll records, as set forth below.

Section 7.06. Underpayment of Wages.

The Contractor agrees that in the event of underpayment of wages to any employee on the Project, whether by the Contractor or any subcontractor on the Project, the District may retain from payments due to the Contractor, an amount sufficient to pay such worker the difference between the wages required to be paid by the DIR, and the wages actually paid such worker for the total number of hours worked, plus any penalties and forfeitures. The District may disburse such retention to such employees.

Section 7.07. Apprentices.

Attention is directed to the provisions of Sections 1777.5, 1777.6 and 1777.7 of the Labor Code concerning the employment of apprentices by the Contractor or any subcontractor.

The Contractor and all subcontractors on the Project shall comply with the requirements of Sections 1777.5 and Section 1777.6 of the Labor Code in the employment of apprentices. Violation of these requirements shall subject the Contractor and/or subcontractor to the penalties set forth in Section 1777.7 of the Labor Code and/or otherwise provided by law or Contract.

Information relative to apprentice standards, wage schedules, and other requirements may be obtained from the Director of Industrial Relations, ex-officio the Administrator of Apprenticeship, San Francisco, California, from the Division of Apprenticeship Standards or its branch offices, and/or on the DLSR website at www.dir.ca.gov/DLSR/PWD. Apprentices employed on the Project must at all times work with or be under the direct supervision of a journeyman or journeymen.

Section 7.08. Penalties.

In accordance with Articles 2 and 3, Chapter 1, Part 7, Division 2 of the Labor Code, particularly Sections 1775, 1776, 1777.7 and 1813, the Contractor shall forfeit to District as a penalty the sum specified below, over and above any retention or withholds otherwise authorized by the agreement, as follows:

A. Up to two hundred dollars ($200) for each calendar day, or portion thereof, for each worker paid less than the applicable prevailing wages for any work done by him/her under this Contract or under any subcontract on the Project, with the amount to be determined by the Labor Commissioner in accordance with the considerations set forth in Labor Code section 1775. If a worker employed by a subcontractor on the Project is paid less than the prevailing wages by the subcontractor, the Contractor is not subject to this penalty assessment if the Contractor can demonstrate that it did not have knowledge of that failure of the subcontractor to pay the prevailing wages and that it strictly complied with the requirements of Labor Code Section 1775(b).

B. Twenty-five dollars ($25) for each worker employed in the execution of this agreement by the Contractor or by any subcontractor on the Project for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week in violation of the provisions of Article 3.

C. Failure to provide certified payroll records to the District or to the Labor Commissioner within ten (10) calendar days of a request, shall, in addition to resulting in a withholding of payments due or estimated to be due, result in a penalty in the amount of one hundred dollars ($100) for each calendar day, or portion thereof, for each worker until strict compliance is effectuated. The Contractor is not subject to this penalty assessment due to the failure of a subcontractor to comply with these requirements if the Contractor can demonstrate that it has fully complied with the provisions of Labor Code Section 1776.

D. Knowing violation of Labor Code Section 1777.5 shall yield a penalty in an amount not exceeding one hundred dollars ($100) for each full calendar day of non-compliance. A Contractor or subcontractor who knowingly commits a second or subsequent violation of Section 1777.5 within a three-year period, where noncompliance results in apprenticeship training not being provided as required, shall forfeit as a civil penalty the sum of no more than three hundred dollars ($300) for each full calendar day of noncompliance.

Section 7.09. Hours of Work; Approval of Schedules.
Eight (8) hours of labor constitutes a legal day's work, and forty (40) hours constitutes a legal work week. No worker employed at any time by the Contractor, or by any subcontractor upon the Project, shall be required or permitted to work more than eight (8) hours in any one calendar day or forty (40) hours in any one week, except as provided in Labor Code Sections 1810 through 1815.

Overtime shall be paid at the rate of not less than one and one-half (1-1/2) times the basic rate of pay, or at such other rate as stated on the applicable Determination issued by the DIR, or as may be required by applicable statutes or collective bargaining agreements.

The District reserves the right to approve or disapprove the days scheduled for work, and the hours during which work is in progress.

Section 7.10. Compliance with State Anti-Discrimination Laws.
The Contractor shall comply with Section 1735 of the Labor Code, which provides as follows:

> "A contractor shall not discriminate in the employment of persons upon public works on any basis listed in subdivision (a) of Section 12940 of the Government Code, as those bases are defined in Sections 12926 and 12926.1 of the Government Code, except as otherwise provided in Section 12940 of the Government Code. Every contractor for public works who violates this section is subject to all the penalties imposed for a violation of this chapter."

ARTICLE 8. SUPERVISION AND LABOR

Section 8.01. Supervision Procedures.
The Contractor shall supervise and direct the Work using its best skill and attention. The Contractor shall be solely responsible for all construction means, methods, techniques, and procedures and for coordinating all portions of the Work under the Contract.

The Contractor shall be responsible to the District for the acts and omissions of its employees, subcontractors and their agents and employees and other persons performing any of the Work.

It is prohibited to hire undocumented workers. The Contractor shall secure and cause its Subcontractors to secure proof of eligibility/citizenship to work from all workers.

The Contractor shall not be relieved from its obligations to perform the Work in accordance with the Contract Documents either by the activities or duties of the Architect or the District Representative in their administration of the Contract or by inspections, tests or approvals (or the lack thereof) required or performed under Article 9 by persons other than the Contractor.

Section 8.02. Skilled Labor.
All non-apprentice labor shall have the skills of a journeyman in the applicable trade. All workmanship shall be of the highest quality and finish in all respects.

Section 8.03. No Tenancy.
All workers, contractors, or contractors' representatives are admitted to the Site only for the proper execution of the Work, and have no tenancy.

Section 8.04. Dismissal of Unsatisfactory Employees.
All employees engaged in the Work will be considered employees of the Contractor.

The Contractor shall at all times enforce strict discipline and good order among all employees including compliance with the District Guidelines for Conduct on School Sites and shall not employ on the Work any unfit person or anyone not skilled in the assigned task as defined in Section 8.02. The Contractor shall remove, or cause a subcontractor to remove from the Project, any incompetent employee, or any employee not skilled for the type of work required as defined in Section 8.02, or any employee who does not comply with the District Guidelines for Conduct on School Sites. The District may require that the Contractor immediately remove from the Work any employee for cause.

Section 8.05. Personal Attention and Superintendence; Contractor's Agent.
The Contractor shall supervise the work to the end that it shall be faithfully prosecuted. The Contractor shall at all times while the Contractor's scope of work is in progress keep a full-time superintendent who is fully empowered to act as agent for the Contractor on the Site. The Contractor shall advise the District in writing of its agent prior to the start of any work. The Contractor shall provide résumés for all of the Contractor's supervisory employees to be assigned to the Project for District review, and the District may reject any supervisory employees not deemed to be qualified at the sole discretion of the District. The Contractor shall be responsible for the faithful observation of all instructions delivered to its authorized agent(s).

If the Contractor's superintendent performs labor on the Project, the Contractor shall cause the superintendent to be paid at the prevailing wage for the classification of work performed. However, no additional compensation will be paid by the District for any work performed by the full-time superintendent.

In the event that the Contractor fails to provide a qualified full-time superintendent on the Site on any given day when work is scheduled to be performed, Contractor shall not be authorized to perform Work on that day. Contractor shall not be entitled to an extension of time for any suspension of work due to lack of a qualified superintendent.

Section 8.06. Inspection of the Work of Other Contractors.
It shall be the duty of the Contractor and all subcontractors, before beginning any work, to examine all construction and work of other contractors and/or subcontractors that may affect their work, and to satisfy themselves that everything is in proper condition to receive such work. The Contractor shall notify the District Representative in writing

prior to starting work of any discrepancies or conditions which deviate from the Contract Documents or are otherwise unacceptable. Failure on the part of the Contractor to so notify the District Representative shall constitute an acceptance by the Contractor and all subcontractors of all construction in place as being suitable in all respects to receive further work by the Contractor or subcontractors.

Section 8.07. Contractor's Coordination of Work.

The District reserves the right to do other work in connection with the Project by separate contract or otherwise. The Contractor shall at all times conduct its work so as to impose no hardship on the District or others engaged in the Work. The Contractor shall adjust, correct and coordinate its work with the work of others so that no delays or discrepancies shall result in the whole Project.

Section 8.08. Daily Reports.

No less than on a weekly basis, the Contractor's superintendent shall submit to the District Representative daily reports through the District's PMIS, which daily reports shall include, without limitation, the identity of subcontractors on the Site; an accurate headcount of workers on the Site; materials and equipment delivered to the Site; visitors to the Site; work performed; and any problems encountered.

Section 8.09. Fingerprinting.

Education Code section 45125.1 and 45125.2 apply to this Agreement. The Contractor shall, prior to commencement of Work, comply with either of the methods of ensuring safety set forth in Education Code section 45125.2(a)(1) (installation of a physical barrier) or 45125.2(a)(2) (continual supervision by an employee of Contractor who has not been convicted of a serious or violent felony). If the Contractor elects to provide continual supervision pursuant to Education Code section 45125.2(a)(2), Contractor shall require any person affiliated with Contractor (or, in appropriate cases, himself or herself) to be fingerprinted by the Department of Justice ("DOJ") if that person will have unsupervised access to school campuses. Upon verification from DOJ that those persons fingerprinted have no record of a serious or violent felony, the Contractor will so certify by signing and submitting to the Governing Board of District the certification form attached as Exhibit A to the Agreement for Construction. In addition, Contractor shall submit the names of those persons who have received clearance and are authorized to have unsupervised access to school campuses on a form as indicated in Exhibit B to the Agreement for Construction. Any person whose name is not on the cleared list may not have such access. In that case, Contractor must make arrangements with District for appropriate access. No person with a violent or serious felony as reported by DOJ may have access to the school campuses.

Failure to comply with these terms, or permitting unsupervised access by an employee whose name has not been cleared by DOJ as certified by the Contractor shall constitute grounds for termination of this Agreement.

ARTICLE 9. INSPECTION AND TESTING

Section 9.01. Inspection.
Inspection shall be provided as required under CCR Title 24, current edition. All inspection costs will be paid for by the District, including special inspection required by Title 24, except as noted otherwise below. A list of required inspections for the Project is included in the Contract Documents.

The Inspector shall be approved by the District, DSA, and the Architect. The Inspector will be employed by the District and will perform all inspections in accordance with Title 24, parts 1-5.

Section 9.02. Authority of Project Inspector; Stop Work Notices.
The designated Project Inspector shall be considered to be a representative of the District. It is the inspector's duty to inspect the Work.

The Project Inspector shall have the authority to order the work designated for inspection stopped if a determination is made that work is proceeding in violation of the Contract Documents or any orders issued by the District, its representatives, or the Architect. The failure of the Project Inspector to order the work stopped does not excuse the Contractor from complying with the Contract Documents for that work.

Upon issuing a stop work notice, the Project Inspector shall notify the Architect, who shall inspect the work in question and determine whether it does or does not comply with the Contract Documents. The decision of the Architect shall be final, subject to the disputes procedures in Article 23. The Contractor shall thereafter comply with the instructions of the Architect regarding corrections needed to cure the defect. The suspended work shall be resumed only when the Architect's instructions are fulfilled. The Contractor shall not be entitled to an extension of time in the event of such suspension of work, provided the stop work notice is determined to be supported by the facts.

Section 9.03. Effect of Inspections.
Neither the final inspection and payment, nor any interim inspection or progress payment, shall relieve the Contractor of its obligation to fulfill the Contract as required by the Contract Documents.

Any work, materials, or equipment not meeting the requirements and intent of the Contract Documents may be rejected, and unsuitable work or materials shall be made good, notwithstanding the fact that such work or materials may previously have been inspected and/or payment therefore may have been made.

Section 9.04. Notice to District of Inspection.
Where the Contract Documents, instructions by the Project Inspector, District Representative, or the Architect, laws, ordinances, or any public authority having jurisdiction require work to be inspected, tested, or approved before the work proceeds, such work shall not proceed, nor shall it be covered up, without inspection. If any part of the Work is covered prior to inspection, the District may order the work to be uncovered so that inspection may be accomplished. The Contractor shall bear all expenses of such examination and satisfactory reconstruction.

The Contractor shall provide written notice to the Project Inspector at least twenty-four (48) hours in advance of the readiness for inspection.

All work shall be available for inspection and the Project Inspector shall have full access to review all work during all working times. The Contractor shall provide all necessary means of safe access (e.g. ladders) for the Project Inspector to perform his/her duties. The Contractor shall furnish the Project Inspector with any information necessary to fully inform him/her of conditions. Inspection does not relieve the Contractor from fulfilling the requirements of the Contract Documents.

Section 9.05. Inspection of Completed Work.
Should the District Representative or the Architect determine that it is necessary or advisable to make an inspection of work already completed at any time before final inspection and acceptance of the Work, by removing or exposing any work, the Contractor shall, upon instruction of the District Representative, promptly furnish all necessary facilities, labor, and materials to do so. If the work is found to be defective in any respect due to the fault of the Contractor or any subcontractor, the Contractor shall bear all expenses of such examination and satisfactory reconstruction. If, however, the work is found to meet the requirements of the Contract Documents, the additional cost of labor and

material necessarily involved in the examination and replacement shall be allowed the Contractor and a change order shall be issued for such cost and any time extension justified by delays to the critical path.

Section 9.06. DSA Field Representative.
For contracts requiring DSA approval, the Division of the State Architect will designate a field representative who will visit the Site periodically to review with the Project Inspector compliance of the Project with CCR Title 24 requirements. The DSA field representative may require certain modifications to the Project as constructed. In the event the Contractor believes they are outside the scope of this Contract, it shall proceed as in Section 5.06.

Section 9.07. Overtime work.
Whenever the Contractor arranges to work at night or any time when work is conducted other than the normal 40-hour week, or to vary the period during which work is carried on each day, it shall give the District Representative and the Project Inspector a minimum of 48-hours notice so that inspection may be provided. Additional inspection costs incurred because of overtime or shift work shall be paid by the District. If this overtime work is necessitated by the Contractor's error or failure to perform, the cost of inspection will be borne by the Contractor.

Section 9.08. Materials Which May be Tested.
The District reserves the right to require the Contractor to provide samples, and to perform tests on any materials, articles, equipment, installations, or construction performed by the Contractor in addition to those specified in the Contract Documents. The District shall assume the cost of sampling and testing materials only when the Contract Documents do not require the Contractor to do so.

Section 9.09. Testing.
All tests shall be performed under the supervision of the testing laboratory or consultant employed by the District, and listed on the DSA-approved list, and at such times as are convenient to the District. The Contractor shall provide written notice to the District Representative at least 24 hours prior to the need for off-site tests or inspections, and the District Representative will arrange such tests or inspections. The Contractor shall bear all expenses of tests performed where the Contractor failed to provide this minimum notice.

Section 9.10. Selection of Samples.
All samples and specimens for testing shall be selected by the Project Inspector or by the testing laboratory, but not by the Contractor.

Section 9.11. Delivery of Samples.
The Contractor shall, at the Contractor's sole cost and expense, furnish, package, mark, and deliver all samples to be tested at locations other than the Site. Samples shall be delivered either to the Project Inspector or to the testing laboratory or such other address specified in the Contract Documents.

Delivery of all samples to the testing laboratory shall be made in ample time to allow the test to be made without delaying construction. No extra time will be allowed for the completion of the Work by reason of delay in testing samples required by the Contract Documents or due to the Contractor's request for substitution.

The Contractor shall allow free access at all times to the representatives of the testing laboratory to the Work, and shall point out the sources from which samples are taken.

All test reports shall be sent to all parties specified in the Contract Documents.

Section 9.12. Approval of Samples.
No materials or work of which samples and/or tests are required shall be used or covered until the District Representative or the Project Inspector informs the Contractor that such samples and/or tests have been approved. If the Contractor installs, uses, or covers any such material, article, or work prior to testing and approval, such shall be at the Contractor's sole risk and expense, and it shall bear all costs of uncovering, repair, and replacement thereof.

The approval of any samples shall be for the characteristics thereof, or for the uses named in such approval, and no other. No approval of any samples shall be deemed a change or modification in any requirement of the Contract Documents. Upon testing of any sample of material or work, no additional sample shall be considered. All material or work installed after the sampling and testing is performed and approved shall be equal to or better than the approved

sample in all respects and shall be accompanied by documentary proof that the material and work sampled is actually representative of that installed.

Section 9.13. Damage Due to Testing.
The Contractor shall, at its sole cost and expense, repair all damage resulting from testing specified in the Contract Documents. The District shall issue a Change Order for repair of damage due to sampling or testing other than specified in the Contract Documents.

The Contractor shall not make any tests upon portions of the Project already completed, except with the prior written consent and under the direction and supervision of the District Representative.

Section 9.14. Retesting.
If as a result of any test, whether originally specified or not, any material or work is found to be unacceptable, it shall be rejected, and all further sampling and testing required by the District or District Representative shall be at the Contractor's expense.

Section 9.15. Effect of Sampling and Testing.
The District assumes no obligation, and the Contractor shall be relieved of no obligation undertaken pursuant to the Contract Documents by virtue of sampling and testing specified in this article.

The responsibility for incorporating satisfactory materials and workmanship which meet the Contract Documents in the work rest entirely with the Contractor, notwithstanding any prior samples or tests.

ARTICLE 10. PROTECTION OF WORKERS, PUBLIC AND PROPERTY

Section 10.01. Safety Precautions and Programs.
The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work, for maintaining all safety and health conditions on the Site and for ensuring against and/or correcting any hazardous conditions on the Site. Also, in no case shall the District, the District Representative, the Architect, the Inspector, or their agents, employees or representatives, have either direct or indirect responsibility for the means, methods, techniques, sequences, or procedures utilized by the Contractor, or for safety precautions and programs in connection with the Work, or for maintaining any safety or health conditions on the Site, or for ensuring against or correcting any hazardous conditions on the Site.

Certain work may be ongoing at the time school is in session; therefore, the Contractor shall take precautions to prevent injury and access to children and staff and shall comply with the District's Guidelines for Onsite Safety. Material storage and vehicle access and parking shall be subject to District approval.

The Contractor shall designate a responsible member of its organization at the Site whose duty shall be the prevention of accidents and overall jobsite safety for contractors/subcontractors employees and visitors. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the District Representative.

Section 10.02. Protection of Persons and Property.
The Contractor shall at all times, until final acceptance and payment hereunder, maintain adequate protection against injury to persons, including employees, or damage to property, on or near the Project, or adjacent to the Site. The Contractor shall be responsible for maintaining all safety and health conditions on the Site and for ensuring against and/or correcting any hazardous conditions on the Site. In no case shall the District, the District Representative, the Architect, the Inspector, or their agents, employees, or representatives, have either direct or indirect responsibility for maintaining any safety or health conditions, or for ensuring against or correcting any hazardous conditions, on or near the Site, or adjacent to the Site.

The Contractor shall provide a safe environment for all functions to be performed by the District Representative, Architect and Project Inspector, and a safe place for all employees to work. The use of alcohol, drugs, or tobacco (including e-cigarettes) will not be permitted on District property.

The Contractor shall comply with all Occupational Safety laws, rules and regulations applicable to the work.

Section 10.03. Protection and Repair of Work.
The Contractor shall protect the District's structures, facilities, equipment, tools, materials, and any other property on or adjacent to the Site against damage, loss, or theft by providing adequate security measures for its work. The Contractor shall, until final payment hereunder, maintain protection of all of its work and work performed by others under this Contract from damage, loss, defacement, or vandalism. The Contractor shall provide protection of completed work which may be subject to damage as a result of the Contractor's failure to perform as scheduled.

The Contractor shall repair or replace any damage and remove any damaged or defaced material and/or equipment from the Site at no cost to the District, and Article 17 shall apply to such material or equipment.

Section 10.04. Protection of Workers.
The Contractor shall take every precaution for the safety of all employees and others on the Work, and to comply with all applicable provisions of federal, state, and local safety laws and building codes to prevent accidents or injury to persons on, about, or adjacent to the premises where the Work is being performed.

The Contractor shall erect and properly maintain at all times, as required by the conditions and progress of the Work, all necessary safeguards for the protection of workers and the public, and shall post danger signs warning against hazards created by construction including, but not limited to, protruding nails or reinforcing steel, hod hoists, elevator hatchways, scaffolding, window openings, stairways, and falling materials.

The Contractor shall immediately replace or repair any unsafe ladder, scaffolding, shoring, or bracing, or correct any other dangerous or hazardous situation that may exist.

The responsibility for maintaining a safe working site shall be the Contractor's, and the District and District Representative undertake no obligation to suspend the work or notify the Contractor of any hazardous conditions or noncompliance with safety laws. See hazardous materials exhibit for further information.

In no case shall the District, the District Representative, the Architect, the Inspector, or their agents, employees or representatives, have either direct or indirect responsibility for maintaining any safety or health conditions, or for ensuring against or correcting any hazardous conditions on the Site.

Section 10.05. Working Limits and Regulations.
The Contractor shall confine its apparatus, storage and materials, and construction operations within the limits established by the District Representative, and shall not unreasonably encumber the Site or adjacent areas with its materials and/or equipment.

The Contractor shall enforce any instructions from the District Representative or District regarding fires, placement of signs, danger signals, barricades, radios, and noise.

Section 10.06. Protection of Existing Improvements.
The Contractor shall clean the portions of existing improvements and facilities which are used by, traversed, or dirtied by the workers on the Work, normal maintenance due to use by District employees or the public excepted.

The Contractor shall take all necessary precautions to protect all existing improvements and facilities from any damage resulting from the operations, equipment, or workers of the Contractor during the course of the construction, and Contractor shall be strictly liable for failure to adequately protect any existing improvements and/or facilities.

The Contractor shall take all necessary precautions to protect existing facilities against the effects of the elements and Contractor shall be strictly liable for failure to adequately protect any facility.

All damaged improvements and facilities shall be replaced, repaired, and restored to their original condition without additional cost to the District and without an extension of the Contract Time.

Section 10.07. Traffic Signals and Traffic Control.
Existing signs, lights, traffic signals, control boxes, hydrants, meters, and other similar items occurring within the street or sidewalk areas shall be kept free of obstructions and accessible at all times. All such items shall be protected from the Contractor's operations and shall not be obliterated or obscured by its equipment or materials.

Should it be necessary to cover up, move, or alter such items, this shall be done only with permission of the authorities having jurisdiction over the items involved.

Should it be necessary to block a street or sidewalk, the Contractor shall first notify the District Representative and the police and fire departments and other agencies with jurisdiction, and shall comply with their instructions, including scheduling limitations.

Section 10.08. Security of the Site.
Contractor shall provide and maintain temporary fencing surrounding the buildings and/or rooms under construction, and staging areas. Set-up/relocation of temporary fencing is included in the Contract Sum. Contractor is responsible for the security of all equipment, material, and completed construction items. Contractor is responsible for maintaining access to any occupied buildings on the school site at all times. Temporary covered walkways and/or barricades may be required. Contractor is responsible for securing any breeches to existing security system/building caused by its Work. Temporary measures may include security guards, temporary doors, temporary alarm, etc.

Section 10.09. Removal of Barricades.
Upon completion of the work, the Contractor shall remove from the Site all materials used for barricades, temporary scaffolding, or any other temporary uses.

Section 10.10. Protection of Adjacent Property; Notices.
In addition to any requirements imposed by law, the Contractor shall shore up, brace, underpin, and protect as may be necessary all foundations and other parts of all existing structures on the Site or adjacent to the Site which are in any way affected by the excavations or other operations connected with the completion of the Work.

Prior to excavation, the Contractor shall notify all public utilities and governmental agencies of the work proposed, and shall ascertain from them the exact location of their utilities.

Prior to commencing any work which in any way affects adjoining or adjacent land or buildings thereon, or public utilities, the Contractor shall notify the District Representative, who will send the District and occupants thereof a notice, which specifies the type of work to be done, the schedule of the work, the impacts expected from the work, and the protective measures being taken by the Contractor. The notice shall also specify that any person receiving notice who has questions regarding it may contact the District Representative.

Whenever any notice is required to be given to any adjoining or adjacent landowner, utility, governmental agency or other party before commencement of any work, the notice shall be given by the Contractor at least seven days in advance of the work, or longer if required by law or regulation, with a copy delivered to the District Representative.

The Contractor shall, at the written instruction of the District Representative, meet with any recipient of such notice to explain and discuss the proposed work.

Section 10.11. Fire Protection.
The Contractor shall take all steps necessary to protect all structures from fires and sparks originating from the Work, shall comply with all laws and regulations regarding fire protection, and shall comply with all instructions of the fire department with jurisdiction.

The Contractor shall notify the District Representative and the fire department in writing at least 72 hours prior to disconnection of either water or electrical service to the Site, and shall comply with the fire department's instructions regarding fire safety.

The Contractor must keep the fire and intrusion detection systems operational throughout the duration and scope of its work.

Section 10.12. Repairs or Replacement.
Any damage to existing conditions, or to any other improvement or property above or below the surface of the ground, whether private or public, arising from performance of this Contract shall be repaired within 48 hours by the Contractor without expense to the District, unless disruption of school operation or creation of a safety hazard has occurred, in which case damage will be corrected immediately.

If, in the opinion of the Architect, the best interest of the District requires that repairs be made prior to the execution of any further work, the District Representative will so notify the Contractor who shall delay or discontinue that part of the Work until the necessary repair has been made. Such delay shall be considered non-compensable, and no extension of the Contract Time will be granted therefore.

Upon the failure of the Contractor to comply with any such order, or upon the Contractor's failure to make immediate emergency repairs which are necessary to protect the Work, the District shall do that work itself as is necessary to protect life and property, in its sole discretion, and deduct the total cost of such work from the next progress payment. No prior notice to the Contractor shall be necessary for the District to take this action.

Section 10.13. Emergency Safety Actions.
In an emergency affecting the safety of life or property, including adjoining property, the Contractor, without previous instructions or authorizations from the District, is authorized and shall act at its discretion and risk to prevent such threatened loss or injury, and the Contractor shall bear all costs of that action. The Contractor shall immediately notify the District Representative of such actions, and thereafter shall comply with any instructions issued by the District Representative.

ARTICLE 11. SUBMITTALS

Section 11.01. Submittals.

The Contractor, at its sole cost and expense, shall furnish to the District Representative all Submittals and other descriptive material as are required by the Specifications or requested by the Architect.

Shop drawings shall be done with sufficient detail to adequately describe items proposed to be furnished or methods of installation to enable the District and Architect to determine compliance with the Specifications and with the design and arrangement shown on the working drawings.

The Contractor shall check and coordinate all Submittals with the Work of all trades involved before they are submitted. The Contractor shall review each Submittal for conformance with the requirements of the Contract Documents.

Unless otherwise agreed in writing by the District in response to the Contractor's schedule of Submittals, all Submittals for the Project shall be made within thirty-five (35) days of Contract Award; however, the Contractor shall coordinate the schedule of its Submittals with the requirements of the Contract Schedule so as not to delay the Project. No delay claims related to Submittals will be entertained on the Project for any Submittal originally received after the Submittal period. If Contractor fails to provide Submittals as an when required, then Contractor agrees to the following:

(a) District shall not be required to accept limitations in materials, colors, quality, or any other aspect of products or materials due to the Contractor's failure to provide Submittals as required,
(b) At District's discretion, Contractor may be directed to furnish and install temporary materials until the District-selected material is available, and
(c) District may require Contractor to install the District-selected materials during non-school hours/days without an increase in the Contract Sum and without an extension of the Contract Time.

Contractor shall submit a schedule of Submittals organized by Specification section required for the Project. It shall delineate whether product data, installation instructions, shop drawings, samples, extra stock, or mock-ups are required. The schedule of Submittals shall indicate whether the Submittal will be in electronic format, as set forth below. In general, other than items requiring color selections, samples and shop drawings, Submittals will be in electronic format.

This schedule of Submittals shall be submitted using the District's PMIS within ten (10) calendar days of Contract Award. Any omissions or inaccuracies shall not relieve the Contractor of the obligation for conforming to the requirements in the Contract Documents. The Contractor's Submittal schedule shall provide sufficient time for delivering the Submittal to the Architect, the Architect's review of each Submittal, delivering the Submittal to the Contractor, and re-submittal as necessary. In no case shall the Contractor allow fewer than fourteen (14) days, exclusive of delivery time, for the District Representative and the Architect to review each Submittal.

Section 11.02. Submission of Submittals.

Most Submittals shall be submitted electronically. Electronic Submittals which are submitted together shall be compiled into a single, bookmarked PDF file, containing links to enable navigation to each item within the Submittal package. The Contractor shall name the electronic Submittal file with a consistent project identifier, composed of the Project name, bid package number, and specification section number. Electronic Submittals shall be transmitted via the District's PMIS. The District Representative will not review the Submittals for technical compliance, but may reject any Submittal found, in the District Representative's judgment, to be incomplete. The District Representative will maintain a Submittal log, and weekly meeting minutes shall note if Submittals have been accepted. Submittals requiring color selections, samples, or shop drawings will be logged.

For mock-ups, color selections and samples, the Contractor shall submit no less than three (3) originals. All Submittals of mock-ups, color selections, and samples shall be marked with the Project name, the Contractor's name, and the specification section number, and shall be accompanied by a letter of transmittal to the District Representative. The letter of transmittal shall list the identifying number of the mock-ups, color selections, and samples submitted and cross-reference them to the page or sheet in the specifications and/or working drawings to which they are related. Photos of mock-ups, color selections, and samples shall be uploaded to the District's PMIS along with the letter of transmittal.

By approving and submitting shop drawings, product data, manufacturers' instructions, and samples, the Contractor represents that it has determined and verified all materials, field measurements, and field construction criteria related thereto and that it has checked and coordinated the information contained within those Submittals with the requirements of the Work and to the Contract Documents. The Contractor shall adhere to any supplementary processing and scheduling instructions pertaining to Submittals as may be issued by the District Representative.

The District Representative will not accept shop drawings, product data, or manufacturers' instructions which are not sufficiently dimensioned and detailed to demonstrate compliance with the Contract Documents.

The Submittals shall be submitted promptly, and no later than specified in the Submittal schedule, so as to cause no delay in the Work.

Section 11.03. Review of Submittals.

Following submission, the Submittals will be reviewed and returned with one or more of five possible responses by the District Representative or Architect. These possible responses are as follows:

A. Unreviewed: If the Submittal is not required, or if it is not complete, or if it does not meet the form, format, and number requirements specified, it may be returned unreviewed. If the Submittal is not required, Work may commence; if the Submittal was returned due to form requirements, it shall be resubmitted and approval obtained prior to commencement of the Work.

B. Approved, Reviewed for General Conformance Only, or No exceptions taken: In the event the Submittal is acceptable as submitted, it will be returned with this status. Work may proceed upon receipt of approved Submittal.

C. Make Corrections Noted: If the Submittal is acceptable except for certain items which have been noted by the Architect, it will be so designated. Work may proceed with the corrections made, and no resubmittal is necessary.

D. Revise and Resubmit, or Submit Specified Item: This status indicates that revisions are noted on the Submittal, and an additional Submittal is required to reflect those revisions and/or additional information. Work may not commence until the resubmittal is approved.

E. Rejected: A Submittal may be rejected if it is not in compliance with the Contract Documents, or if it proposes an "or equal" or substitution which is not acceptable to the Architect. A superseding Submittal shall be submitted and approved prior to commencement of the Work.

Should the Contractor proceed with the Work shown on a Submittal before approval is received, it shall remove and replace or adjust any Work which is not in accordance with the Submittal as ultimately approved, and it shall be responsible for any resultant damage, defect, added cost and/or delay. The District shall be under no obligation to pay for Work installed prior to approval of Submittals, until the Submittals are approved and the Work in place is found to be in compliance with the Contract Documents.

The Contractor shall resubmit Submittals in categories "D" and "E" above after making any changes required so that Submittals will comply with the Contract Documents. When resubmitting, the Contractor shall direct specific attention to corrected or changed areas. Resubmittals shall be made within ten (10) days of return of the previous Submittal, and in any event in sufficient time so as to avoid delay to the Work. No delay claims related to resubmittals will be entertained on the Project for any resubmittal.

The Architect shall determine the adequacy and completeness of all Submittals. Where the Architect deems a Submittal to be inadequate, incomplete, or otherwise unsuitable for proper review, the Contractor shall submit all additional information requested by the Architect. There shall be no change to the Contract Time or the Contract Sum when such additional information is required.

Section 11.04. Submittals Showing Variation from Contract.

It shall be the responsibility of the Contractor to specifically point out any variation or discrepancy between the Submittals submitted and the Contract Documents, along with an explanation of why they are requested, in its letter

of transmittal. Failure by Contractor to identify in its letter of transmittal any variation, discrepancy, or conflict with the Contract Documents shall render the approval null and void, and Contractor shall bear all risk of loss and reconstruction costs or delays.

If any architectural, plumbing, mechanical, electrical, or structural modifications are required as a result of the approval of Submittals which deviate from or do not comply with the Contract Documents, those modifications shall be made without extra cost to the District, and without extension of the Contract Time. Any other resultant costs, including but not limited to design fees, construction management fees, costs incurred by other contractors, or inspection fees, shall be at the expense of the Contractor.

Section 11.05. Effect of Approval of Submittals.
The approval of Submittals shall not relieve the Contractor of the obligation for accuracy of dimensions and details; for conforming the work to the requirements of the Contract Documents; or from responsibility to fulfill the Contract at no extra cost to the District, within the Contract Time.

Section 11.06. Equal Materials.
Unless otherwise provided in the technical specifications, whenever in the Contract Documents any systems, processes, products, or materials are indicated or specified by the name brand of the manufacturer, or by patent or proprietary names, those specifications shall be deemed to be a measure of quality and utility or a standard, and shall be deemed to be followed by the words, “or equal.” It is the intent of this article to comply with Public Contract Code Section 3400.

If the Contractor desires to use any other brand or manufacturer of equal quality and utility to that specified (an “Equal”), it shall make application to the District Representative in writing, within ten (10) business days after Notice of Intent to Award, and shall submit samples and all other information necessary to substantiate its claim of “or equal.” Such application constitutes a certification that the Contractor:

A. Has investigated the proposed Equal and determined that it meets or exceeds, in all respects, the specified system, process, product, or material.

B. Will provide the same warranty for the proposed Equal as for the specified system, process, product or material.

C. Will coordinate installation and make other changes which may be required for work to be complete in all respects and at no additional cost to the District.

D. Waives claims for additional costs and/or Contract Time which may subsequently become apparent based on the approved Equal.

The Architect then will determine whether or not the proposed system, process, product or material is equal in quality and utility to that specified, and its decision shall be final. The Architect will render its decision within twenty one (21) business days after submission of all required information for the application. If the request is not accepted, the Contractor shall provide the specified system, process, product or material without an increase in the Contract Sum and/or Contract Time.

Neither the submission of a request for an equal, nor the Architect’s review of the application, will extend the time for submission of any required Submittals.

Requests for equal systems, process, products or materials will be considered only when offered by the Contractor as required by this article.

Section 11.07. Substitutions.
Unless otherwise provided in the technical specifications, the Contractor may make proposals for Substitutions to systems, process, products, or materials shown or specified only under one or more of the following conditions:

A. Unavailability: If the specified system, process, product, or material, or an Equal, is no longer available in the marketplace.

B. Delay: If obtaining the specified system, product, process, or material, or an Equal, will delay completion of the Work through no fault of the Contractor.

C. Better system, process, product, or material: If a better system, product, process, or material is available at no additional cost.

D. Savings: If a system, process, product, or material which meets all of the performance requirements of that specified is available at a savings to the District.

A proposal for Substitution shall include all information required by the Architect to evaluate the substitute system, process, product or material. All Substitutions shall be submitted with an approved "Substitution Request Form". *See* Construction Forms Manual. Such proposal constitutes a certification that the Contractor:

A. Has investigated the proposed Substitution and determined that it meets or exceeds the performance requirements of the specified system, process product or material.

B. Will provide the same or better warranty for the proposed Substitution as for specified system, process, product, or material.

C. Will coordinate installation and make other changes which may be required for the work to be complete in all respects at no additional cost to the District.

D. Waives claims for additional costs and/or Contract Time, which may subsequently become apparent.

The District Representative and the Architect shall evaluate a timely Substitution request, and shall approve, deny, approve with conditions, or initiate the procedure for a change order in response to the Contractor's request. This decision shall be final. This decision will be rendered within twenty one (21) business days after submission of all required information for the proposal. If the request is not accepted, the Contractor shall provide the specified system, process, product, or material without an increase in the Contract Sum and/or Contract Time.

Failure by the Contractor to identify all deviations from the Contract Documents in its request for substitution shall render any District action taken thereon null and void. The Contractor shall bear all costs resulting from any error in the request for Substitution.

Only one request for Substitution will be considered for each product except due to unavailability.

Substitutions may be subject to DSA approval, in which case the time to review will be extended by the duration of the DSA approval process.

Neither the submission of a request for substituted systems, processes, products, or materials, nor the District Representative's and/or Architect's review of the application, will extend the time for submission of any required Submittals.

Section 11.08. Time for Proposing Substitution.
Substitution proposals will not be considered prior to bidding. All requests for Substitutions shall be made within the same time requirement for initial Submittals. Failure to timely submit a Substitution request shall constitute a waiver by the Contractor and an acceptance of the specified systems, processes, products, and materials. Late Submittals may be considered only when the District Representative consents in writing, and the District's best interests so require.

Section 11.09. Samples and Testing of Proposed Substitutions; Costs of Adapting to Work.
When the District Representative or Architect determines that samples and testing are required to evaluate a request for a Substitution, the District Representative shall so advise the Contractor, and specify the systems, processes, products, materials or work to be sampled. The Contractor shall, at no cost to the District, provide samples as required by these General Conditions dealing with samples and testing, or the Technical Specifications.

The Contractor shall bear all costs of sampling and testing required to decide a request for Substitution, and if a Substitution is accepted, the Contractor shall bear all costs associated therewith, including the cost of the District Representative's, Architect's, and/or engineer's services required to adapt the Substitution to the design to the complete satisfaction of the District, and all costs of mechanical, electrical, structural, or other changes needed to adapt the Substitution to the Work.

Section 11.10. Effect of Approval of Equal Materials or Substitution Request.
If an application for an Equal or Substitution request is approved, the Contractor shall be solely and directly responsible for setting approved Equal or Substitution systems, processes, products, materials, and/or equipment into the available space, and for the proper operation of the Equal or Substitution systems, process, products, materials, and/or equipment with all other systems, processes, products, materials, and/or equipment with which it may be associated, all in a manner acceptable to the District.

No time extensions nor any increases in the Contract Sum shall be granted on account of an Equal or Substitution. In the event of a savings, the Contract Sum shall be adjusted by the price difference between the approved Equal or Substitution and the originally specified item.

Section 11.11. Quality of Materials and Products.
The Contractor shall, if required by the Architect, Project Inspector, or District Representative, furnish satisfactory evidence as to the kind and quality of materials provided.

The District Representative may require, and the Contractor shall submit if required, a list designating the source of supply of each item of materials incorporated into the Work, and in such event, those materials or products shall not be delivered to the Work nor installed therein until after the District Representative has approved the list.

Contractor shall certify that the materials and equipment installed comply with the Contract Documents and to the best of the Contractor's knowledge, no installed materials or equipment contain asbestos.

Section 11.12. Better Material or Process.
In the event that the Contractor furnishes a material, product, process, or article better than that specified in the Contract Documents, the difference in cost of that material, product, process, or article shall be borne by the Contractor.

Section 11.13. Industry Standards.

A. Any material specified by reference to the number, symbol, or title of a specified standard such as a Commercial Standard, a Federal Specification, a Trade Association Standard, or other similar standard, shall comply with the requirements in the latest revision thereof, including any amendments or supplements thereto, in effect on the date of the Bid, except as limited to type, class, or grade, or modified in that reference.

B. The standard referred to, except as modified in the specifications, shall have full force and effect as though printed in these specifications. These standards are not furnished to the bidder for the reason that the manufacturers and trades involved are assumed to be familiar with their requirements.

   1. Where Federal Specifications are referred to as a measure of quality and standard, they refer to Federal Specifications established by the Procurement Division of the United States Government and are available from the Superintendent of Documents, U.S. Government Printing Office.

   2. Where Federal Specification numbers are used, they refer to the latest edition including amendments thereto.

   3. Where Commercial Standards (CS) or Product Standards (PS) are referred to as a measure of quality, standard, and method of fabrication, they refer to Commercial Standards and Product Standards issued by the U.S. Department of Commerce.

4. Where ASTM serial numbers are used, they refer to the latest tentative specifications, standard specifications, standard method or standard methods of testing, issued by the American Society for Testing Materials, unless specifically noted.

Section 11.14. Materials and Products Storage.
The Contractor shall confine the on-site storage of all materials, products, and equipment required in the performance of this contract to the areas specified by the District. The Contractor shall obtain prior approval from the District Representative regarding areas for storage and methods of protection. All material, products, and equipment shall be brought and used upon the premises in such manner as to leave driveways and parking areas clear for the regular use of the public and District employees.

Section 11.15. Original Packages or Containers; Labels.
All materials delivered to the Site shall be new, unless otherwise specified, of the type, capacity, and quality specified, and free from defects. All materials shall remain in their original packages or containers until ready for use. The labels of all packages or containers shall remain affixed, and kept legible. No product shall be stored in any container, the label of which does not accurately describe the contents of the container.

Section 11.16. Protection of Materials and Equipment.
The Contractor shall protect the work, materials, and equipment from damage due to the action of the elements, trespassers, or other causes. The Contractor shall properly store materials and equipment and, when necessary, erect temporary structures to protect them from damage. The Contractor shall replace any items damaged as a result of improper protection at no expense to the District.

Section 11.17. Providing and Paying for Materials.
Except as otherwise specifically stated in the Contract Documents, the Contractor shall provide and pay for all materials, products, articles, processes, labor, tools, equipment, and installation, and all associated superintendence of every nature whatsoever necessary to execute and complete the Work within the Contract Time.

Section 11.18. Warranty of Title.
No material, article, product, supplies, or equipment for the Work shall be subject to any chattel mortgage, or a conditional sale or other agreement by which an interest therein or in any part thereof is retained by the seller or supplier.

The Contractor warrants good and sufficient title to all material, supplies, and equipment installed or incorporated in the Work, and agrees upon completion of the Work to deliver the premises, together with all improvements and appurtenances, constructed or placed thereon by the Contractor, to District, free from any claims, liens, or charges.

The Contractor agrees that neither it nor any person, firm, or corporation furnishing any materials or labor for any work covered by this Contract shall have any right to a lien upon the premises or any improvement or appurtenances thereon; provided, however, that nothing contained in this Section shall defeat or impair the rights of persons furnishing materials or labor under the payment bond given by the Contractor, nor any rights under any law permitting such persons to look to funds due to the Contractor but retained by District.

The Contractor shall cause the provisions of this Section to be inserted in all subcontracts and material contracts executed by the Contractor and notice of this provision shall be given to all persons furnishing materials for the Work.

This Section shall not disallow the Contractor's installing any devices or equipment of utility companies or of governmental agencies, the title to which is commonly retained by the utility company or the agency.

Section 11.19. Patents and Royalties.
All fees, claims, or royalties for any patented or copyrighted invention, article, arrangement, or plan that may be used upon or in any manner connected with the doing of the work or any part thereof shall be included in the price bid for doing the work. The Contractor and its sureties shall protect, defend, indemnify and hold harmless the District, District Representative, the Project Inspector, the Architect and its consultants, and each of their respective officers, agents, and employees against any and all demands made for such fees or claims and against any and all suits, demands, claims or causes of action brought or made by the holder of any invention, patent, copyright, or trademark, or arising from any alleged infringement of any invention, patent, copyright, or trademark.

Before final payment is made on account of this Contract, the Contractor shall furnish acceptable proof to District of proper release from all such fees or claims.

Section 11.20. Payment of Federal or State Taxes.

Any federal, state or local tax, specifically including sales and use taxes, payable on materials furnished by the Contractor pursuant to the Contract, shall be included in the Contract Sum and paid by the Contractor.

ARTICLE 12. PROGRESS PAYMENTS

Section 12.01. Schedule of Values.

At least fourteen (14) days prior to the first payment application, the Contractor shall submit to the District Representative a schedule of values broken down by phase, and within each phase by building, in sufficient detail to evaluate progress at any point in the Work. In no event shall an individual line item on a schedule of values exceed five (5) percent of the Contract Sum unless so approved in advance by the District Representative. Labor, material, and subcontract costs shall be shown separately. Cost of Contract closeout shall be shown as individual line items, including, but not limited to, closeout documents, punchlist, and as-built documentation. Each of these line items shall be no less than three (3) percent of the total Contract Sum.

All other General Conditions items should be prorated among the actual construction values. The schedule of values must be prepared in sufficient detail and supported by such data to substantiate its accuracy as the District Representative and the District may require. This schedule, when approved, shall be used as a basis for the Contractor's applications for payment, and the approved schedule of values is an express condition precedent to processing the Contractor's payment application(s).

Section 12.02. Application for Payment.

A. Prior to the date for each progress payment review established in the Preconstruction Meeting, the Contractor shall submit to the District Representative through the District's PMIS the schedule of values, marked to show the percentage of completion proposed by the Contractor for each line item. No extension of dollar amounts is required.

B. At a meeting held on or before the assigned billing date of each month, the District Representative, Architect, Project Inspector, and the Contractor will review the Contractor's proposed percentages of completion and agree on a final percentage to be paid for that month. The progress payment will be based on the estimated percentage complete. Upon agreement of the amount due, the Contractor will prepare a final copy of the Application of Payment Summary and transmit it to the District Representative for processing by the assigned day of each month.

C. Release of Liens: With each final monthly application for payment, Contractor shall submit a conditional lien release in the form provided in Civil Code section 8132. Additionally, Contractor shall submit an unconditional lien release in the form provided in Civil Code section 8134 for all work through the prior progress payment. When a subcontractor completes its scope of work, Contractor shall submit with its pay application either a conditional lien release in the form provided in Civil Code section 8136 if retention has not been paid or an unconditional lien release in the form provided in Civil Code section 8138 if the subcontractor has been paid in full. For final payment, the Contractor and all of its Subcontractors and material suppliers that have not previously submitted unconditional lien releases under Civil Code section 8138 shall submit final conditional lien releases under Civil Code section 8136 and final unconditional lien releases under Civil Code section 8134.

D. The signing of a certificate of payment will constitute a representation by the District Representative, Project Inspector, and the Architect to the District that, based on their observations at the Site, and the data comprising the application for payment, the Work has progressed to the point indicated and that, to the best of their knowledge, information, and belief, the quality of the Work is in accordance with the Contract Documents (subject to any specific qualifications stated in the certificate for payment); and that the Contractor is entitled to payment in the amount certified. However, by signing a certificate for payment, the District Representative and the Architect shall not thereby be deemed to represent that either has made exhaustive or continuous on-site inspections to check the quality or quantity of the work, that either has reviewed the construction means, methods, techniques, sequences, or procedures, or that either has made an examination to ascertain how or for what purpose Contractor has used the monies previously paid on account of the Contract Sum.

E. No progress payment will be released until District Representative has received all of the following items in acceptable form: as-built updates, schedule updates, certified payroll and other pay records if requested by the District, and lien releases.

Section 12.03. Payment for Stored Materials.
Payments may be made by the District, at its discretion, on account of materials or equipment not incorporated in the Work but delivered to the Site and suitably stored by the Contractor. Payments for materials or equipment stored shall only be considered upon submission by the Contractor of satisfactory evidence demonstrating that it has acquired title to such material, that the material will be used in the Work, that it is satisfactorily stored, protected, and insured, and that the Contractor has undertaken such other procedures satisfactory to the District Representative, Project Inspector, and Architect, to protect the District's interests. Materials stored off-site, to be considered for payment, shall, in addition to the above requirements, be stored in a bonded warehouse, fully insured, and available to the Architect and District Representative for inspection. The District Representative shall have complete discretion as to the amount of material and equipment that may be stored on the Site at any given time.

Section 12.04. Payment Time; Retention.
There shall be reserved from the monies earned by the Contractor on estimates a sum equal to five percent (5%) of such estimates. It is understood that, if payment requests are made in accordance with established time schedule, payment requests received and approved by District will be processed within forty (40) days following approval. Payment for Change Orders, if any, under this Contract shall be made in like manner after the Change Order is fully executed.

Section 12.05. Posting Securities in Lieu of Withholds.
Pursuant to Public Contract Code Section 22300, at the request and expense of the Contractor, Contractor may elect to deposit securities equivalent to the amount withheld pursuant to Section 12.04 with the District or with a state or federally chartered bank in California as the escrow agent, who shall then pay the retainage to the Contractor. Upon satisfactory completion of the Contract without grounds to withhold as addressed in Section 12.06, the securities shall be returned to the Contractor.

Alternatively, the Contractor may request, pursuant to Public Contract Code Section 22300, and the District shall make, payment of retentions under Section 12.04 directly to the escrow agent. The Contractor shall receive the interest earned on the investments upon the same terms provided for in Section 22300 for securities deposited by the Contractor. Upon satisfactory completion of the Contract without grounds to withhold as addressed in Section 12.06, the Contractor shall receive from the escrow agent all securities, interest, and payments received by the escrow agent from the District.

If Contractor elects to receive interest on moneys deposited with an escrow agent in lieu of retention, Contractor shall provide written notice to all subcontractors performing at least five percent (5%) of the Work of Contractor's option within fifteen (15) days of electing to receive interest. Contractor shall, at the request of any such subcontractor, make that option available to the subcontractor regarding any moneys withheld in retention by Contractor from the subcontractor. The subcontractor shall receive the identical rate of interest received by Contractor, less any actual *pro rata* costs associated with administering and calculating that interest, as provided for in section 22300. If Contractor elects to substitute securities in lieu of retention, then, by mutual consent of Contractor and the subcontractor, the subcontractor may substitute securities in exchange for the release of moneys held in retention by Contractor.

Securities eligible for investment under this Section shall include those listed in Government Code Section 16430 or bank or savings and loan certificates of deposit, interest-bearing demand deposit accounts, stand-by letters of credit, or any other security mutually agreed to by the Contractor and the District.

The Contractor shall be the beneficial owner of any securities substituted for monies withheld and shall receive any interest thereon.

Section 12.06. Withholding Additional Amounts; Grounds.
In addition to the amounts which the District may retain as provided in Section 12.04, the District may withhold a sufficient amount from any payment or payments otherwise due to the Contractor as in the District's sole discretion may be necessary to protect the District in the event of the following:

A. Third party claims filed or reasonable evidence indicating probable filing of such claims;

B. Defective work not remedied;

C. Failure of the Contractor to make proper payments to any of its Subcontractors or for labor, materials, or equipment;

D. The occurrence of reasonable doubt that the Contract can be completed for the balance of payments then unpaid to the Contractor, or in the time remaining until expiration of the Contract Time;

E. Failure of the Contractor to comply with any lawful or proper direction concerning the Work given by any District representative authorized to have given such instruction;

F. Claims and/or penalties which state law assesses or may assess against the Contractor for violation of such law;

G. Any claim or penalty asserted against the District or that may be asserted against the District by virtue of the Contractor's failure to comply with the provisions of all governing laws, ordinances, regulations, rules, and orders;

H. Any liquidated damages which may accrue as a result of the Contractor's progress failing to meet the schedule milestones or failing to achieve substantial completion or final completion within the Contract Time.

I. Any reason specified elsewhere in the Contract Documents as grounds for a retention or that would legally entitle the District to a set-off.

In order to adequately protect the District, the Contractor agrees that the basic standard to determine the amount to be withheld pursuant to this Section shall be one hundred fifty percent (150%) of the amounts claimed or the value of the work not done or defectively done; provided, however, that District reserves the authority to retain greater sums should such sums be necessary in the District's discretion to adequately protect it.

Section 12.07. Disbursement of Withheld Amounts.
The District, in its sole discretion, may apply any withheld amount or amounts to the payment of any claim resulting in a withhold. The Contractor agrees and hereby designates the District as its agent for such purposes, and any payment so made by the District shall be considered as a payment made under this Contract by the District to the Contractor. The District shall not be liable to the Contractor for any payments made in good faith and with reasonable notice to Contractor. Such payments may be made without a prior judicial determination of the claim or claims. The District shall render to the Contractor a proper accounting of any funds disbursed on behalf of the Contractor.

Prior to disbursing any amounts, District shall afford the Contractor an opportunity to present good cause, if any it has, why the claim or claims in issue are not valid or just claims against the Contractor. The District reserves the right then to take such further steps as are appropriate, in its sole discretion, including, but not limited to, seeking a judicial resolution of the controversy.

Section 12.08. Correction of Statement and Withholding of Payment.
No inaccuracy or error in any statement provided by the Contractor shall operate to release the Contractor or any surety from the error, or from damages arising from such work, or from any obligation imposed by the Contract Documents. The District shall retain the right subsequently to correct any error made in any previously issued claim for the progress or other payment, or payment of any kind issued, by adjustments to subsequent payments.

Section 12.09. Effect of Progress Payments.
Neither the payment, the withholding, nor the retention of all or any portion of any progress payment claimed to be due and owing to the Contractor shall operate in any way to relieve the Contractor from its obligations under this agreement. The Contractor shall continue diligently to prosecute the Work without reference to the payment, withhold, or retention of any progress payment. The payment, withhold, or retention of any progress payment shall not be grounds for an extension of the Contract Time.

ARTICLE 13. TIME OF WORK

Section 13.01. Not applicable.

Section 13.02. Contract Schedule Development.

Within ten (10) days after receiving the Notice to Proceed, the Contractor shall submit a detailed proposed Contract Schedule presenting an orderly and realistic plan for completion of the Work, in conformance with the requirements of this Article. The proposed Contract Schedule shall be in hard copy and in electronic format submitted through the District's PMIS.

The Contract Schedule shall furnish or comply with the following requirements:

A. A time scaled CPM type schedule prepared in Oracle Primavera P6 or other approved schedule software approved in writing by the District.

B. No activity on the schedule shall have a duration longer than fourteen (14) days, with the exception of fabrication and procurement activities, unless otherwise approved by the District Representative. Activity durations shall be the total number of actual days required to perform that activity including consideration of weather impact on completion of that activity.

C. Procurement of major equipment, through receipt and inspection at the job site, identified as a separate activity.

D. Owner furnished materials and equipment if any, identified as separate activities.

E. Dependencies (or relationships) between activities.

F. Processing/approval of submittals and shop drawings for major equipment. Activities that are dependent on submittal acceptance and/or material delivery shall not be scheduled to start earlier than the expected acceptance or delivery dates.

G. Separate buildings and other independent project elements shall be individually identified in the network.

H. No less than fourteen (14*)* days for developing punch list(s), completion of punch list items, and final clean up for the work or any designated portion thereof. No other activities shall be scheduled during this period.

I. Interface with the work of other Contractors (or entities).

The District Representative will review the proposed Contract Schedule for conformance with the requirements of the Contract. Within ten (10) days after receipt, the District Representative will accept the proposed Contract Schedule or will return it with comments. If the proposed Contract Schedule is not accepted, the Contractor shall revise the schedule to incorporate comments and resubmit the schedule for acceptance within seven (7) days after receiving it. The accepted schedule shall become the Contract Schedule.

The Contract Schedule shall be the basis for evaluating job progress, payment requests, and time extension requests. The responsibility for developing the Contract Schedule and monitoring actual progress as compared to the schedule rests with the Contractor.

Failure of the Contract Schedule to include any element of the work or any inaccuracy in the Contract Schedule will not relieve Contractor from responsibility for accomplishing all the Work in accordance with the Contract.

Acceptance of the Contract Schedule will not relieve the Contractor of the responsibility for accomplishing the Work in accordance with the Contract.

Failure to obtain the accepted Contract Schedule within forty (40) calendar days of the Notice to Proceed may result in the District withholding ten percent (10%) of each progress payment, or $1000, whichever is greater, until an accepted Contract Schedule is obtained. Any such amounts withheld shall be paid to Contractor upon approval of the Contract Schedule.

Section 13.03. Monthly Updates.
Contractor shall submit to the District Representative each month an up-to-date status report of the Work. The status report shall be in hard copy and in electronic format through the District's PMIS and shall include:

A. Contractor's estimated percentage complete and remaining duration for each activity not yet complete.
B. Actual start/finish dates for activities as appropriate.
C. Identification of processing errors, if any on the previous update reports.
D. Revisions, if any, to the assumed activity durations including revisions for weather impact for any activities due to the effect of the previous update on the schedule.
E. Identification of activities that are affected by requested or proposed changes to the Work.
F. Resolution of conflict between actual work progress and schedule logic. When out of sequence activities develop in the Contract Schedule because of actual construction progress, the Contractor shall submit revision to schedule logic to conform to current status and direction.

The District Representative will review the updated information and meet with Contractor each month at the Site to determine the status of the Work. If agreement cannot be reached on any issue, the Contractor will use the District Representative's determination in the processing of the update.

Progress payments pursuant to the Contract will be based on the update of the Contract Schedule. No progress payments will be made without the required monthly update of the Contract Schedule.

Section 13.04. Schedule Revisions.
If the sequence of construction differs significantly, as determined by the District Representative, from the Contract Schedule, Contractor shall submit within fifteen (15) days a revised schedule to the District Representative for approval.

When a requested or proposed change to the Work will have an impact on the critical path, the Contractor shall submit a schedule fragnet showing this impact. If the requested or proposed change is accepted by the District, the schedule fragnet shall be incorporated into the Contract Schedule. Time extensions will be considered only to the extent there is insufficient remaining float to accommodate these changes, and pursuant to Article 14 of these General Conditions. No additional cost beyond that provided in Article 15 will be allowed for the incorporation of approved changes into the Contract Schedule.

Should the Contractor, after acceptance of the Contract Schedule, intend to change its plan of construction, it shall submit its requested revisions to the District Representative, along with a written statement of the revision, including a description of the logic for rescheduling the work, methods of maintaining adherence to Intermediate milestones and other specific dates and the reasons for the revisions. If the requested changes are acceptable to the District Representative, they will be incorporated into the Contract Schedule in the next reporting period.

Schedule revisions shall be submitted at least seven (7) days prior to the date of submission of update information. The District will have seven (7) days to review the revisions.

Section 13.05. Short Interval Schedules.
Contractor shall prepare a Short Interval Schedule (SIS) to be used throughout the duration of Work. The SIS shall include all current activities and projected activities for the succeeding two (2) weeks. The SIS shall include actual start/finish dates for the preceding one (1) week. The SIS shall be submitted in hard copy and electronic PDF format to the District Representative prior to the weekly construction meeting. The Contractor shall participate in short interval scheduling coordination during the weekly construction meetings.

Section 13.06. Owner's Right to Revise Schedule.
In the event of a delay affecting the occupancy date of the Project and not the fault of the Contractor, the District Representative may elect to resequence work or otherwise modify the schedule in an attempt to maintain the Date of

Completion. It shall be the responsibility of the Contractor to cooperate in this effort. It is not the District's responsibility to ensure the Contractor the ability to use "optimal" crew size throughout the Project and no adjustment of the Contract Sum will be made for minor variations in crew size or claimed loss of efficiency or disruption that result from schedule adjustments. However, overtime work or weekend work required by the District Representative to meet schedule objectives other than those of the individual contractor will be reimbursed per the provisions of Article 15, provided that Contractor has not contributed to the delay which the District Representative is seeking to overcome. If the Contractor contends that a schedule adjustment will cause a significant disruption of its work sequence or ability to perform work efficiently, it shall notify the District Representative within forty-eight (48) hours of receipt of the adjustment. Failure to provide timely notice constitutes a waiver by Contractor of any claim for compensation arising out of the schedule adjustment.

Section 13.07. Commencement of Work.
The Contractor shall commence procurement of long lead materials and equipment after execution of the Agreement for Construction and appropriate Submittals have been approved.

Section 13.08. Time of Essence.
Time is of the essence of this agreement. The Contractor shall, to the fullest extent possible, carry on the various classes or parts of the Work concurrently, and shall not defer construction of any portion of the Work in favor of any other portion of the Work, without the express approval of the District Representative.

Section 13.09. Date of Completion.
The Contractor shall fully and satisfactorily complete the Work within the Contract Time. The Date of Completion is defined in Article I.

Section 13.10. Responsibility for Completion.
The Contractor shall furnish sufficient manpower, materials, facilities and equipment and shall work sufficient hours, including night shifts, overtime operations, Sundays and holidays as may be necessary to insure the prosecution and completion of the Work in accordance with the Contract Time. If work on the critical path is seven (7) days or more behind the currently updated Contract Schedule and it becomes apparent that the Work will not be completed within the Contract Time, the Contractor will implement whatever steps it deems necessary to make up all lost time. If the Contractor's solution is not successful, it will make further attempts using the following sequence of events:

A. Reschedule activities to achieve maximum practical concurrence of accomplishment of activities.
B. If the above cannot be achieved then;

1. The Contractor shall increase manpower in such quantities and crafts as will substantially eliminate, in the judgment of the District Representative, the backlog of work; or increase the number of working hours, shifts per working day, working days per week or the amount of equipment or any combination of the foregoing sufficiently to substantially eliminate in the judgment of the District Representative the backlog of work.
2. In addition, the District Representative may require the Contractor to submit a recovery schedule demonstrating its program and proposed plan to make up a lag in scheduled progress and to ensure completion of the Work within the Contract Time. If the District Representative finds the proposed recovery schedule unacceptable, it may require the Contractor to submit a new plan. If the actions taken by the Contractor or the second plan proposed are unsatisfactory, the District Representative may require the Contractor to take any of the actions set forth in the previous paragraph without additional cost to the District to make up the lag in scheduled progress.

Failure of the Contractor to comply with the requirements of this Section 13.09 shall be considered grounds for a determination by the District, pursuant to Article 12, Section 12.06D, that the Contractor is failing to prosecute the Work with such diligence as will ensure its completion within the time specified.

Section 13.11. Payments Withheld.
Progress Payments may be withheld in whole or in part should the Contractor fail to comply with the requirements of this Article.

ARTICLE 14. DELAYS AND EXTENSIONS OF TIME

Section 14.01. Extensions of Time; Unavoidable Delays.
The Contractor shall not be granted an extension of time except on the issuance of a Change Order by the District, upon a finding of good cause for such extension.

A. As used herein, the following terms shall have the following meanings:

1. "Excusable Delay" means any delay in completion of the Work beyond the expiration of the Contract Time caused by conditions beyond the control and without the fault or negligence of the Contractor. These events may include strikes, embargoes, fire, unavoidable casualties, national emergency, and stormy and inclement weather conditions in which the District Representative and Project Inspector agree that work on the critical path cannot continue. The financial inability of the Contractor or any Subcontractor or supplier and any default of any Subcontractor, without limitation, shall not be deemed conditions beyond the Contractor's control. An Excusable Delay may entitle the Contractor to an extension of the Contract Time, in accordance with this Section of the general conditions, but shall not entitle the Contractor to any adjustment of the Contract Sum.

2. "Compensable Delay" means any delay in the completion of the Work beyond the expiration date of the Contract Time caused solely by the wrongful acts of the District or its agents, including without limitation the Architect, and which delay is unreasonable under the circumstances and not within the contemplation of the parties. A Compensable Delay entitles the Contractor to an extension of the Contract Time, in accordance with this Section of the General Conditions, and/or an adjustment of the Contract Sum for increased general conditions costs, not to exceed **One Thousand Five Hundred Dollars ($1,500)** per day of delay, in accordance with Article 15. Notwithstanding the foregoing, Contractor shall not be entitled to any additional general conditions costs if Contractor is concurrently performing another increment or phase of the Project Work and the general conditions costs would be incurred in connection with that other increment or phase. Except as provided herein, the Contractor shall have no claim for damage or compensation for any delay, interruption, hindrance, or disruption.

3. "Inexcusable Delay" means any delay in completion of the Work beyond the expiration of the Contract Time resulting from causes other than those listed in Subparagraphs A1 and A2, above. An Inexcusable Delay will not entitle the Contractor to an extension of the Contract Time or an adjustment of the Contract Sum.

B. The Contractor may make a claim for an extension of the Contract Time, for an Excusable Delay or a Compensable Delay, subject to the following:

1. If an Excusable Delay and a Compensable Delay occur concurrently, the maximum extension of the Contract Time shall be the number of days from the commencement of the first delay to the cessation of the delay which ends last. Any adjustment of the Contract Sum shall be in accordance with Article 15, shall not exceed **one thousand, five hundred dollars ($1,500)** per day, and shall be based only on the non-concurrent portion of any Compensable Delay.

2. If an Inexcusable Delay occurs concurrently with either an Excusable Delay and/or a Compensable Delay, the maximum extension of the Contract Time shall be the number of days, if any, by which the duration of the Excusable Delay and/or the Compensable Delay calculated in accordance with subparagraph B1, if applicable, exceeds the Inexcusable Delay. The duration of the concurrence is non-compensable.

Delays in the prosecution of parts or classes of the Work which do not prevent or delay the completion of the whole Work within the Contract Time are not to be considered Excusable or Compensable.

Section 14.02. Notice of Delays; Requests for Time Extensions.
No later than ten (10) calendar days from the time the Contractor reasonably foresees any delay in the prosecution of the Work, and in any event immediately upon the occurrence of any delay which the Contractor regards as good cause for an extension, the Contractor shall notify the District Representative in writing of the delay or anticipated delay. The notice shall specify with detail the cause asserted by the Contractor to constitute good cause for an extension together

with a detailed schedule analysis showing the effect of the delay on the critical path of the Contract Schedule and a quantification of the length of the requested extension of time. **Failure of the Contractor to submit such a notice within ten (10) days after the initial occurrence of the event giving rise to the delay shall constitute a waiver by the Contractor of any entitlement to a time extension**, as well as to any associated additional compensation, and no extension shall be granted as a consequence of such delay. If the Contractor cannot quantify the delay or prepare a detailed schedule analysis at the time the notice of delay is submitted, including because the delay is anticipated and/or is ongoing of an unclear duration, then the Contractor shall supplement its notice of delay as soon as it can reasonably quantify the delay, but no later than ten (10) days after the cause for delay is concluded.

The District shall have no obligation to consider any non-compliant time extension request. The District shall not be responsible or liable to the Contractor for any constructive acceleration due to failure of the District to grant time extensions under the Contract Documents, should the Contractor fail to comply with the submission and justification requirements of the Contract Documents for time extension requests. The Contractor's failure to perform in accordance with the Contract Schedule shall not be excused because the Contractor has submitted time extension requests, unless and until such requests are approved by the District.

Section 14.03. Investigation; Procedure.

Upon receipt of a request for extension, the District Representative shall conduct an investigation of the facts asserted by the Contractor to constitute good cause for an extension. The District Representative shall report the results of this investigation, as well as the propriety of the time extension requested, to the Contractor in writing within ten (10) days of receipt of the complete request, including quantification of the delay, and shall indicate whether it will recommend for or against the extension.

Upon receiving the District Representative's recommendation, the Contractor may either concur in the recommendation, or reject the recommendation and proceed with a claim as provided for in Articles 21 and 23.

Section 14.04. Discretionary Time Extensions for Best Interest of District.

The District reserves the right to extend the time for completion of the Work if the District determines that such extension is in the best interest of the District. In the event that a discretionary extension is granted at the request of the Contractor, the District shall have the right to charge to the Contractor all or any part, as the District may deem proper, of the actual cost of construction management, engineering, inspection, supervision, incidental and other overhead expenses that accrue during the period of the extension, and to deduct all or any portion of that amount from the final payment for the Work.

In the event a discretionary time extension is ordered over the objection of the Contractor, and the decision rests solely with the District and is not legally compelled for any cause, the Contractor shall be entitled to a contract change pursuant to Article 15 adjusting the price paid to reflect the actual costs incurred by the Contractor as a direct result of the delay, upon its written application therefore, accompanied with such verification of costs as the District Representative requires. The decision of the District on any discretionary time extension and the costs thereof shall be final and binding on the District and the Contractor.

Section 14.05. Liquidated Damages.

If the Work or any specified portion or phase of Work is not completed by the Contractor in the time specified in Section 00 73 00, Special Provisions, or within any period of extension authorized pursuant to this Article, the Contractor acknowledges and admits that the District will suffer damage, and that it is impracticable and infeasible to fix the amount of actual damages. Therefore, it is agreed by and between the Contractor and the District that the Contractor shall pay to the District as fixed and liquidated damages, and not as a penalty, the sum specified in the Agreement for Construction for each calendar day of delay until the date of substantial completion and/or until the date of final completion, and that both the Contractor and the Contractor's surety shall be liable for the total amount thereof, and that District may deduct Liquidated Damages from any monies due or that may become due to the Contractor. If it appears during the course of construction that the Contractor is behind schedule and the imposition of liquidated damages is likely, or if liquidated damages begin to accrue prior to the time for final payment, the amount accrued shall be withheld from any progress payment that would otherwise be due. This right to withhold funds is intended to complement the District's rights under Section 12.06.

This liquidated damages provision shall apply to all delays of any nature whatsoever, save and except only delays found to be excusable or compensable pursuant to Section 14.01, or time extensions granted by the District pursuant to Section 14.04.

Pursuant to Government Code Section 4215, the Contractor shall not pay fixed and liquidated damages for delay in completing the project caused by the failure of the District or the owner of utility facilities located on the Project Site to provide for removal or relocation of such facilities.

Payment by the District of any progress payments after expiration of the Contract Time shall not constitute a waiver by the District of its right to claim liquidated damages in accordance with this Section.

If the Contract is terminated before or after the Contract Time, as adjusted by any extensions of time that the District may have granted, pursuant to Section 18.07, the Contractor shall remain liable to the District for liquidated damages for all periods of time from such termination date until the Date of Completion.

Section 14.06. Extension of Time Not a Waiver.
Any extension of time granted the Contractor pursuant to this Article shall not constitute a waiver by the District of, nor a release of the Contractor from the Contractor's obligation to perform this Contract in the time specified by the agreement, as modified by the particular extension in question.

The District's decision to grant a time extension due to one circumstance set forth in one request, shall not be construed as a grant of an extension for any other circumstance or the same circumstance occurring at some other time, and shall not be viewed by the Contractor as a precedent for any other request for extension.

Section 14.07. Suspensions Exceeding One Year.
Should the Work be suspended for a period exceeding one calendar year due to war conditions, labor conditions, legal actions, or for other conditions constituting the legal defense of impossibility of performance, the Contractor and District agree to enter into an agreement terminating the agreement upon the following terms and conditions.

District shall be responsible only to pay the Contractor the actual value of the work performed from the Date of Commencement or from the date of the last progress payment, whichever is later, plus the five percent (5%) retention from prior progress payments, less any deductions authorized by the Contract Documents.

As between the Contractor and District, it shall be conclusively presumed that the actual value for the Contractor's work to the date of the last progress payment is no more than the actual amount of prior progress payment plus the five percent (5%) retention from those progress payments; provided, however, that this Section shall not preclude District from deducting charges for work or materials which do not meet the requirements of the Contract Documents.

Section 14.08. Effect of Stop Work Notice.
If the District orders a stop work notice pursuant to Article 9, the days on which the suspension is in effect shall be included in determining the required completion date, and shall not otherwise modify or extend the time within which the Contractor is to perform. In such event, the Contractor shall not be entitled to any damages or compensation on account of such suspension or delay, unless the Contractor can establish that stop work notice was not warranted.

ARTICLE 15. CHANGES TO THE WORK

Section 15.01. No Changes Without Consent.
The Contractor will complete the Project for the Contract Sum except as provided below. The Contractor agrees, for itself and on behalf of its Subcontractors and suppliers, that no increase in the Contract Sum will be made for work that the Contractor or its Subcontractors and suppliers might otherwise claim as a Change Order or extra work unless the Contractor establishes that the additional cost is the result of one of the following:

a) a material change in the scope of work directed or authorized by District;
b) a change required by regulatory authorities (including inspections) that was not reasonably ascertainable from the Contract Documents;
c) regulatory fees not included in the Contract Sum;
d) Differing Site Conditions;
e) design errors; or
f) wrongful acts of District or a separate contractor employed by District, or by damage to the Work caused by fire or other unavoidable casualties not the fault of the Contractor or Subcontractors or suppliers.

No extra work shall be performed, and no change shall be made, except pursuant to a written Change Order or Proposed Change Order signed by the District, or by a Directive signed by either the District or the District Representative, stating that the extra work or change is authorized, and no claim for any addition to the Contract Sum or Contract Time shall be valid unless so authorized; provided, however, that nothing in this Article shall excuse the Contractor from proceeding with the prosecution of the work so changed. The Contractor shall, when required by the District Representative, furnish an itemized breakdown of the quantities and prices used in computing the value of any change requested by the Contractor, or that may have been ordered by the District, including all items listed in Sections 15.06 and 15.07, below.

Change Orders shall specify the cost adjustments associated therewith, and in no case shall the District pay or become liable to pay any sums different than those specified or those established under Section 15.06 and 15.07.

Certain CCDs must be submitted to, and approved by, DSA prior to being implemented. Substitutions may be considered CCDs and, if DSA approval is required, are to be approved by DSA prior to fabrication or use.

Section 15.02. Change Orders.
Subject to legal requirements relating to competitive bidding, the District may require changes in, additions to, or deductions from the work to be performed or the materials to be furnished pursuant to the Contract Documents. Changes may be made pursuant to a written Change Order signed by the District, which shall state the agreement of the District, the Contractor, the Architect, and, if applicable, DSA upon all of the following:

A. The scope of the change in the Work;

B. The amount of the adjustment in the Contract Sum, if any; and

C. The extent of the adjustment in the Contract Time, if any.

If the Contractor believes that conditions have changed, or that it has been directed to do additional work requiring a change in time or cost, the Contractor may submit to the District Representative a Proposed Change Order (PCO).

All adjustments to the Contract Sum or the Contract Time must be approved by the District Board of Education.

Signature by the Contractor on the Change Order constitutes its agreement with and acceptance of the adjustments in the Contract Sum and Contract Time, if any, set forth in the Change Order as full and complete satisfaction of any direct or indirect additional cost and/or time incurred by the Contractor in connection with performance of the changed work.

Section 15.03. Not Used.

Section 15.04. Change Orders Regarding Time for Completion.
Any time extension authorized by the District pursuant to Article 14 hereof shall be set forth in a Change Order signed by the District.

Section 15.05. Construction Change Directive/Directive.
Changes also may be made pursuant to a Directive, which shall direct a change in the Work and state a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both. A Directive shall be used in the absence of total agreement on the terms of a Change Order, or when time does not permit processing of a Change Order prior to implementation of the change. Directives shall be approved by the District, the Architect, and, if applicable, DSA, but need not be signed by the Contractor.

Upon receipt of a Directive, the Contractor shall promptly proceed with the change in the work involved. It is the intent of the District that all Directives will be converted to a Change Order.

When a Directive is used because time does not permit processing of a Change Order prior to implementation of the change, signature by the Contractor on the Directive constitutes its agreement with and acceptance of the adjustments in the Contract Sum and Contract Time, if any, set forth in the Directive as full and complete satisfaction of any direct or indirect additional cost and/or time incurred by the Contractor in connection with performance of the change work.

If the Contractor disagrees with the method for adjustment in the Contract Sum, the adjustment shall be determined by the District Representative on the basis of any of the methods described in Section 15.06A, paragraphs 2, 3, or 4.

Section 15.06. Pricing of Changes.

A. If a Change Order or Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

1. Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;

2. Unit prices stated in the Contract Documents or subsequently agreed upon;

3. The District Representative's estimate of the value of the change; or

4. Time and materials, as set forth in Section 15.07 and 15.08.

Section 15.07. Allowable Costs.

A. Allowable costs for any Change Order shall be limited to the following:

1. Costs of labor, including social security, Medicare, and unemployment insurance, fringe benefits required pursuant to Article 7, and workers' compensation insurance (unless covered by the OCIP);

2. Costs of first line supervision labor, including labor burden as described in Paragraph 1. "First Line Supervision" shall mean a working foreman or lead craft worker other than the project superintendent;

3. Actual cost of the project superintendent associated with any period of compensable delay caused by issuance of the change order. In the absence of a compensable delay, all of the project superintendent's time is considered to have been paid for as part of the Overhead;

4. Actual costs of materials, including sales tax and delivery;

5. Rental costs of machinery and equipment, exclusive of small tools, whether rented from the Contractor or others;

6. Overhead and Profit as specified below. "Overhead" shall include the following:

Preparation of all paperwork related to changes in the Work, including field review, estimating and cost breakdown; coordination and supervision, both office and field, including the project superintendent; vehicles including gas and maintenance; small tools, incidentals and consumables; engineering, detailing, and revisions to shop drawings and as-built drawings; general office and administrative expense; extended and unabsorbed home office overhead; warranty; costs of bonds, liability insurance and Builder's Risk insurance (unless covered by the OCIP), and all taxes; and all other expenses not specifically included in Paragraph A above.

B. The Contractor's combined overhead and profit for work performed by its own forces shall be fifteen percent (15%) of the costs specified in Section 15.07(A)(1)-(5). If the changed work is performed by a Subcontractor, the Subcontractor shall be entitled to an allowance of fifteen percent (15%) of its actual labor, material and rental costs for overhead and profit. The Contractor shall be allowed to mark-up the Subcontractor's price ten percent (10%) for its overhead and profit. Cumulative total markup for all tiers of contractors and subcontractors shall not exceed twenty-five percent (25%).

C. If the net value of a change results in a credit from the Contractor or Subcontractor, the credit shall be the actual net cost, plus five percent (5%) for overhead and profit. When both additions and credits covering related work or substitutions are involved in any one change, the allowance for Overhead and Profit shall be figured on the basis of the net increase or decrease, if any, with respect to the change.

Section 15.08. Time and Materials Adjustment.

A. Pricing and Record Keeping. In the event that the pricing method selected is the time and materials method described in Section 15.06A, paragraph 4, the pricing shall be calculated using the formula and costs set forth in Section 15.07 except that time and material (T & M) labor rates shall be pre-approved by the District Representative for T & M work. The Contractor shall keep and present daily, in such form as the District Representative may prescribe, an itemized accounting together with appropriate invoices and other supporting data of the labor, materials, and equipment used during that day. All labor shall be recorded on separate time sheets clearly identified with the Directive number and scope of extra work involved. These time sheets shall be signed daily by the Project Inspector or the District Representative. No costs will be allowed for time not recorded and signed the same day the work takes place. The Contractor and the District Representative shall discuss and attempt to resolve any disputes concerning the Contractor's daily records at the time the report is submitted.

B. Reconciliation. The Contractor shall, on a monthly basis accompanying the progress payment request, submit a reconciliation for all work performed under a time and materials Directive during the period of the progress payment. A final reconciliation shall be submitted within 30 days after the work of the Directive is completed. The reconciliation shall recap all costs and appropriate markups for the period. No costs will be allowed for work not included in a reconciliation within the time periods specified.

Section 15.09. Effect on Sureties.

All changes authorized by the Contract Documents may be made without notice to or consent of the sureties on the contract bonds, and shall not reduce the sureties' liability on the bonds.

The District reserves the right to require additional payment or performance bonds to secure a Change Order.

Section 15.10. Unforeseen Site Conditions.

If this Contract requires the digging of trenches or other excavations that extend deeper than four feet below the existing surface, the following provision shall apply to those trenches or excavations:

A. In the event that any of the following described conditions is suspected to exist in the trench or excavation, the Contractor shall promptly, and before the condition is disturbed, notify the District Representative, in writing, of any:

1. Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.

2. Subsurface or latent physical conditions at the Site differing materially from those indicated in the Contract Documents.

3. Unknown physical conditions at the Site of any unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents.

B. Upon receipt of notice from the Contractor, the District Representative, the District and the Architect shall promptly investigate the conditions, and if it is determined that the conditions do materially so differ or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the work shall issue a Change Order or Directive under the procedures described in the Contract Documents.

C. In the event that a dispute arises between the District and the Contractor as to whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the work, the Contractor shall not be excused from any scheduled completion date provided for by the Contract Documents, but shall proceed with all work to be performed under the Contract Documents. The Contractor shall retain any and all rights provided either by the Contract Documents or by law which pertain to the resolution of disputes and protests between the contracting parties.

D. No contract adjustment which results in a benefit to the Contractor will be allowed unless the Contractor has provided the required written notice under paragraph A of this Section 15.10.

E. No contract adjustment will be allowed under the provisions specified in this section for any effects caused on unchanged work.

As between the Contractor and the District, the District is responsible for the timely removal, relocation, or protection of existing main or trunkline utility facilities located on the Site if such utilities are not identified in the Plans and Specifications. If the Contractor, while performing its work, discovers utility facilities not identified in the Plans or Specifications, it shall immediately notify the District and the associated utility in writing. Thereafter, and provided it has given such notice, the Contractor shall be entitled to an adjustment of the Contract Sum and an extension of the Contract Time, in accordance with Articles 14 and 15, for the costs of locating, repairing damage not due to the failure of the Contractor to exercise reasonable care, and removing or relocating such utility facilities not indicated in the Plans and Specifications with reasonable accuracy, and for equipment on the project necessarily idled during such work when such costs and time are caused by the failure of the District or the owner of the utility to provide for removal or relocation of such utility facilities. Notwithstanding anything to the contrary herein, the District is not required to indicate the presence of existing service laterals or appurtenances whenever the presence of such utilities on the Site can be inferred from the presence of other visible facilities, such as buildings, meter and junction boxes, on or adjacent to the Site. Nothing herein shall preclude the District from pursuing any appropriate remedy against the utility for delays which are the responsibility of the utility.

Section 15.11. Notice of Dispute

If the Contractor intends to make a claim for a change in the Contract Sum or Contract Time, the Contractor must give the District Representative written notice within ten (10) days of the occurrence of the event giving rise to the claim. Thereafter, the Contractor may proceed with a claim as provided for in Articles 21 and 23. **Failure to provide the written notice within ten (10) days of the occurrence of the event giving rise to the claim shall constitute a waiver by the Contractor of any claim for a change in the Contract Sum or Contract Time.**

ARTICLE 16. DISTRICT'S RIGHT TO CARRY OUT THE WORK

Section 16.01. Notice of Default; Deduction of Cost.
If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within three (3) days after receipt of written notice from the District to commence and continue correction of the default or neglect with diligence and promptness, the District may, without prejudice to any other remedy it may have, correct the deficiencies and may further elect to complete that portion of the Work through such means as the District may select, including the use of a new contractor. In such case, an appropriate Change Order shall be issued deducting from the payments then or thereafter due the Contractor the cost of correcting the deficiencies, and any other appropriate costs, including compensation for the Architect's, the Project Inspector's, and the District Representative's additional services made necessary by the default, neglect, or failure. If the payments then or thereafter due the Contractor are not sufficient to cover that amount, the Contractor shall pay the difference to the District.

Section 16.02. Disputed Work.
If a dispute arises as to who is responsible for cleaning up pursuant to Section 19 or for accomplishing coordination or doing required cutting, filling, excavating, or patching, the District may carry out such work and charge the cost to the responsible contractors, as the District may determine.

Section 16.03. Assignment of Work.
The District reserves the right to perform any portion of the Project with its own forces or with other contractors as it sees fit. The Contractor will cooperate and coordinate with the District's efforts in this regard. The Contractor may be assigned work by other District contractors when required to properly coordinate project activities.

ARTICLE 17. REJECTION AND REPLACEMENT OF WORK AND MATERIALS

Section 17.01. Rejection of Materials and Workmanship.

The District shall have the right to reject materials and workmanship which are determined by the District Representative, the Architect, or the Project Inspector to be defective or fail to comply with the Contract Documents. Rejected workmanship shall be corrected to the satisfaction of the District and/or Architect, and rejected materials shall be removed from the premises and replaced, all without added cost to the District and/or an increase in the Contract Time.

If the Contractor does not correct such rejected work and/or materials within a reasonable time, fixed by the District Representative or the Architect in a written notice to the Contractor, the District may correct the same and charge the expense to the Contractor, and deduct such expense from the next progress payment otherwise payable to the Contractor.

If the District determines that it is in its best interest not to correct defective workmanship and/or materials, or work not done in accordance with the Contract Documents, the Contractor agrees that an equitable deduction from the Contract Sum shall be made therefor, and deducted from the next progress payment otherwise payable to the Contractor.

Section 17.02. Correction of Work.

The Contractor shall promptly correct all work rejected by the District Representative, Project Inspector, or the Architect as defective or as failing to conform to the Contract Documents, whether observed before or after final completion and whether or not fabricated, installed, or completed. The Contractor shall bear all costs of correcting such rejected work including compensation for the Architect's, Project Inspector's, and the District Representative's additional services.

If within two (2) years after the Date of Completion and acceptance of the Work or within such longer period of time as may be prescribed by law or by the terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be defective or not in accordance with the Contract Documents, the Contractor shall correct any or all such work, together with any other work which may be displaced in so doing, without expense to the District, promptly after receipt of a written notice from the District unless the District has previously given the Contractor a written acceptance of such condition. The District shall issue a correction notice promptly after discovering the condition. The Contractor shall notify the District upon completion of repairs. This obligation shall survive termination of the Contract with respect to work in place prior to termination.

The Contractor shall bear the cost of making good work destroyed or damaged by such correction or removal.

Nothing contained in this Section shall be construed to establish a period of limitation with respect to any other obligations which the Contractor might have under the Contract Documents or by operation of law. The establishment of the time period of two (2) years after the Date of Completion, or such longer period of time as may be prescribed by law or by the terms of any warranty required by the Contract Documents, relates only to the specific obligation of the Contractor to correct the Work and has no relationship to the time within which an action may be commenced to establish the Contractor's liability with respect to its obligations other than specifically to correct the work.

ARTICLE 18. DISTRICT'S RIGHT TO TERMINATE CONTRACT

Section 18.01. Termination by the District for Convenience.

The District may at any time and for any reason, terminate, in whole or in part, Contractor's Work at the District's convenience. Termination shall be by written notice to Contractor. Upon receipt of such notice, Contractor shall, unless the notice directs otherwise, immediately discontinue Contractor's work and the placing of orders for materials, facilities, and supplies in connection therewith, and shall, if requested, make every reasonable effort to procure cancellation of all existing orders or contracts upon terms satisfactory to the District, or, at the option of the District, the District shall have the right to assume those obligations directly, including all benefits to be derived therefrom. Contractor hereby assigns to the District all of its interest in said orders and/or contracts, and the assignment of said orders and/or contracts shall be effective upon notice of acceptance by the District in writing, and only as to those orders and/or contracts which the District designates in writing. Following receipt of notice of termination, Contractor shall thereafter do only such work as may be necessary to preserve and protect portions of its work already in progress and to protect materials and equipment on or in transit to the Project.

Upon such termination, Contractor shall be entitled to payment only as follows: (1) Contractor's direct, actual cost of the Work allocable to the portion of the Work completed in conformity with the Contract, but in no event to exceed the amount of the Contract Sum allocable to the portion of the Work completed in conformity with the Contract; plus (2) previously unpaid costs of any items delivered to the Project Site which were fabricated for subsequent incorporation in the Work, but in no event to exceed the portion of the Contract Sum allocable to said items; plus (3) an allowance of ten percent (10%) of the foregoing costs for Contractor's overhead and profit; plus (4) any proven losses with respect to materials and equipment directly resulting from the termination; plus (5) reasonable demobilization costs. Contractor is required to incorporate these terms into its subcontracts, so no costs of terminating subcontracts other than as specified herein will be permitted. The costs referred to in this Section shall be calculated and documented as required for a change order under Article 15 of the General Conditions, except that mark-up for overhead and profit shall be only as allowed by this Section. There shall be deducted from such sums the amount of any payments made to Contractor prior to the date of the termination of this Contract. Contractor shall not be entitled to any claim or claim of lien against the District for any additional compensation or damages in the event of such termination and payment beyond that provided for in this Section.

In connection with any termination for convenience, Contractor shall allow the District, District Representative or any authorized representative(s) to inspect, audit, or reproduce any records to the extent necessary for the District or District Representative to evaluate and verify the costs incurred by Contractor in performing the Work, including direct and indirect costs such as overhead allocations. Contractor will make this material available upon 48-hours' written notice from the District or District Representative. The District and District Representative may inspect and copy, from time to time and at reasonable times and places, any and all information, materials, and data of every kind and character (hard copy as well as electronic data), including without limitation, books, papers, documents, subscriptions, recordings, estimates, price quotations, agreements, purchase orders, leases, contracts, commitments, arrangements, notes, daily diaries, superintendent reports, drawings, receipts, vouchers, monthly, quarterly, yearly or other financial statements, and any and all other information or documentation that may, in the judgment of the District or District Representative, have any bearing on or pertain to any matters, rights, duties, or obligations under or covered by the Contract Documents. Such records shall include but not be limited to, the following: accounting records, payroll records, job cost reports, job cost history, margin analysis, written policies and procedures, subcontract files (contracts, correspondence, change order files, including documentation covering negotiated settlements), back charge logs and supporting documentation, general ledger entries detailing cash and trade discounts earned, insurance rebates and dividends, and any other documents customarily maintained by contractors performing work on public works projects or that the District or District Representative otherwise deem necessary to substantiate charges related to a Termination.

If this Contract is terminated for default under Section 18.02 and if it is later determined that the default was wrongful, such default termination automatically shall be converted to and treated as a termination for convenience under this Section. In such event, Contractor shall be entitled to receive only the amounts payable under this Section, and Contractor specifically waives any claim for any other amounts or damages, including any claim for consequential damages or lost profits.

Section 18.02. Termination by the District for Cause.
The District may terminate the Contract, pursuant to the provisions of this Article, for the following causes:

A. The Contractor is insolvent or has made a general assignment for the benefit of creditors, or a receiver has been appointed on account of the insolvency of the Contractor.

B. The Contractor or any of its Subcontractors materially violate any of the provisions of the Contract Documents or fail to perform the work within the time specified in the current Contract Schedule.

C. The Contractor or any of its Subcontractors should fail to make prompt payment to Subcontractors or material suppliers for material or for labor as required by statute.

D. The Contractor or a Subcontractor persistently disregards laws, ordinances, or the instructions of the District Representative, Architect, or the District.

E. The Contractor fails to abide by a stop work notice issued pursuant to Article 9 or fails to correct rejected work or materials as required by Article 17.

F. The Contractor fails to provide and keep in full force and effect all insurance required by Article 3, or fails to cause all Subcontractors to so comply.

G. The Contractor fails to supply a sufficient number of properly skilled workers or proper materials to timely complete the Work.

H. The Contractor commits any violation of the terms and conditions of the Contract Documents which the District, in its sole discretion, finds to be a material breach of the Contract.

Section 18.03. Procedure for Termination for Cause.
The District may, without prejudice to any other right or remedy, give written notice to the Contractor and its surety or sureties of its intention to terminate the Contract.

Unless the Contractor shall cease such violation and make satisfactory arrangements for a correction thereof within seven (7) days of the delivery of such notice, or such longer period specified in the notice, which arrangements are set forth in a written agreement signed by the Contractor and the District Representative, the Contractor's right to complete the Work shall cease and terminate.

In the event of any such termination, the District shall immediately give written notice thereof to the surety and to the Contractor and the surety shall have the rights and obligations set forth in the performance bond. If the District is forced to take over the Work, it may prosecute the same to completion by contract or by any other method it may deem advisable, for the account and at the expense of the Contractor, and the Contractor and its sureties shall be liable to the District for any excess costs, including management, supervision, and design support, occasioned thereby. In such event, the District may, without liability, take possession of, and utilize in completing the Work, the Contractor's materials whether stored at the Site or elsewhere, that are necessary for completion. Contractor hereby assigns to the District all of its interest in orders and/or contracts existing at the time of termination. The assignment of said orders and/or contracts shall be effective upon notice of acceptance by the District in writing, and only as to those orders and/or contracts which the District designates in writing. Whenever the Contractor's right to proceed is terminated, the Contractor shall not be entitled to receive any further payment until the Work is finished and shall be liable to the District for liquidated damages for all periods of time from such termination date until the Date of Completion, as well as for all losses incurred by the District in completing the Work.

Section 18.04. Not Used.

Section 18.05. Not Used.

Section 18.06. Survival of Obligations.
No termination of this Contract or of Contractor's Work shall excuse or otherwise relieve the Contractor of its responsibilities under the Contract Documents with respect to any Work performed prior to the date of termination, including, without limitation, its obligation to perform the Work in a good and workmanlike manner, free of defects, and in accordance with the Contract Documents, its warranty obligations with respect to the Work, and its obligation to make all payments due. All of Contractor's responsibilities under the Contract Documents with respect to the Work performed prior to the date of termination shall survive any termination.

Section 18.07. Termination After Contract Time.
In addition to any rights it may have, the District may terminate this Contract at any time after the Contract Time, as adjusted by any extensions of time that the District may have granted.

Upon such termination, in addition to the Contractor's obligations under Section 18.06 and the other provisions of the Contract Documents, the Contractor shall not be entitled to receive any compensation for services rendered before or after such termination until the Work is completed, and the Contractor shall be liable to the District for liquidated damages for all periods of time from the Contract Time, adjusted by any extensions of time that the District may have granted, until the Date of Completion, as well as for all losses incurred by the District in completing the Work.

ARTICLE 19. PRESERVATION AND CLEANING

Section 19.01. Periodic Cleaning of Project.

The Contractor shall properly clean its work and the Site, and maintain its work area in an orderly manner. The Contractor shall remove all dirt, debris, waste, rubbish, and implements of service from the Project, the adjacent sidewalks and streets, and the working area daily or as directed by the District Representative. Debris, waste, or unused construction materials shall not be left under, in, or about the Project, nor allowed to accumulate on the Site or in the working area.

The Contractor, at its sole cost, shall contract with a disposal company to remove all rubbish, and shall have the refuse containers emptied at frequent enough intervals so that waste does not overflow the containers.

If the Contractor fails to clean up during progress or upon completion of the Work, the District may, at the Contractor's expense, do so as provided in Article 16.

Section 19.02. Final Cleaning of Project.

At completion of the Work and prior to final acceptance/inspection and occupancy by the District, the Contractor shall thoroughly clean the interior and exterior of the buildings, and the Site and adjacent areas, of all material related to its performance of the Work. In the event the Contractor fails to do so, the District may cause this work to be done at the Contractor's expense, as provided in Article 16. The following list is not inclusive but to act as a guideline:

A. Removal of all spots, stains, paint spots, rubbish, debris, tools, equipment, trade markings and labels, and accumulated dust and dirt from all areas and broom clean. Steam clean all carpets and mop floors.

B. Cleaning interior and exterior of the buildings including all windows in any area affected by the Work.

C. Brush off, broom sweep, dust and clean ledges, stairs, doors, hardware, chalk board trays and any adjoining rooms or areas that were affected by the Work.

D. The Contractor shall clear grounds and exterior paved areas and walks of all construction debris, dirt and dust and shall repair any Site areas damaged during the course of construction.

Prior to final completion or District occupancy, the Contractor shall conduct an inspection of sight-exposed surfaces, and all work areas, to verify that the entire work is clean. In the event the Contractor fails to do so, the District may cause this work to be done at the Contractor's expense.

ARTICLE 20. COMPLETION, INSPECTION, AND OCCUPANCY BY DISTRICT

Section 20.01. Notice of Punch List Inspection.
When the Contractor believes that the entire work, or a specific phase of its Work, is substantially complete, *i.e.,* fit for its intended use, the Contractor shall certify in writing to District that the Work is substantially complete and request that District grant substantial completion. Within five (5) working days of the receipt of such request, the District Representative, the Project Inspector, and the Architect shall make a punch list inspection or inform the Contractor that the work is not ready for punch list inspection; upon completion of the deficient work, the Contractor shall again request a punch list inspection. The Contractor shall be present at the punch list inspection. The purpose of the punch list inspection is to determine whether the Work has been substantially completed in accordance with the Contract Documents, including all Change Orders, interpretations, and instructions previously issued.

If the Contractor requests a punch list inspection when the Work is not ready for the inspection, the Contractor shall pay all costs associated with the inspection.

If Contractor fails to attend any punch list inspection, the Contractor shall be charged for the cost of the District Representative, Architect, the Project Inspector, and other design professionals and District consultants who attended the punch list inspection.

Completion of any phase of the Work does not result in final completion, or in any way alter the payment provisions after final completion.

Section 20.02. Punch List.
The District Representative, the Project Inspector, and the Architect shall notify the Contractor in writing of any deficiencies to be remedied prior to final acceptance by preparing a written “punch list” of work required to be completed or corrected prior to final completion.

When the Contractor believes it has remedied all items shown on the punch list, it shall notify the District Representative that it is ready for inspection for final acceptance by the District Representative, the Project Inspector, and the Architect. In the event that the Work still does not comply with the Contract Documents, the District reserves the right to issue such further punch lists as may be required, or to deduct from the final payment the cost of correcting any work not completed in accordance with the Contract Documents, but accepted by the District, without the issuance of further punch lists. If the District issues a further punch list, the Contractor shall be responsible for all costs of subsequent punch list inspections required prior to acceptance.

No one is authorized to amend the Contract Documents by use of the punch list; it is provided solely for the benefit of the Contractor to enable it to determine what items must be corrected before final acceptance will be recommended by the District Representative, the Project Inspector, and the Architect. The District reserves the right to require compliance with the Contract Documents, notwithstanding the issuance of a punch list or the completion by the Contractor of all items on the punch list.

If punch list work needs to be performed after the District has taken occupancy of a phase or the entire Work, then the Work shall be conducted outside of normal school hours at the direction of the District Representative.

Section 20.03. Use of Work Prior to Acceptance.
Whenever, in the opinion of the District, the Work, or any part thereof, is in a condition suitable for use, and the best interests of the District require such use, the District may take possession of and use that portion of the Work. District shall provide Contractor not less than ten (10) days’ notice of such possession or use, and shall make reasonable efforts to conduct a punch list inspection of the Work to be occupied prior to occupancy.

The District’s occupancy shall not constitute acceptance by the District of the Work or any part thereof. Such use shall neither relieve the Contractor of any of its responsibilities under the Contract Documents, nor act as a waiver by the District of any of the terms or conditions of the Contract Documents. Any damage done by the District is the responsibility of the District. Contractor acknowledges and agrees that any occupancy and/or use of all or any portion of the work of improvement does not constitute acceptance or completion within the meaning of California Civil Code section 9200.

Section 20.04. Repairs or Renewal in the Work.
Prior to the Date of Completion, the Contractor shall make all repairs or renewals in the portion of the Work occupied pursuant to Section 20.03 made necessary due to defective material or workmanship, or the operations of the Contractor, ordinary wear and tear excepted.

Section 20.05. Not Used.

Section 20.06. Coordination with Other Activities.
The Contractor shall conduct its operations so as not to interfere unreasonably with the District's use of the occupied portions of the Site. The Contractor shall submit periodic schedules to the District Representative proposing the times, areas, and types of work to be done within such areas.

If the Work produces conditions rendering the occupied portions of building, the Site, or other areas uninhabitable, either because of noise, dust, vibration, smoke, fumes, or for any other cause whatsoever, the District Representative may suspend the Work or direct the Contractor to modify the Contract Schedule, and the Contractor shall comply.

Except as provided by Change Order, the Contractor shall not be entitled to a time extension or increase in the Contract Sum by virtue of conflicts between the Contractor's work and the District's occupancy.

ARTICLE 21. CONTRACT CLOSEOUT

Section 21.01. Contractor's Request for Final Payment.
When the Contractor determines that all of the Work on the Project is complete and all items on the punch list have been satisfied, or contends that such items are not required by the Contract Documents, the Contractor shall submit a certificate of completion and an application for final payment on the form provided.

Section 21.02. Additional Submissions.
Simultaneously with the Contractor's certificate of completion and request for final payment, the Contractor shall submit the following items to the District Representative:

A. As-built drawing information pursuant to Section 5.08.

B. One (1) original set of documentation and one (1) PDF file(s) in electronic format on a separate flash drive completely covering the operation and maintenance of the mechanical and electrical installation, elevators, kitchen equipment, and all other equipment required by the technical specifications to be furnished with such manuals. The documentation shall include charts, diagrams, performance curves, catalog information, lubrication manuals, and details pertaining to the functioning of various items of equipment. The documentation shall be divided logically into "systems" on the basis of operation, without respect to trades, subcontractors, or arbitrary specifications sections. The relationship of the "systems" shall be clearly and concisely detailed.

C. Hazardous material documentation as required.

D. Form DSA-6 Final Verified Reports.

E. DVBE Compliance Report in the form required by the District documenting and certifying the amount of Work performed by DVBEs.

F. All other required DSA, California Department of Education, State Allocation Board and Office of Public School Construction forms.

G. Any extra stock material and equipment and manufacturer warranties/guarantees as required by the Contract Documents.

H. Other items as required in Section 00 73 00.

No payment will be processed unless accompanied by the above listed submissions in acceptable form, *except that,* if the **only** missing document is the DVBE Compliance Report, then the District will withhold no more than ten thousand dollars ($10,000) from the final payment due to the missing Report.

In accordance with Military & Veterans Code section 999.7, District will withhold ten thousand dollars ($10,000) from the final payment, or the full final payment if less than ten thousand dollars ($10,000), until Contractor submits the required DVBE Compliance Report. If Contractor fails to provide the Report after being provided written notice of its failure to submit the Report, within the time required by the notice, then District shall permanently deduct ten thousand dollars ($10,000) from the final payment, or the full payment if less than ten thousand dollars ($10,000).

Section 21.03. Final Payment Process.
Upon approval of the submittals required by this Article and receipt of the Contractor's final payment application, and upon verification that all of the Work is complete, including all punch list items, the District Representative shall either (1) recommend to the District that the payment application be accepted, which recommendation shall be made within five (5) business days of receipt of the Contractor's complete final payment application, or (2) send a notice to the Contractor rejecting the payment application, stating the basis therefor, and submitting a written estimate of the sum due to the Contractor, which written estimate shall be provided to the Contractor within twenty (20) calendar days of the District Representative's receipt of the Contractor's final payment application. If the payment application is rejected in part due to a missing DVBE Compliance Report, then the District Representative's response shall notify the Contractor that (a) the missing Report must be provided by a date certain, no less than 15 days and no more than 30

calendar days following the date of the notice and (b) failure to provide the Report will result in a $10,000 permanent deduction from the final payment. The District Representative's estimate shall take into account the Contract Sum, as adjusted by any Change Orders; amounts already paid; and sums to be retained for incomplete work, liquidated damages, and for any other cause under the Contract Documents. Any protest by the Contractor of the District Representative's estimate shall be as set forth in Section 21.04 and Article 23.

The Architect shall prepare a statement of final inspection, stating that the Work has been given a final inspection, that the Contractor has submitted the required documents (or which documents are missing), setting forth with detail any deviations in the Work as completed from the Contract Documents, and estimating the cost of correction of such deviations.

The Architect's statement shall be transmitted to the District along with the Contractor's application for final payment approved by the District Representative, Architect, and Project Inspector. The District Representative shall provide a copy of the Architect's statement of final inspection to the Contractor.

Section 21.04. Protest of the District Representative's Estimate; Claims.
If the Contractor contests the estimate of sums due prepared by the District Representative, the Contractor may file a claim in writing with the District Representative pursuant to the requirements of Article 23 and setting forth in detail all grounds alleged by the Contractor to justify an adjustment to the District Representative's estimate. The Contractor's claim shall be certified under penalty of perjury and in compliance with the California False Claims Act. Failure to include these required certifications will constitute grounds for immediate rejection of the claim.

Failure to file a timely claim shall constitute a waiver and acceptance by the Contractor of the District Representative's estimate, which shall then become final and be forwarded to the District for approval of payment.

Section 21.05. Completion; Acceptance of Contract; Notice of Completion.
The Contractor acknowledges and agrees that completion shall mean the Contractor's complete performance of all Work required by the Contract Documents, amendments, Change Orders, Construction Change Directives, and punch lists, and the District's formal acceptance of the Work, without regard to prior occupancy, substantial completion doctrine, beneficial occupancy, or otherwise.

Acceptance of the Work shall be made only by formal acceptance by the District. Recordation of a Notice of Completion shall be in the manner prescribed by law, provided that the Work shall then be fully and satisfactorily completed and the provisions of the Contract Documents fully and satisfactorily performed in all respects.

Section 21.06. Approval of Final Payment.
Following acceptance of the Work, the District shall authorize final payment to the Contractor of the undisputed sums found due, subject to retentions for stop notices as provided in Section 21.07 below. This final payment shall be made within sixty (60) days after completion, as defined in Section 21.05 above.

Section 21.07. Withholding for Stop Payment Notices.
The District will withhold from the Contractor any unpaid claims alleged in Stop Payment Notices filed pursuant to California Civil Code sections 9350 *et seq*. The District reserves all remedies it may have in the event of a Stop Payment Notice dispute. The basic standard to determine a sufficient withholding in the event of a Stop Payment Notice shall be one hundred fifty percent (150%) of the total of all Stop Payment Notices filed; provided, however, the District reserves the right to withhold different or greater sums in its discretion.

Section 21.08. Non-Waiver.
Neither acceptance of, nor payment for, the Work or any part thereof, nor any extension of time, nor any possession taken by District shall operate as a waiver of any of the provisions of this Contract, nor shall a waiver of any breach of this Contract be held to be a waiver of any other or subsequent breach. In addition, recordation of a Notice of Completion shall not be deemed an acceptance of latent defects, nor shall it constitute a waiver of any of the provisions of this Contract.

ARTICLE 22. GUARANTEES

Section 22.01. Guarantee Required.

In addition to any guarantees required elsewhere by the Contract Documents, the Contractor shall guarantee the Work for a minimum of two (2) years from and after the recordation of the Notice of Completion and completion of all contract obligations by the Contractor, including formal acceptance of the entire Project by the District. The Contractor specifically waives any right to claim or rely on the statutory definition of completion set forth in Civil Code section 9200. The Contractor specifically acknowledges and agrees that completion shall mean the Contractor's complete performance of all Work required by the Contract Documents, amendments, Change Orders, Directives, CCDs, and punch lists, and the District's formal acceptance of the entire Project, without regard to prior occupancy, substantial completion doctrine, beneficial occupancy, or otherwise. Such guarantee shall be made on the form provided.

The guarantee period for corrected defective work shall continue for a duration equivalent to the original guarantee period.

Such guarantee is in addition to, and not in lieu of, the District's rights to enforce this Contract in all respects.

ARTICLE 23. CLAIM REQUIREMENTS

Claims shall be subject to the requirements of Public Contract Code sections 20104 *et seq.* and 9204. A summary of those provisions is set forth below. A waiver of the rights granted by the referenced statutes is void and contrary to public policy, provided, however, that (1) upon receipt of a Claim, the parties may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable; and (2) the District may prescribe reasonable change order, claim, and dispute resolution procedures and requirements in addition to the statutory requirements, so long as the contractual provisions do not conflict with or otherwise impair the statutory timeframes and procedures. To the extent that the summary below is inconsistent with any requirement of those statutes, the statutes shall control. The terms below are intended to be consistent with the governing statutes, and any modifications shall be understood as lawful modifications or additions to the statutory requirements if at all possible.

Section 23.01. Notice of Potential Claim.

The Contractor shall promptly provide a written Notice of Potential Claim to the District upon discovery of concealed or unknown conditions or discovery of facts regarding any disagreement, protest, direction, situation, event, or occurrence that may result in a claim, including but not limited to changes in work and delays. The written Notice of Potential Claim shall set forth the reasons for which the Contractor believes adjustment to the Contract Price or Contract Time will or may be due, the nature of the costs and/or time involved, and, insofar as possible, the amount of the potential claim. The Notice shall be submitted as soon as practical, but no more than five (5) working days after the discovery of any facts or event that does or may give rise to the claim, unless a different period for notice is specified in the Contract Documents. **Failure to timely submit the Notice of Potential Claim constitutes acknowledgement that the condition(s), fact(s), occurrence(s) or event(s) did not cause any increase in cost or time to perform and waives any Claim that the Contractor otherwise may have had the right to submit based on such condition(s), fact(s), occurrence(s) or event(s).**

Section 23.02. Definitions.

"Claim" means a separate demand by Contractor sent by registered mail or certified mail with return receipt requested, for one or more of the following:

(A) a time extension, including, without limitation, for relief from damages or penalties for delay assessed by a public entity under a contract for a public works project.

(B) payment by the public entity of money or damages arising from work done by, or on behalf of, Contractor pursuant to the contract for a public works project and payment for which is not otherwise expressly provided or to which the claimant is not otherwise entitled.

(C) payment of an amount that is disputed by the District.

"Mediation" means any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation.

"Public works contract" or "public works project" means the erection, construction, alteration, repair, or improvement of any public structure, building, road, or other public improvement of any kind.

"Subcontractor" means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who either is in direct contract with the Contractor or is a lower tier subcontractor.

Section 23.03. Claims Procedure.

All Claims under this Contract shall be resolved using the following procedure.

23.03.01 The Claim shall be in writing and include the documents necessary to substantiate the Claim. The evaluation of the Claim will be based on the District's records and the Claim documentation submitted by the Contractor, which shall include but not be limited to the

following: an explanation of the background; a chronology (including dates of all key events and date(s) that the Notice of Potential Claim was given); an explanation of the Contractor's position; supporting documentation of merit; analysis of delay for any claimed additional time, including CPM schedules; and a calculation of damages or additional amounts claimed, if any. Supporting documentation of merit may include, but not be limited to, Construction Documents, correspondence, conference or meeting notes, shop drawing logs, survey books, inspection reports, delivery schedules, test reports, daily reports, subcontracts, CPM schedules, photos, RFIs, Directives, and other such records. Supporting documentation of damages may include, but not be limited to, certified payroll reports; purchase orders; invoices; project as-planned and as-built costs; Subcontractor payment releases; quantity reports; other related records; general ledger and any other accounting materials.

Claims must be filed on or before the date of final payment, except that the Claim must be submitted no later than thirty (30) days from the date of the District Representative's estimate of sums due. Any Claim shall be certified under penalty of perjury and in compliance with the California False Claims Act, as set forth in Section 23.04 below. Failure to include these required certifications will constitute grounds for immediate rejection of the Claim and shall be deemed a waiver and absolute bar of the Claim, including any right to pursue the Claim further.

23.03.02 If a Subcontractor, including a lower tier Subcontractor, lacks legal standing to assert a Claim against the District because privity of contract does not exist, then the Contractor may present a Claim on behalf of such a Subcontractor. A first-tier Subcontractor may request in writing, either on its own behalf or on behalf of a lower tier Subcontractor, that the Contractor present a Claim on behalf of the Subcontractor for work that was performed by the Subcontractor. The Subcontractor requesting that the claim be presented shall furnish reasonable documentation to support the Claim. Within 45 days of receipt of this written request, the Contractor shall notify the Subcontractor in writing as to whether the Contractor presented the Claim and, if the Contractor did not present the Claim, provide the Subcontractor with a statement of the reasons for not having done so.

23.03.03 Upon receipt of a Claim, the District shall conduct a reasonable review of the Claim. Within 30 days of receipt of the Claim, the District may request, in writing, any additional documentation supporting the Claim or relating to defenses to the Claim that the District may have against the Contractor. Where additional information is requested by the District, the time in which the District must respond to a Claim shall be tolled until all requested information is provided. If additional information is thereafter required, then it shall be requested and provided upon mutual agreement of the District and the Contractor.

23.03.04 Within 45 days of receipt of the Claim, as that time may be tolled as provided in Section 23.03.03 above, the District shall provide the Contractor with a written statement identifying what portion of the Claim is disputed and what portion is undisputed. Upon receipt of a Claim, the District and the Contractor may, by mutual agreement, extend the time period for a response. Failure by the District to respond to a Claim within the time periods described herein shall result in the Claim being deemed rejected in its entirety. A Claim that is denied by failure of the District to respond shall not constitute an adverse finding with regard to the merits of the Claim or the responsibility or qualifications of the Contractor.

23.03.05 Any payment due on an undisputed portion of the Claim shall be processed and made within 60 days after the District issues its written statement. The District shall not fail to pay money as to any portion of a claim which is undisputed except as otherwise provided in the Contract.

23.03.06 If the Contractor disputes the District's written response, or the District fails to respond within the time prescribed, the Contractor may so notify the District, in writing, either within 15 days of receipt of the District's response or within 15 days of the District's failure to

respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand, sent by registered mail or certified mail, return receipt requested, the District shall schedule a meet and confer conference within 30 days for settlement of the dispute.

23.03.07 Within 10 business days following the conclusion of the meet and confer conference, if the Claim or any portion of the Claim remains in dispute, then the District shall provide the Contractor a written statement identifying the portion of the Claim that remains in dispute and the portion that is undisputed. Failure by the District to provide the written statement within the time periods described herein shall result in the remaining Claim issues being deemed rejected in their entirety. Denial by failure of the District to respond shall not constitute an adverse finding with regard to the merits of the remaining Claim issues or the responsibility or qualifications of the claimant. Any payment due on an undisputed portion of the Claim shall be processed and made within 60 days after the District issues its written statement.

23.03.08 Any remaining disputed portion of the Claim following the meet and confer conference shall be submitted to nonbinding mediation, with the District and the Contractor sharing the associated costs equally. The District and Contractor shall mutually agree to a mediator within 10 business days after the disputed portion of the Claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the Claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. Unless otherwise agreed to by the District and the Contractor in writing, the mediation conducted pursuant to this Section shall excuse any further obligation under Public Contract Code Section 20104.4 to mediate after litigation has been commenced. This Section does not preclude arbitration if mediation under this Section does not resolve the parties' dispute.

23.03.09 If mediation is unsuccessful, then the Contractor may file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code with respect to the parts of the Claim remaining in dispute. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the Contractor submits his or her written Claim pursuant to Section 23.03.01 until the time that mediation of disputed portions of that Claim is completed. This Section does not apply to tort claims, and nothing in this Section is intended nor shall be construed to change the time periods for filing tort claims or actions specified by Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code.

23.03.10 Amounts not paid in a timely manner as required by this Section shall bear interest at seven percent (7%) per year.

23.03.11 Claims of $375,000 or less are subject to the following procedures for civil actions filed to resolve the claims:

(a) The case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act (Title 4 (commencing with Section 2016.010) of Part 4 of the Code of Civil Procedure) shall apply to any such proceeding, consistent with the rules pertaining to judicial arbitration.

(b) The parties stipulate that the arbitrator shall be experienced in construction law and shall be paid necessary and reasonable hourly rates of pay not to exceed their customary rate, and such fees and expenses shall be paid equally by the parties,

except in the case of arbitration where the arbitrator, for good cause, determines a different division. In no event shall these fees or expenses be paid by state or county funds.

(c) In addition to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, any party who, after receiving an arbitration award, requests a trial *de novo* but does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, pay the attorneys' fees of the other party arising out of trial *de novo.*

(d) The court may, upon request by any party, order any witnesses to participate in arbitration process.

In any suit filed under Public Contract Code Section 20104.4, the District shall pay interest at the legal rate on any arbitration award or judgment. The interest shall begin to accrue on the date the suit is filed in a court of law.

Section 23.04. Claim Certification.
Contractor acknowledges that it has read and is familiar with the provisions of the False Claims Act (California Government Code sections 12650 *et seq*.). Submission by Contractor of any claim (as the term "claim" is defined in False Claims Act) to the District in connection with the Project, whether on its behalf or on behalf of a Subcontractor or material supplier, shall constitute a representation by Contractor to the District that submission of the claim does not in any respect, violate the False Claims Act. Any party with an interest in the claim, including Contractor and any Subcontractor or material supplier, shall certify under penalty of perjury the validity and accuracy of any claim submitted to the District, as provided below. Compliance with this claims certification requirement shall be a condition precedent to any obligation District might otherwise have to review the claim, and failure to provide such certification shall constitute a waiver of the claim.

The claim certification required by this section shall provide as follows:

CLAIM CERTIFICATION

Under penalty of perjury, and with specific reference to the California False Claims Act, Government Code sections 12650 *et seq*. I certify that submission of the attached claim is made in good faith; that the supporting data prepared by the undersigned company are accurate and complete to the best of my knowledge and belief; that submission of the claim to the District does not violate the False Claims Act; and that I am duly authorized to certify the claim on behalf of the claimant.
Dated: _____

Company_____

Signature _____

Title_____

Section 23.05. Continuance of Work.
In the event of a dispute between the parties as to performance of the Work or the interpretation of the Construction Documents, or payment or nonpayment for Work performed or not performed, the parties shall attempt to resolve the dispute. Pending resolution of this dispute, the Contractor agrees to continue the Work diligently to completion. If the dispute is not resolved, except as provided otherwise in the Contract, the Contractor agrees it will neither rescind the Contract, nor stop the progress of the Work on the Project.

ARTICLE 24. ADDITIONAL PROVISIONS

Section 24.01. Conflict of Interest.
No official of the District who is authorized on behalf of the District to negotiate, make, accept, or approve, any architectural, engineering, inspection, construction, or materials supply contract, or any subcontract in connection with the construction of the Project, or any land acquisition in connection with the Project, shall become directly or indirectly interested personally in this contract or in any part thereof.

No officer, employee, architect, attorney, engineer, or inspector of or for the District who is authorized on behalf of the District to exercise any executive, supervisory, or other similar function in connection with the construction of the Project shall become directly or indirectly interested personally in this contract or any part thereof.

Section 24.02. No Agreements.
No oral agreement or conversation with any officer, agent, or employee of the District, either before, during, or after the execution of the Contract Documents shall affect or modify any term or condition contained in the Contract Documents, nor shall such oral agreement or conversation entitle the Contractor to any additional payment or time to perform whatsoever under the terms of the Contract.

Section 24.03. Anti-Trust Assignment.
By execution of the Contract Documents, or any subcontract awarded by the Contractor, the Contractor or any Subcontractor offers and agrees to assign and hereby does assign to the District all rights, title, and interest in and to all causes of action the Contractor or Subcontractor may have under Section 4 of the Clayton Act (15 USC Section 15) or under the Cartwright Act (Chapter 2 of Part 2 of Division 7 of the Business and Professions Code, commencing with Section 16700), arising from purchases of goods, services, or materials pursuant to this public works contract or subcontract. This assignment shall be made and shall become effective at the time the District tenders final payment to the Contractor, without further acknowledgment by the parties.

Section 24.04. Contractor Not Agent, Nor Employee.
Neither the Contractor nor any subcontractor, or any officer, agent, or employee of either, is, nor shall they represent themselves to be, an officer, agent, or employee of the District for any purpose whatsoever.

No person employed by the Contractor, or by any subcontractors, are, nor shall they be construed to be in any manner or for any purpose whatsoever, employees of the District.

Section 24.05. Access to Records.
The District or the District's authorized representative shall have access, upon reasonable notice, during normal business hours, to any books, documents, accounting records, papers, project correspondence, project files, scheduling information, and other relevant records of the Contractor and all subcontractors directly or indirectly pertinent to the Work, original as well as change and claimed extra work, to verify and evaluate the accuracy of cost and pricing data submitted with any change order prospective or executed, or any claim for which additional compensation has been requested.

Such books, documents and other records mentioned above shall include, but are not limited to all those reasonably necessary in the opinion of the District to determine the accurate amount of direct and indirect costs, job site, area and home office overhead, delay and impact costs, however characterized, and shall include the original bid and all documents related to the bid and its preparation, as well as the as-planned Contract Schedule and all related documents.

Such access shall include the right to examine and audit such records, and make excerpts, transcriptions, photocopies and/or electronic copies at the District's cost.

END OF SECTION

Section 00 73 00 - SPECIAL PROVISIONS

ARTICLE 1: SCOPE OF WORK

Scope of Work including but not limited to: Relocate four (4) portables from Fern Bacon to Genevieve Didion; relocate four (4) portables from Fern Bacon to Capital City; Install concrete foundations; Extend existing utilities; accessible path of travel upgrades; and interior finishes replacement.

Included:

1. Portables for Fern Bacon to Genevieve Didion will be disconnected by other vendor. Reconnect all utilities at Genevieve Didion.
2. Portables for Fern Bacon to Capital City will be disconnected by other vendor; no reconnecting needed. Portables will be placed on stilts and parking lot.
3. Furnish and install all labor, material and equipment for all Work shown and/or specified in accordance with the Contract Documents, except as excluded below.
4. This Scope of Work also applies to all applicable awarded alternates.
5. Information provided under “Also Included” points out some items which may be considered less obvious or “unconventional,” but which are included in the Scope of Work.
6. This Bid Package Description is intended to clarify scope to the Contractor, but is in no way intended to limit scope that is reasonable inferable as being required by the Work included in this description. Work required may be shown or specified anywhere in the Contract Documents.

Also included but not limited to as applicable and/or directed:

1. Trenching/compaction and backfill Work.
2. Concrete/asphalt patching Work.
3. All demolition and removal and/or replacement of Work associated with this Bid Package.
4. Coordination with other Contractors working on this campus.
5. Perform an electronic underground existing utility survey by a qualified underground utility locator service company in all areas where trenching operations will be performed. An as-built record drawing (one hard copy and one copy on electronic media prepared in AutoCAD is required to be submitted at the conclusion of the underground scope of Work.
6. Weather protection during the course of construction (See Section 00 72 00, General Conditions).
7. Temporary barricades, signs, pedestrian protection, temporary facilities and traffic control Work.
8. All access panels including backing and blocking, associated with this Bid Package.
9. Daily and final clean-up is required.
10. Qualified/certified technicians must perform the replacement and/or repair of all landscape, irrigation, asphalt/concrete surfaces and above or below grade utilities disturbed during construction, and the District must be given the opportunity to test and accept the Work prior to covering up.
11. Patching, repairing, painting and/or replacement of all finished surfaces disturbed during construction.
12. Protection of new and existing roofing from damage.
13. Final testing of all systems installed prior to final acceptance.
14. Qualified/certified C-7 licensed technicians must perform the replacement and/or repair of existing low voltage systems disturbed during construction, and the District must be given the opportunity to test and accept the Work prior to covering up.
15. Provide temporary means of operation for existing storm, water, sewer, gas, mechanical, electrical, and low voltage systems during construction.
16. Painting of all new (N) and existing (E) exposed interior and exterior piping, ductwork and raceway systems (other than rooftop piping and raceway systems), and all roofing demolition, repair, replacement, roof patching, sheet metal flashing.
17. A full-time superintendent shall be provided for the project. See Section 00 72 00, General Conditions.
18. The use of the District’s proprietary communication / documentation software will be required.

19. Any campus utility interruptions require a minimum of a 48-hour notice to the District Representative for coordination purposes.
20. Contractor shall provide a $2,000,000 excess/umbrella policy (refer to Section 00 72 00, Section 3.14.A.3).

Excluded:

1. Permits.
2. Fees.

Included Bid Alternates

The following Bid Alternates are included within the Scope of Work:

No Bid Alternates

ARTICLE 2: SCHEDULE

Section 2.01 Contract Time/Schedule Constraints

All Work shall be complete within **60 calendar days** of the commencement date stated in the Notice to Proceed.

The Contractor is required to submit a Contract Schedule for the activities within its scope of Work according to the requirements specified in General Conditions Section 00 72 00, Article 13, Time of Work, which shall include the following requirements or milestones:

Submittals complete:	35 days following NTP
Substantial completion	***No later than*** 30 prior to final completion
Punch list completion	***No later than*** **date of final completion**
Close-out documents submitted	***No later than*** **date of final completion**

The Contract Schedule shall include 5 days for weather delays. The Contractor shall not be entitled to an extension of time for weather delays unless the number of days of weather delay exceeds the number of days required in the Schedule for weather delays.

The District will occupy the Site during the entire period of construction for the conduct of normal operations. The Contractor shall cooperate with the District to minimize conflict, and to facilitate the District's operations.

Section 2.02 Liquidated Damages

In the event of failure on the part of the Contractor to substantially complete the Work, or any portion thereof identified by Milestones, or to complete the overall Project within the Contract Time, including any approved extensions thereof, the Contractor shall pay District liquidated damages for each calendar day of delay until completion of the milestone or the Project. The liquidated damages for substantial completion of each Milestone (if stated) and for the Project are separate, and may be accumulated if substantial completion of more than one Milestone is delayed concurrently.

The amount of liquidated damages is indicated below:

Substantial completion of the Project	**$2,500/calendar day**
Final completion of the Project	**$100/calendar day**

ARTICLE 3: ALLOWANCES

Section 3.01 Allowance Amounts.

The Contract Documents include the following allowances for the specified purposes:

DSA Allowance	**$250,000**
Total Allowance	**$250,000 of Bid**

Section 3.02 Application of Allowances.
Allowances shall be used efficiently and expeditiously to minimize cost and delay to the Project. Prior to commencing any work that would result in the utilization of an Allowance, Contractor shall give the District written notice of its request to use such funds, and the specific Allowance to be used if more than one Allowance is included in the Contract. Contractor shall specify whether it proposes to perform the Allowance work for a lump sum or at force account. The District shall respond to Contractor's requested use of Allowance funds within five (5) business days of receipt of the request. The District's response shall either a) approve of the use of the Allowance, b) approve the use of the Allowance but propose a different amount, c) deny the use of the Allowance and specify the reason, or d) request further information to evaluate the requested use of the Allowance. If the Contractor commences the work without giving the District the required written notice, the Contractor shall, for all purposes, be deemed to have waived its rights to additional compensation for such work.

Section 3.03 Documenting Use of Allowances.
The Contractor's monthly pay application shall include Allowance amounts used and remaining. If the Allowance is approved by force account, the Contractor shall separately track all labor, materials, and equipment used for the Work to be covered by the Allowance and shall submit such documentation to the District Representative at the end of each working day for review and approval.

ARTICLE 4: ADDITIONAL INSURANCE

Section 4.01 Insurance Requirements.

The limits of Insurance required by Section 00 72 00 – General Conditions, Article 3, are modified as follows:

No Modifications

EXHIBIT A – School Year Calendar

Sacramento City Unified School District

Human Resource Services

Traditional Student Attendance Calendar

2026-27 School Year

JULY							
S	M	T	W	T	F	S	
			1	2	3	4	0
5	6	7	8	9	10	11	0
12	13	14	15	16	17	18	0
19	20	21	22	23	24	25	0
26	27	28	29	30	31		0
						Days:	0

AUGUST							
S	M	T	W	T	F	S	
						1	0
2	3	4	5	6	7	8	0
9	10	11*	12	13	14	15	4
16	17	18	19	20	21	22	5
23	24	25	26	27	28	29	5
30	31						1
						Days:	15

SEPTEMBER							
S	M	T	W	T	F	S	
		1	2	3	4	5	4
6	7	8	9	10	11	12	4
13	14	15	16	17	18	19	5
20	21	22	23	24	25	26	5
27	28	29	30				3
						Days:	21

OCTOBER							
S	M	T	W	T	F	S	
				1	2	3	2
4	5	6	7	8	9	10	5
11	12	13	14	15	16	17	4
18	19	20	21	22	23	24	5
25	26	27	28	29	30	31	5
						Days:	21

NOVEMBER							
S	M	T	W	T	F	S	
1	2	3	4	5	6	7	5
8	9	10	11	12	13	14	4
15	16	17	18	19	20	21	5
22	23	24	25	26	27	28	0
29	30						1
						Days:	15

DECEMBER							
S	M	T	W	T	F	S	
		1	2	3	4	5	4
6	7	8	9	10	11	12	5
13	14	15	16	17	18	19	5
20	21	22	23	24	25	26	0
27	28	29	30	31			0
						Days:	14

JANUARY							
S	M	T	W	T	F	S	
					1	2	0
3	4	5	6	7	8	9	4
10	11	12	13	14	15	16	5
17	18	19	20	21	22	23	4
24	25	26	27	28	29	30	5
31							0
						Days:	18

FEBRUARY							
S	M	T	W	T	F	S	
	1	2	3	4	5	6	5
7	8	9	10	11	12	13	4
14	15	16	17	18	19	20	4
21	22	23	24	25	26	27	5
28							0
						Days:	18

MARCH							
S	M	T	W	T	F	S	
	1	2	3	4	5	6	5
7	8	9	10	11	12	13	5
14	15	16	17	18	19	20	5
21	22	23	24	25	26	27	0
28	29	30	31				2
						Days:	17

APRIL							
S	M	T	W	T	F	S	
				1	2	3	2
4	5	6	7	8	9	10	5
11	12	13	14	15	16	17	5
18	19	20	21	22	23	24	5
25	26	27	28	29	30		5
						Days:	22

MAY							
S	M	T	W	T	F	S	
						1	0
2	3	4	5	6	7	8	5
9	10	11	12	13	14	15	5
16	17	18	19	20	21	22	5
23	24	25	26	27*	28	29	4
30	31						0
						Days:	19

JUNE							
S	M	T	W	T	F	S	
		1	2	3	4	5	0
6	7	8	8	10	11	12	0
13	14	15	16	17	18	19	0
20	21	22	23	24	25	26	0
27	28	29	30				0
						Days:	0

Legend/Key	
*	First/Last Day of School
	Non-School Days
	School Semester Start/End

of School Days (Students)
180

EXHIBIT B – Index of Drawings / Scope of Work Exhibits

MODULAR CLASSROOM RELOCATION

GENEVIEVE DIDION K-8 SCHOOL
6490 HARMON DRIVE
SACRAMENTO, CA 95826

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

ABBREVIATIONS LIST

A:	
&	AND
A.B.	ANCHOR BOLT
A.C.	ASPHALT CONCRETE
A/C	AIR CONDITIONING
ACC.	ACCESSIBLE
ACOUST.	ACOUSTICAL
A.A.	AREA DRAIN
ADJ.	ADJUSTABLE
A.F.F.	ABOVE FINISH FLOOR
AGGR.	AGGREGATE
ALUM.	ALUMINUM
APPROX.	APPROXIMATE
ARCH.	ARCHITECT(URAL)
B:	
B&B	BOARD AND BATTEN
BD.	BOARD
BLDG.	BUILDING
BLK'G.	BLOCKING
BM.	BEAM
B.M.	BENCH MARK
BTTM.	BOTTOM
B.U.R.	BUILT UP ROOFING
C:	
C.B.	CATCH BASIN
C.I.	CAST IRON
C.J.	CONSTRUCTION JOINT
CLF	CHAIN LINK FENCE
CLG.	CEILING
CLR.	CLEAR
CLKG.	CAULKING
CNTR.	COUNTER
C.O.	CLEAN OUT
COL.	COLUMN
CONC.	CONCRETE
COND.	CONDITION
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
C.O.T.G.	CLEAN OUT TO GRADE
C.A.	CONTROL POINT
CTSK.	COUNTERSUNK
D:	
DBL.	DOUBLE
D.F.	DRINKING FOUNTAIN
DEPT.	DEPARTMENT
DTL.	DETAIL
D.I.	DROP INLET
DIAG.	DIAGONAL
DIM.	DIMENSION
DN.	DOWN
DR.	DOOR
D.S.	DOWN SPOUT
D.S.P.	DRY STANDPIPE
DWG.	DRAWING
E:	
E	EAST
(E)	EXISTING
EA.	EACH
E.D.F.	ELECTRIC DRINKING FOUNTAIN
E.F.	EXHAUST FAN
E.J.	EXPANSION JOINT
ELEC.	ELECTRICAL
ELEV.	ELEVATION
EMER.	EMERGENCY
ENCL.	ENCLOSURE
E.P.	ELECTRICAL PANEL
EQ.	EQUAL
EQUIP.	EQUIPMENT
E.W.	EACH WAY
EXPO.	EXPOSED
EXP.	EXPANSION
EXT.	EXTERIOR
F:	
F.A.	FIRE ALARM
F.B.	FLAT BAR
F.C.	FRAMING CLIP
F.D.	FLOOR DRAIN
FDN.	FOUNDATION
F.F.	FINISH FACE
F.E.	FIRE EXTINGUISHER
F.L.	FLOW LINE
FLR.	FLOOR
F.O.C.	FACE OF CONCRETE
F.O.F.	FACE OF FINISH
F.O.M.	FACE OF MASONRY
F.O.W.	FACE OF WALL
F.P.	FIREPROOF
F.R.P.	FIBERGLASS REINFORCED PANEL
F.O.S.	FACE OF STUD
F.S.D.	FIRE SMOKE DAMPER
FT.	FOOR OR FEET
FTG.	FOOTING
F.V.	FIELD VERIFY
G:	
GA.	GAUGE
GALV.	GALVANIZED
G.C.	GENERAL CONTRACTOR
G.I.	GALVANIZED IRON
GLU-LAM	GLUE LAMINATER
GND.	GROUND
GYP. BD.	GYPSUM WALLBOARD
H:	
A.B.	HOSE BIB
A.C.	HOLLOW CORE
HDWD.	HARDWOOD
HDBD.	HARDBOARD
HDWE.	HARDWARE
H.M.	HOLLOW METAL
HORIZ.	HORIZONTAL
HR.	HOUR
HT.	HEIGHT
I-J-K-L:	
I.D.	INSIDE DIAMETER
I.E.	INVERT ELEVATION
ISA	INTERNATIONAL SYMBOL OF ACCESSIBILITY
INSUL.	INSULATION
INT.	INTERIOR
J.B.	JUNCTION BOX
J.H.	JOIST HANGER
JT.	JOINT
KIT.	KITCHEN
LAB.	LABORATORY
LAM.	LAMINATE
LAV.	LAVATORY
LT.	LIGHT
L.H.	LEFT HAND
M:	
MAX.	MAXIMUM
M.C.	MEDICINE CABINET
MECH.	MECHANICAL
MEMB.	MEMBRANE
MFR.	MANUFACTURER
M.H.	MANHOLE
MIN.	MINIMUM
MISC.	MISCELLANEOUS
M.O.	MASONRY OPENING
MTL.	METAL
N:	
N.	NORTH
(N)	NEW
N.I.C.	NOT IN CONTRACT
NOM.	NOMINAL
N.T.S.	NOT TO SCALE
O:	
OBS.	OBSCURE
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED OWNER INSTALLED
O.H.	OVERHEAD OR OVERHANG
OPNG.	OPENING
OPP.	OPPOSITE
O/	OVER
P:	
PART.	PARTITION
P.B.	PANIC BAR
P.L.	PROPERTY LINE
P.LAM.	PLASTIC LAMINATE
PLAS.	PLASTER
PLYWD.	PLYWOOD
P.M.	PRESSED METAL
P.O.C.	POINT OF CONNECTION
PR.	PAIR
PROP.	PROPERTY
P.S.F.	POUNDS PER SQUARE FOOT
P.S.I.	POUNDS PER SQUARE INCH
P.T.	PRESSURE TREATED
Q-R	
Q.T.	QUARRY TILE
R.	RISER
RAD.	RADIUS
R.D.	ROOF DRAIN
R.E.	RIM ELEVATION
REBAR	REINFORCING BAR
REF.	REFERENCE
REQ'D.	REQUIRED
RM.	ROOM
R.O.	ROUGH OPENING
RWD.	REDWOOD
R.W.L.	RAIN WATER LEADER
S:	
S.	SOUTH
S.B.	SPLASH BLOCK
S.D.	STORM DRAIN
SEC.	SECURITY
S.C.	SOLID CORE
SCHED.	SCHEDULE
SECT.	SECTION
SHT.	SHEET
SHTG.	SHEATHING
SIM.	SIMILAR
S.M.	SHEET METAL
S.M.S.	SHEET METAL SCREW
SPEC'S.	SPECIFICATIONS
SQ.	SQUARE
S.STL.	STAINLESS STEEL
STD.	STANDARD
STL.	STEEL
STRUCT.	STRUCTURAL
S.T.S.M.S.	SELF TAPPING SHEET METAL SCREW
S.S	SANITARY SEWER
S/S	SERVICE SINK
SUSP.	SUSPENDED
SYM.	SYMMETRICAL
T:	
T.O.C.	TOP OF CURB
T&G	TOUNGE & GROOVE
T.O.C.	TOP OF CONCRETE
T.O.F.	TOP OF FRAMING
T.O.S.	TOP OF STEEL
TOT.	TOTAL
T.O.W.	TOP OF WALL
T.P.	TOP OF PAVING
TS	STRUCTURAL TUBE
TYP.	TYPICAL
U:	
U.N.O.	UNLESS NOTED OTHERWISE
UNF.	UNFINISHED
V:	
V.C.T.	VINYL COMPOSITION TILE
V.C.F.	VINYL COATED FABRIC
VEN.	VENDER
VERT.	VERTICAL
V.T.B.	VINYL TABK BOARD
V.W.C.	VINYL WALL COVERING
W:	
W/	WITH
W.C.	WATER CLOSET
WD.	WOOD
W.H.	WATER HEATER
W.M.	WATERPROOF MEMBRANE
W/O	WITHOUT
W.R.	WATER RESISTANT
WT.	WEIGHT
W.W.F.	WELDED WIRE FABRIC

SYMBOLS LEGEND

- CONCRETE
- CONCRETE BLOCK
- A.C. PAVING
- CERAMIC TILE OR BRICK
- SAND MORTAR OR PLASTER
- AGGREGATE
- EARTH
- METAL
- PLYWOOD
- GYPSUM BOARD
- GLASS
- WOOD FRAMING (CONT. MEMBER)
- WOOD FRAMING (BLOCKING)
- WOOD MEMBER (FINISHED)
- INSULATION
- ROOM NUMBER
- WINDOW TYPE
- DOOR NUMBER
- GRID LINE/NUMBER
- GRID CENTER LINE/NUMBER
- SECTION NUMBER / SHEET WHERE SECTION IS DRAWN
- DETAIL NUMBER / SHEET WHERE DETAIL IS DRAWN
- LOCATION NUMBER / SHEET WHERE ENLARGED PLAN IS DRAWN
- ELEVATION NUMBER / SHEET WHERE ELEVATION IS DRAWN
- EQUIPMENT NUMBER
- PARTITION TYPE
- KEYNOTE
- REVISION NUMBER
- MATCH LINE
- DATUM, WORK OR CONTROL NUMBER
- ANGLE
- DIAMETER OR ROUND
- PERPENDICULAR
- POUND OR NUMBER
- CENTERLINE
- PLATE OR PROPERTY LINE

DEFERRED APPROVAL

1. NONE

NOTE

THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE CONSTRUCTION IS TO BE IN ACCORDANCE WITH 2025 TITLE 24, CALIFORNIA CODE OF REGULATIONS.

SHOULD ANY CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE THESE DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS, A CONSTRUCTION CHANGE DOCUMENT, OR A SEPARATE SET OF PLANS AND SPECIFICATIONS DETAILING AND SPECIFYING THE REQUIRED WORK, SHALL BE SUBMITTED TO AND APPROVED BY DIVISION OF THE STATE ARCHITECT BEFORE PROCEEDING WITH THE WORK.

INSPECTOR

A DSA CERTIFIED PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE DIVISION OF THE STATE ARCHITECT SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR. CLASS 3 INSPECTOR REQUIRED.

OWNER

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
5735 47th AVENUE
SACRAMENTO CA 95824
CONTACT: ANTHONY LEA
OFFICE: (916) 317-9480
E-MAIL: Anthony-Lea@scusd.edu

ARCHITECT

HMR ARCHITECTS
2130 21st STREET
SACRAMENTO CA 95818
CONTACT: KIM DEMONGEY
OFFICE: (916) 736-2724
E-MAIL: kimd@hmrarchitects.com

CIVIL ENGINEER

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1117 WINDFIELD WAY, SUITE 110
EL DORADO HILLS CA 95762
CONTACT: ANTHONY TASSANO
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MECHANICAL ENGINEER

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PLUMBING ENGINEER

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ELECTRICAL ENGINEER

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OFFICE: (916) 368-4468
EMAIL: rh@saceng.com

GENERAL NOTES

1. ALL WORK IS NEW UNLESS SPECIFICALLY NOTED AS (E) EXISTING. ALL WORK SHALL BE BY G.C. UNLESS SPECIFICALLY NOTED BY OWNER, BY OTHERS, OR BY N.I.C.
2. CONTRACTOR SHALL VISIT THE SITE PRIOR TO HIS BID TO DETERMINE ACTUAL JOB SITE CONDITIONS AND REQUIRED EXTENT OF WORK FOR THIS PROJECT.
3. CONTRACTOR SHALL VERIFY SACRAMENTO CITY UNIFIED SCHOOL DISTRICT (SCUSD) REQUIREMENTS FOR WORK HOURS, ETC. WITH SCUSD PROJECT MANAGER PRIOR TO BIDDING AND COMMENCEMENT OF WORK. CONTRACTOR SHALL COMPLY WITH ALL SCUSD REQUIREMENTS.
4. CONTRACTOR SHALL PROVIDE A JOB SITE PHONE & EMAIL WITHIN 5 WORKING DAYS AND INFORM ARCHITECT OF PHONE NUMBER AT CONSTRUCTION KICK-OFF MEETING. G.C. SHALL MAINTAIN A COMPUTER W/ EMAIL CAPABILITIES ON SITE AT ALL TIMES.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING EXISTING CONDITIONS AND NOTING ANY DISCREPANCIES WITH THE CONTRACT DOCUMENTS PRIOR TO BIDDING THE PROJECT. CONTRACTOR SHALL CONTACT ARCHITECT FOR RESOLUTION PRIOR TO PROCEEDING WITH RELATED WORK. OTHERWISE, CONTRACTOR IS RESPONSIBLE FOR CORRECTIONS AT NO EXTRA COST TO OWNER.
6. G.C. SHALL BE SOLELY RESPONSIBLE FOR OBTAINING ALL FINISH MATERIALS & EQUIPMENT AS SPECIFIED HEREIN. ANY DEVIATION IN COST DUE TO SHIPPING DELAYS, MATERIAL UPGRADES, SHALL BE BORN BY THE G.C. ALL MATERIALS NOT IDENTIFIED AS PROBLEMS PRIOR TO BID, SHALL BE THE RESPONSIBILITY OF THE G.C. TO SUPPLY AS NOTED ON THE BID FORM.
7. ALL DEMOLITION IS INCLUDED IN THE BASE BID. CONTRACTOR SHALL PROVIDE ALL DEMOLITION NECESSARY TO COMPLETE ALL NEW WORK AS INDICATED ON THE PLANS.
8. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL ADJACENT WORK AND SHALL COORDINATE WITH ALL OTHER TRADES SO AS TO FACILITATE THE GENERAL PROGRESS OF THE WORK. EACH TRADE SHALL AFFORD ALL OTHER TRADES EVERY REASONABLE OPPORTUNITY FOR THE INSTALLATION OF THEIR WORK AND FOR THE STORAGE OF THEIR MATERIAL.
9. GENERAL CONTRACTOR SHALL FIELD VERIFY ALL LOCATIONS AND QUANTITIES OF ITEMS TO BE REMOVED/REPLACED OR TO BE REINSTALLED PRIOR TO SUBMITTAL OF BID. G.C. SHALL NOTIFY ARCHITECT IN WRITING OF ANY DISCREPANCIES PRIOR TO THE BID DUE DATE FOR FURTHER CLARIFICATION - AS DEFINED IN BID INSTRUCTIONS.
10. G.C. WILL BE HELD RESPONSIBLE FOR COMPLETION OF ENTIRE WORK IN A MANNER/INTENT FOR THIS TYPE OF PROJECT REGARDLESS OF QUANTITIES SHOWN IN PLANS
11. ANY EXISTING ITEMS SHOWN WITHOUT NOTATION FOR REMOVAL SHALL BE PROTECTED THROUGHOUT DEMOLITION AND RENOVATIONS. G.C. WILL BE REQUIRED TO REPLACE ANY/ALL ITEMS TO REMAIN THAT ARE DAMAGED BY WORK AT NO ADDITIONAL COST TO SCUSD AND ALSO AT A QUALITY LEVEL EQUAL TO OR EXCEEDING THE ORIGINAL CONDITIONS.
12. SEE ALSO ENGINEERED DRAWINGS FOR FULL EXTENT OF THE DEMOLITION WORK.
13. ITEMS SHOWN TO BE REMOVED SHALL BE DISPOSED OF PROPERLY BY THE G.C. UNLESS OTHERWISE NOTED.
14. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR A CONSTRUCTION CHANGE DOCUMENT (CCD) APPROVED THE DIVISION OF THE STATE ARCHITECT, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR.
15. A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT.
16. GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS, AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.

SCOPE OF WORK

1. @ DIDION - REMOVAL OF (E) CLASSROOMS ON WOOD FOUNDATIONS & RAMPS IS BY OTHERS AND NOT PART OF THIS APPLICATION.
2. RELOCATION OF ONE 96x40 MODULAR BUILDING (4-24x40 CLASSROOMS) FROM FERN BACON MIDDLE SCHOOL TO GENEVIEVE DIDION. FERN BACON DSA APP #02-105101 FOR REFERENCE.
3. INSTALL CONCRETE FOUNDATION PER PC #02-101848 SO FINISH FLOOR OF MODULAR BUILDING IS FLUSH WITH EXTERIOR GRADE.
4. EXTEND EXISTING UTILITY UNDERGROUND FROM CAMPUS FOR CONNECTION TO BUILDING FOR POWER, GAS, DATA , FIRE ALARM, SECURITY, WATER, AND SEWER.
5. DISTRICT IS RESPONSIBLE FOR REMOVAL AND RELOCATION OF STORAGE UNITS FROM AREA OF NEW BUILDINGS. ALL STORAGE UNITS SHALL BE MINIMUM 20 CLEAR OF ALL EXISTING AND NEW BUILDING STRUCTURES.
6. ACCESSIBLE PATH OF TRAVEL UPGRADES FROM PARKING TO AREA OR WORK.
7. REPLACE FLOORING AND CEILING TILES AFTER BUILDING IS REASSEMBLED. PROVIDE PAINTING OF INTERIOR AND EXTERIOR.
8. REMOVE DRY ROTTED EXTERIOR T-1-1 SIDING PER SIDE AS NEEDED AND PATCH BACK WITH MATCHING.

PROJECT CODE DATA

DSA NUMBERS	APPLICATION #02-XXXXXX FILE #XX-XX
PTN NUMBER	67439-559
CODE	2025 CBC

CONSTRUCTION SHALL COMPLY WITH TITLE 24, CALIFORNIA CODE REGULATIONS, INCLUDING THE FOLLOWING:

2025 CALIFORNIA ADMINISTRATIVE CODE, CCR, TITLE 24, PART 1
2025 CALIFORNIA BUILDING CODE, VOL. 1 & 2, CCR, TITLE 24, PART 2
2025 CALIFORNIA ELECTRICAL CODE, CCR, TITLE 24, PART 3
2025 CALIFORNIA MECHANICAL CODE, CCR, TITLE 24, PART 4
2025 CALIFORNIA PLUMBING CODE, CCR, TITLE 24, PART 5
2025 CALIFORNIA FIRE CODE, CCR, TITLE 24, PART 9
2025 CALIFORNIA EXISTING BUILDING CODE, CCR, TITLE 24, PART 10
STATE FIRE MARSHAL REGULATIONS, CCR, TITLE 19, PUBLIC SAFETY

NFPA 17:	DRY CHEMICAL EXTINGUISHING SYSTEMS,	2024 EDITION
NFPA 24:	PRIVATE FIRE MAINS & THEIR APPURTENANCES,	2025 EDITION
NFPA 72	NATIONAL FIRE ALARM & SIGNALING CODE,	2025 EDITION

APN:	03002410010000
OCCUPANCY CLASSIFICATION AND USE:	E1
BUILDING CONSTRUCTION TYPE:	V, NO HOUR
NUMBER OF STORIES:	ONE STORY
AREA OF WORK:	MODULAR CLASSROOM (40'x96') 3,840 SF
OCCPANCY LOAD FACTOR:	20 NET SF/OCCUPANT
OCCUPANCY:	960 SF / 20 = 48 OCC./CLASSROOM
FIRE SPRINKLERED:	N/A
FIRE ALARM :	YES. FULLY AUTOMATIC

CONTRACTOR SHALL COMPLY WITH CFC CHAPTER 33 FIRE SAFETY DURING DEMOLITION AND CONSTRUCTION

SHEET INDEX

FOR SITE WORK ONLY

ARCHITECTURAL

A0	COVER SHEET
AS1	OVERALL SITE PLAN
AD1	REFERENCE DEMO PLAN
AS2	ENLARGED SITE PLANS
AS3	SITE DETAILS
	5 SHEETS

CIVIL

C0.1	CIVIL GENERAL NOTES AND ABBREVIATIONS
C0.2	TOPOGRAPHIC LEGEND AND ABBREVIATIONS
C0.3	TOPOGRAPHIC SURVEY
C1.1	DEMOLITION PLAN
C2.1	GRADING PLAN
C3.1	UTILITY PLAN
C4.1	PAVING AND STRIPING PLAN
C5.1	DETAILS AND SECTIONS
	8 SHEETS

PLUMBING

P0.1	PLUMBING NOTES, LEGEND, AND SCHEDULES
P1.0	OVERALL PLUMBING SITE PLAN
P2.0	ENLARGED PLUMBING SITE PLAN
	3 SHEETS

ELECTRICAL

E0.1	ELECTRICAL SCHEDULES, SYMBOLS & NOTES
E0.2	ONE LINE DIAGRAM, DETAILS & NOTES
E0.3	ELECTRICAL DETAILS
E2.0	ELECTRICAL SITE DEMOLITION PLAN & NOTES
E2.1	ELECTRICAL SITE PLAN & NOTES
E3.0	ELECTRICAL POWER, SIGNAL, FIRE ALARM PLANS & NOTES
	6 SHEETS

TOTAL SHEETS = 22

TOTAL WITH PC DWGS = 39 SHEETS

BUILDING SHEET INDEX

(AMERICAN MODULAR)
PC DWGS #02-101848 / 96'x40'

FOR REFERENCE ONLY
NOT PART OF SITE WORK PACKAGE

TS-1	TITLE & BUILDING DATA NOTES
N-1	GENERAL NOTES
1	FLOOR PLAN & NOTES
1A	FLOOR PLAN
2	EXTERIOR ELEVATIONS
3	CEILING GRID, DETAILS & NOTES
4	INTERIOR ELEVATIONS & OPTIONAL PLANS
S1	FOUNDATION PLAN & DETAILS
S1B	FOUNDATION DETAILS
S2	FLOOR FRAMING PLANS & DETAILS
S2A	BUILDING SECTIONS & WALL DETAILS
S3	ROOF FRAMING PLAN & DETAILS
S3A	ROOF FRAMING DETAILS
S4	FRAMING ELEVATIONS & DETAILS
M1	MECHANICAL PLAN, DETAILS & NOTES
E1	ELECTRICAL LIGHTING PLAN, DETAILS & NOTES
E2	ELECTRICAL PLAN DETAILS & NOTES
	17 SHEETS

TOTAL WITH PC DWGS = 17 SHEETS

STATEMENT OF GENERAL CONFORMANCE

THESE DRAWINGS AND/OR SPECIFICATIONS AND/OR CALCULATIONS FOR THE ITEMS LISTED ABOVE HAVE BEEN PREPARED BY OTHER DESIGN PROFESSIONALS OR CONSULTANTS WHO ARE LICENSED AND/OR AUTHORIZED TO PREPARE SUCH DRAWINGS IN THIS STATE. THESE DOCUMENTS HAVE BEEN EXAMINEDBY ME FOR DESIGN INTENT AND APPEAR TO MEET THE APPROPRIATE REQUIREMENTS OF TITLE 24, CALIFORNIA CODE OF REGULATIONS AND THE PROJECT SPECIFICATIONS PREPARED BY ME.

THE ITEMS LISTED ABOVE HAVE BEEN COORDINATED WITH MY PLANS AND SPECIFICATIONS ARE ACCEPTABLE FOR INCORPORATION INTO THE CONSTRUCTION OF THIS PROJECT FOR WHICH I AM THE INDIVIDUAL DESIGNATED TO BE IN GENERAL RESPONSIBLE CHARGE (OR FOR WHICH I HAVE BEEN DELEGATED RESPONSIBILITY FOR THIS PORTION OF THE WORK.)

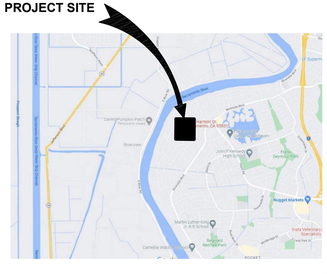
SIGNATURE OF THE ARCHITECT
SCOTT PULLEN, PRINCIPAL, HMR ARCHITECTS

DATE

C24706
LICENSE NUMBER

DECEMBER 31, 2027
EXPIRATION DATE

VICINITY MAP



NOT TO SCALE

NORTH

HMR ARCHITECTS
2130 21st Street
Sacramento, CA 95818
T 916 736 2724

MODULAR CLASSROOM RELOCATION

GENEVIEVE DIDION K-8 SCHOOL

6490 HARMON DRIVE SACRAMENTO, CA 95831

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

REVISIONS

NO.	DESCRIPTION	DATE

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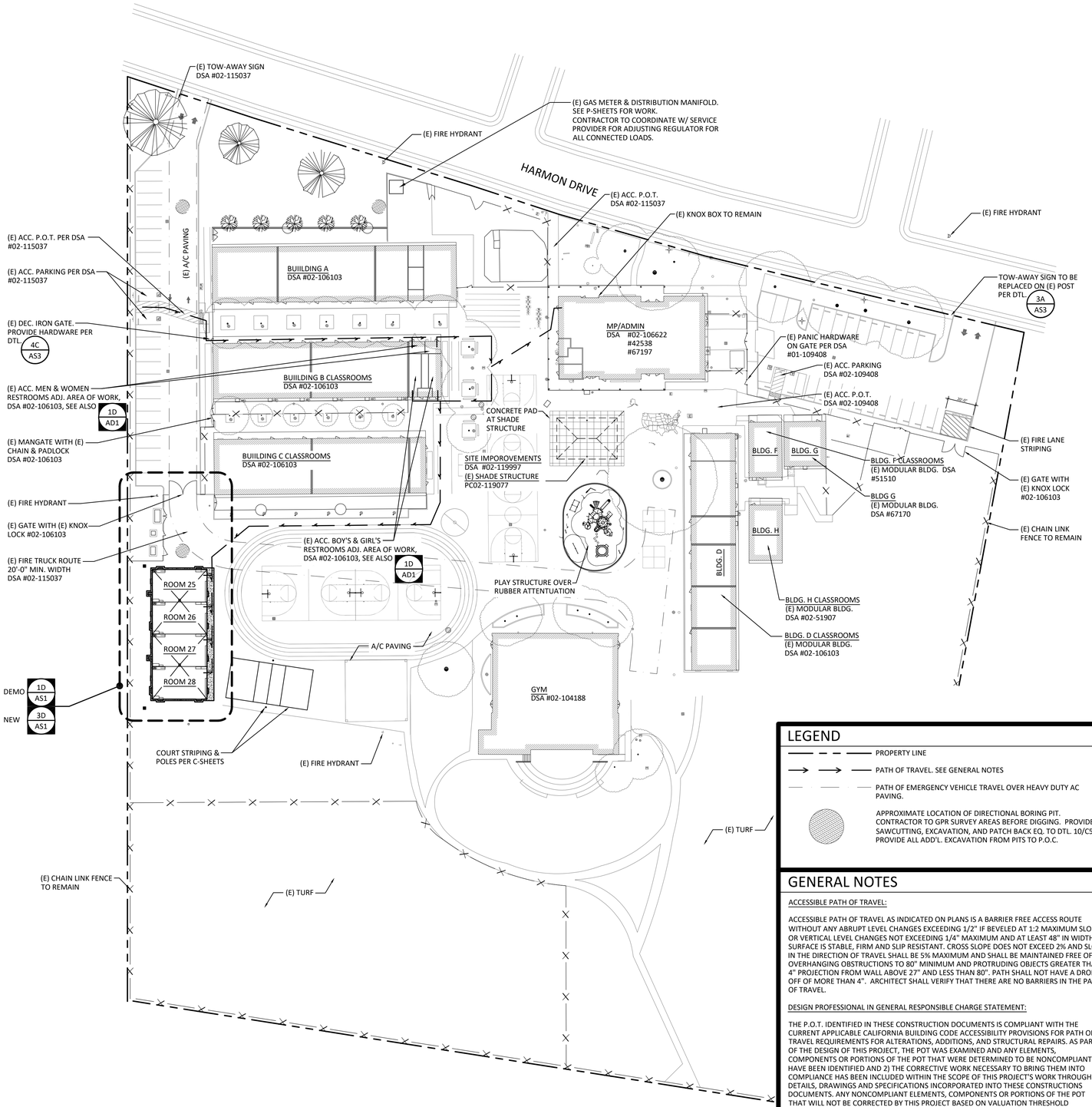
COVER SHEET

MAY 12, 2026

DRAWN BY: LR
CHECKED BY: BF
JOB NO. 26009

A0

4/23/2026 11:34 AM BRYANE
E:\SCHOOLS\SAC CITY UNIFIED\26009 DIDION PORTABLES RELO\A0 COVER SHEET.DWG



LEGEND

- PROPERTY LINE
- PATH OF TRAVEL. SEE GENERAL NOTES
- PATH OF EMERGENCY VEHICLE TRAVEL OVER HEAVY DUTY AC PAVING.
- APPROXIMATE LOCATION OF DIRECTIONAL BORING PIT. CONTRACTOR TO GPR SURVEY AREAS BEFORE DIGGING. PROVIDE SAWCUTTING, EXCAVATION, AND PATCH BACK EQ. TO DTL. 10/C5.1 PROVIDE ALL ADD'L. EXCAVATION FROM PITS TO P.O.C.

GENERAL NOTES

ACCESSIBLE PATH OF TRAVEL:

ACCESSIBLE PATH OF TRAVEL AS INDICATED ON PLANS IS A BARRIER FREE ACCESS ROUTE WITHOUT ANY ABRUPT LEVEL CHANGES EXCEEDING 1/2" IF BEVELED AT 1:2 MAXIMUM SLOPE OR VERTICAL LEVEL CHANGES NOT EXCEEDING 1/4" MAXIMUM AND AT LEAST 48" IN WIDTH. SURFACE IS STABLE, FIRM AND SLIP RESISTANT. CROSS SLOPE DOES NOT EXCEED 2% AND SLOPE IN THE DIRECTION OF TRAVEL SHALL BE 5% MAXIMUM AND SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM WALL ABOVE 27" AND LESS THAN 80". PATH SHALL NOT HAVE A DROP OFF OF MORE THAN 4". ARCHITECT SHALL VERIFY THAT THERE ARE NO BARRIERS IN THE PATH OF TRAVEL.

DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE STATEMENT:

THE P.O.T. IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS IS COMPLIANT WITH THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE ACCESSIBILITY PROVISIONS FOR PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS, ADDITIONS, AND STRUCTURAL REPAIRS. AS PART OF THE DESIGN OF THIS PROJECT, THE POT WAS EXAMINED AND ANY ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WERE DETERMINED TO BE NONCOMPLIANT 1) HAVE BEEN IDENTIFIED AND 2) THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECT'S WORK THROUGH DETAILS, DRAWINGS AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTIONS DOCUMENTS. ANY NONCOMPLIANT ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WILL NOT BE CORRECTED BY THIS PROJECT BASED ON VALUATION THRESHOLD LIMITATIONS OR A FINDING OF UNREASONABLE HARDSHIP ARE SO INDICATED IN THESE CONSTRUCTION DOCUMENTS.

DURING CONSTRUCTION, IF POT ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CODE COMPLIANT ARE FOUND TO BE NONCONFORMING BEYOND REASONABLE CONSTRUCTION TOLERANCES, THEY SHALL BE BROUGHT INTO COMPLIANCE WITH THE CBC AS A PART OF THIS PROJECT BY MEANS OF A CONSTRUCTION CHANGE DOCUMENT.

REF. NORTH
TRUE NORTH

2D AS1 OVERALL SITE PLAN

SCALE: 1"=40'

4/23/2026 7:33 AM BRYANF
E:\SCHOOLS\SAC CITY UNIFIED\26009 DIDION PORTABLES RELO\AS1 SITE PLANS.DWG

HMR ARCHITECTS
2130 21st Street
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MODULAR CLASSROOM RELOCATION

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OVERALL SITE PLAN

MAY 12, 2026

DRAWN BY: LR
CHECKED BY: BF
JOB NO. 26009

AS1

KEYNOTES:

- F1 (E) ACCESSIBLE LAV
- F2 (E) ACCESSIBLE WATER CLOSET WITH 36" MIN. REAR GRAB BAR AND 42" MIN. SIDE GRAB BAR
- F3 (E) 30 x 48 CLEAR FLOOR SPACE
- F4 (E) WALL MOUNTED ACCESSIBLE URINAL
- F5 (E) TOILET PARTITION
- F6 (E) 60x56 MANEUVERING SPACE W/ 60"x48" CLEAR SPACE
- F7 (E) 3'-0" DOOR, REMOVE SIGNAGE & REPLACE W/ WALL/DOOR SIGNAGE PER DTL. 4D / AD1
- F8 (E) ACCESSORIES MOUNTED AT 40" MAX. TO HIGHEST OPERABLE MECHANISM AND PROJECTS 4" MAX.
- F9 (E) ACCESSIBLE HI-LO DRINKING FOUNTAIN

GENERAL NOTES:

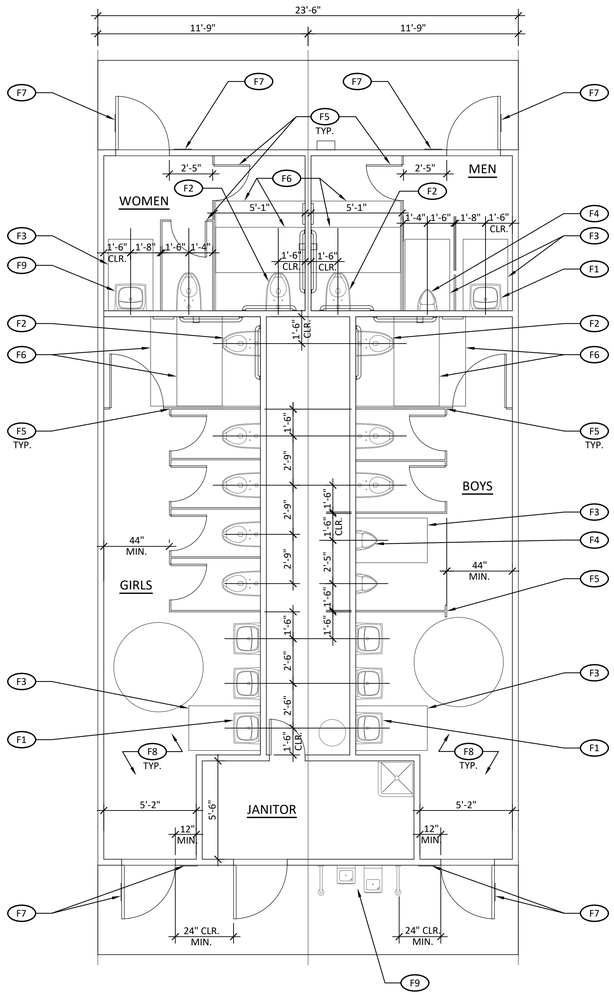
THESE ELEMENTS HAVE BEEN REVIEWED AND COMPLY WITH CURRENT CODE. ANY NON-COMPLIANT ELEMENTS FOUND DURING CONSTRUCTION SHALL BE CORRECTED PER:

FOR LAV, SEE 4C / AD1

FOR TOILET, SEE 3C / AD1

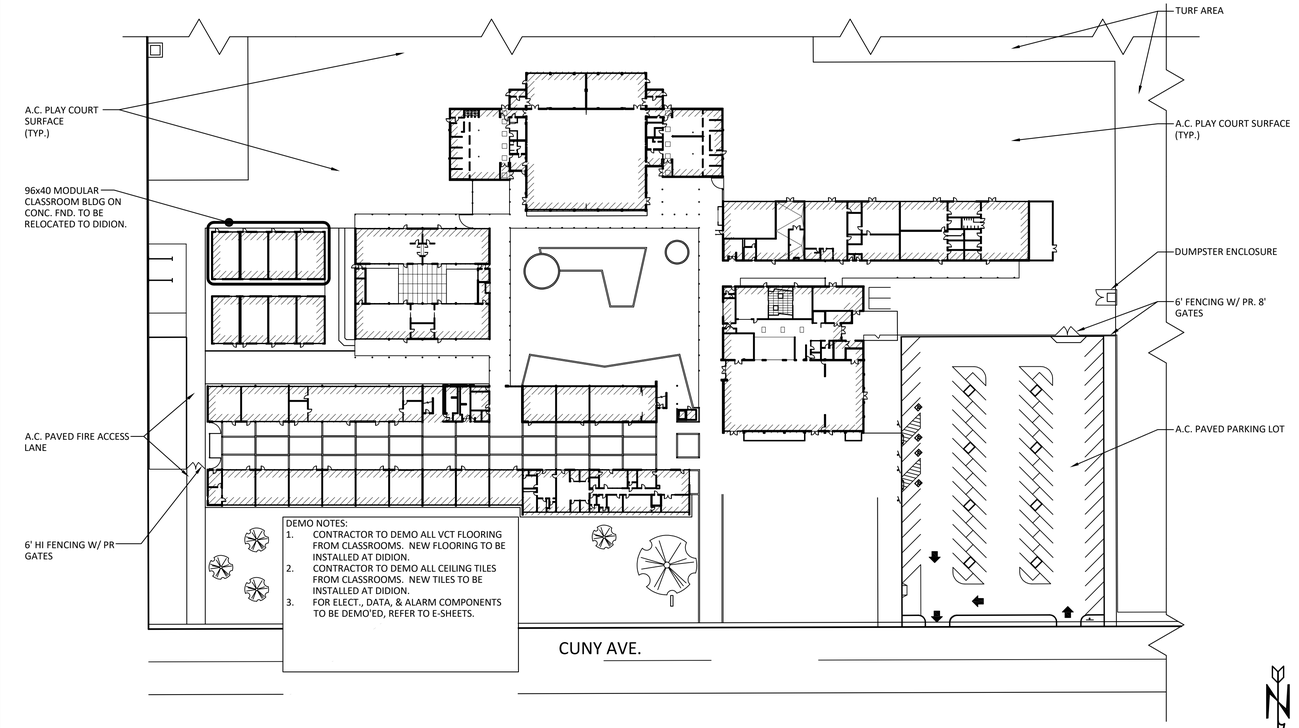
FOR ACCESSORIES, SEE 5C / AD1

FOR URINAL, SEE 3D / AD1



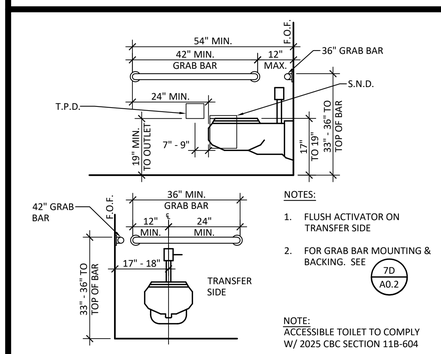
1D / AD1 (E) ACCESSIBLE RESTROOMS IN BUILDING B (DSA APP. #02-106103)

FILE: SCALE: 1/4"=1'-0"



3B / AD1 FERN BACON MIDDLE SCHOOL - REFERENCE SITE PLAN

FILE: SCALE: 1"=60'



NOTES:

1. FLUSH ACTIVATOR ON TRANSFER SIDE
2. FOR GRAB BAR MOUNTING & BACKING. SEE 7D / A0.2

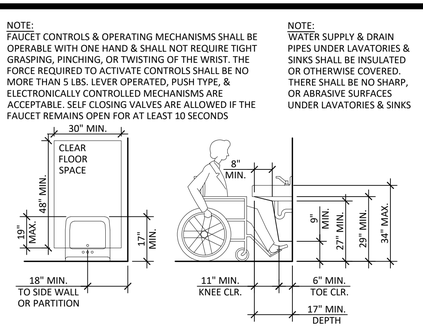
NOTE: ACCESSIBLE TOILET TO COMPLY W/ 2025 CBC SECTION 11B-604

3C / AD1 ACCESSIBLE TOILET REQUIREMENTS

FILE: SCALE: 1/2"=1'-0"

NOTE: FAUCET CONTROLS & OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND & SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO MORE THAN 5 LBS. LEVER OPERATED, PUSH TYPE, & ELECTRONICALLY CONTROLLED MECHANISMS ARE ACCEPTABLE. SELF CLOSING VALVES ARE ALLOWED IF THE FAUCET REMAINS OPEN FOR AT LEAST 10 SECONDS

NOTE: WATER SUPPLY & DRAIN PIPES UNDER LAVATORIES & SINKS SHALL BE INSULATED OR OTHERWISE COVERED. THERE SHALL BE NO SHARP, OR ABRASIVE SURFACES UNDER LAVATORIES & SINKS

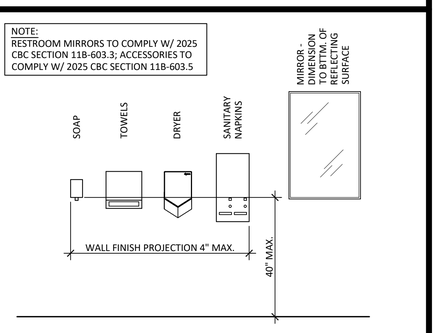


NOTE: ACCESSIBLE LAVATORIES TO COMPLY W/ 2025 CBC SECTIONS 11B-306 AND 11B-606

4C / AD1 ACCESSIBLE CLEARANCE AT LAVATORY

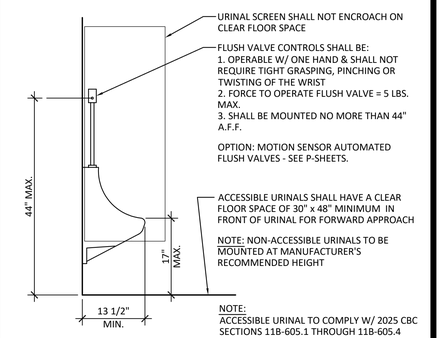
FILE: SCALE: 3/8"=1'-0"

NOTE: RESTROOM MIRRORS TO COMPLY W/ 2025 CBC SECTION 11B-603.3; ACCESSORIES TO COMPLY W/ 2025 CBC SECTION 11B-603.5



5C / AD1 RESTROOM ACCESSORIES

FILE: SCALE: 1/2"=1'-0"



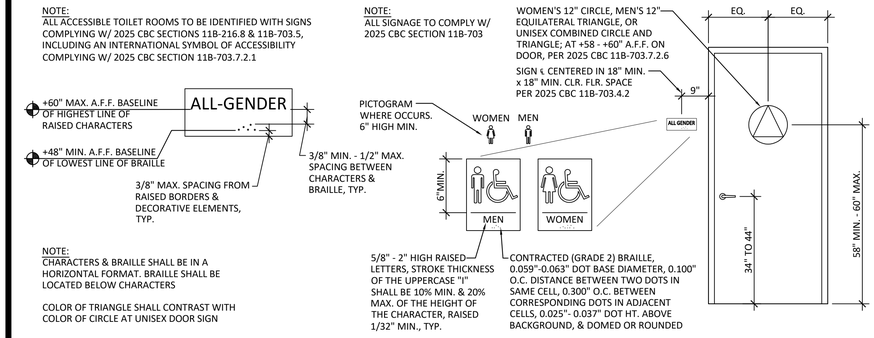
NOTE: ACCESSIBLE URINAL TO COMPLY W/ 2025 CBC SECTIONS 11B-605.1 THROUGH 11B-605.4

3D / AD1 ACCESSIBLE URINAL REQUIREMENTS

FILE: SCALE: 3/4"=1'-0"

NOTE: ALL ACCESSIBLE TOILET ROOMS TO BE IDENTIFIED WITH SIGNS COMPLYING W/ 2025 CBC SECTIONS 11B-216.8 & 11B-703.5, INCLUDING AN INTERNATIONAL SYMBOL OF ACCESSIBILITY COMPLYING W/ 2025 CBC SECTION 11B-703.7.2.1

NOTE: ALL SIGNAGE TO COMPLY W/ 2025 CBC SECTION 11B-703



NOTE: CHARACTERS & BRAILLE SHALL BE IN A HORIZONTAL FORMAT. BRAILLE SHALL BE LOCATED BELOW CHARACTERS

COLOR OF TRIANGLE SHALL CONTRAST WITH COLOR OF CIRCLE AT UNISEX DOOR SIGN

4D / AD1 ACCESSIBLE RESTROOM SIGNAGE

FILE: SCALE: 1/2"=1'-0"

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MODULAR CLASSROOM RELOCATION

GENEVIEVE DIDION K-8 SCHOOL

6490 HARMON DRIVE SACRAMENTO, CA 95831

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

REVISIONS

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REFERENCE DEMO PLAN

MAY 12, 2026

DRAWN BY: LR
CHECKED BY: BF
JOB NO. 26009

AD1

4/21/2026 1:19 PM BRYANF
E:\SCHOOLS\SAC CITY UNIFIED\26009 DIDION PORTABLES REL\AD1 DEMO SITE PLAN.DWG

DEMOLITION KEYNOTES

- D1 (E) 2-24x40 PORTABLE CLASSROOMS ON WOOD FOUNDATIONS TO BE RELOCATED. OFF SITE BY OTHERS. DISTRICT TO COORDINATE.
- D2 DEMO (E) A/C PAVING AND BASE TO ACCOMMODATE (N) MODULAR BLDG. SEE ALSO C-SHEETS & MANUF. DRAWINGS.
- D3 (E) ACCESSIBLE RAMP & LANDING TO BE RELOCATED OFF SITE BY OTHERS. DISTRICT TO COORDINATE.
- D4 (E) PR. 10' VEHICLE GATES W/ CENTER DROPPER ROD TO REMAIN.
- D5 (E) A/C PAVING TO REMAIN
- D6 (E) CONCRETE PAVING TO REMAIN
- D7 (E) CONC. CURB FLUSH W/ ADJ. PAVING TO BE REMOVED. SEE C-SHEETS FOR ADD'L. INFO.
- D8 (E) 6' HIGH CHAIN LINK FENCE AND GATE TO REMAIN
- D9 (E) 6" MAX. HIGH CONC. CURB @ LS AREA TO REMAIN.
- D10 (E) FIRE HYDRANT
- D11 (E) DRAIN INLET. SEE C-SHEETS FOR (N) WORK.
- D12 (E) 10' x 12' TUFF SHED. DISTRICT TO RELOCATE MIN. 20' CLR. OF OTHER STRUCTURES.
- D13 (3) 20' STL. STORAGE BOXES. DISTRICT TO RELOCATE MIN. 20' CLR. OF OTHER STRUCTURES.
- D14 (E) MAIN SWITCH BOARD ON CONCRETE PAD. SEE-SHEETS FOR WORK.
- D15 (E) ELECTRICAL TRANSFORMER ON CONCRETE PAD.
- D16 (E) SEWER CLEANOUT. SEE C-SHEETS.
- D17 (E) TREE TO REMAIN
- D18 (E) 6' HI DEC. IRON FENCING & GATES TO REMAIN.
- D19 (E) A/C PAVING DESIGNED AS EMERGENCY VEHICLE RATES. SEE OVERALL SITE PLAN FOR PATH.
- D20 TURF REMOVAL PER C-SHEETS
- D21 APPROXIMATE LOCATION OF DIRECTIONAL BORING PIT. CONTRACTOR TO GPR SURVEY AREAS BEFORE DIGGING. PROVIDE SAWCUTTING AND EXCAVATION AS REQ'D.

SITE PLAN KEYNOTES

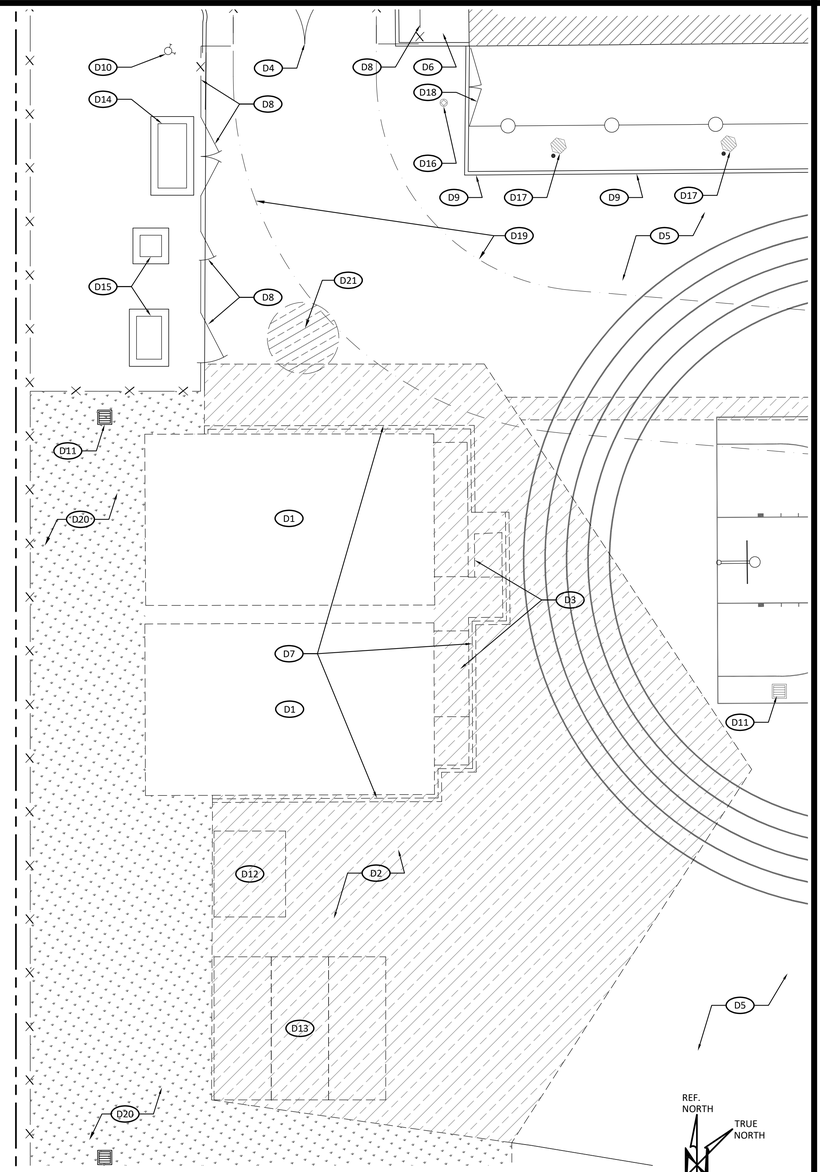
- S1 96x40 MODULAR BUILDING RELOCATED FROM FERN BACON TO BE INSTALLED FLUSH W/ GRADE ON (N) CONCRETE FOUNDATION. SEE BLD'G MANUF. DRAWINGS
- S2 PATCH BACK A/C PAVING. SEE C-SHEETS.
- S3 5' WIDE CONC. WALK. SEE C-SHEETS.
- S11 AREA DRAIN. SEE C-SHEETS & DTL. 5D / AS3
- S18 FOUNDATION VENT PER BLDG. MANUF. PLANS & DTL. 4B / AS3
- S19 FOUNDATION ACCESS VENT WELL PER BLDG. MANUF.
- S20 DOWEL CONC. WALK TO BLDG. PER DTL. 5B / AS3
- S21 (E) GAS FIRED HVAC UNIT TO BE CONNECTED TO SITE UTILITIES.
- S22 CONC. APRON PER DTL. 5C / AS2 & C-SHEETS
- S23 ROOM IDENTIFICATION SIGNAGE PER DTL. 5A / AS2
- S24 DOWNSPOUT CONNECTION TO UNDERGROUND W/ APRON JOINTS PER DTL. 4A / AS2 SEE ALSO C-SHEETS
- S25 DIRECTIONAL BORING PIT. PROVIDE PATCH BACK EQ. TO DTL. 10/C5.1

LEGEND

- DEMO (E) A/C PAVING FOR NEW A/C. SEE C-SHEETS
- DEMO & INSTALL TURF & SUBGRADE AS REQ'D. FOR (N) WORK. SEE ALSO C-SHEETS
- PAVING PATCH BACK PER C-SHEETS
- EXISTING 6' HIGH CHAINLINK FENCE TO REMAIN.
- EXISTING 6' HIGH DECORATIVE FENCE TO REMAIN.

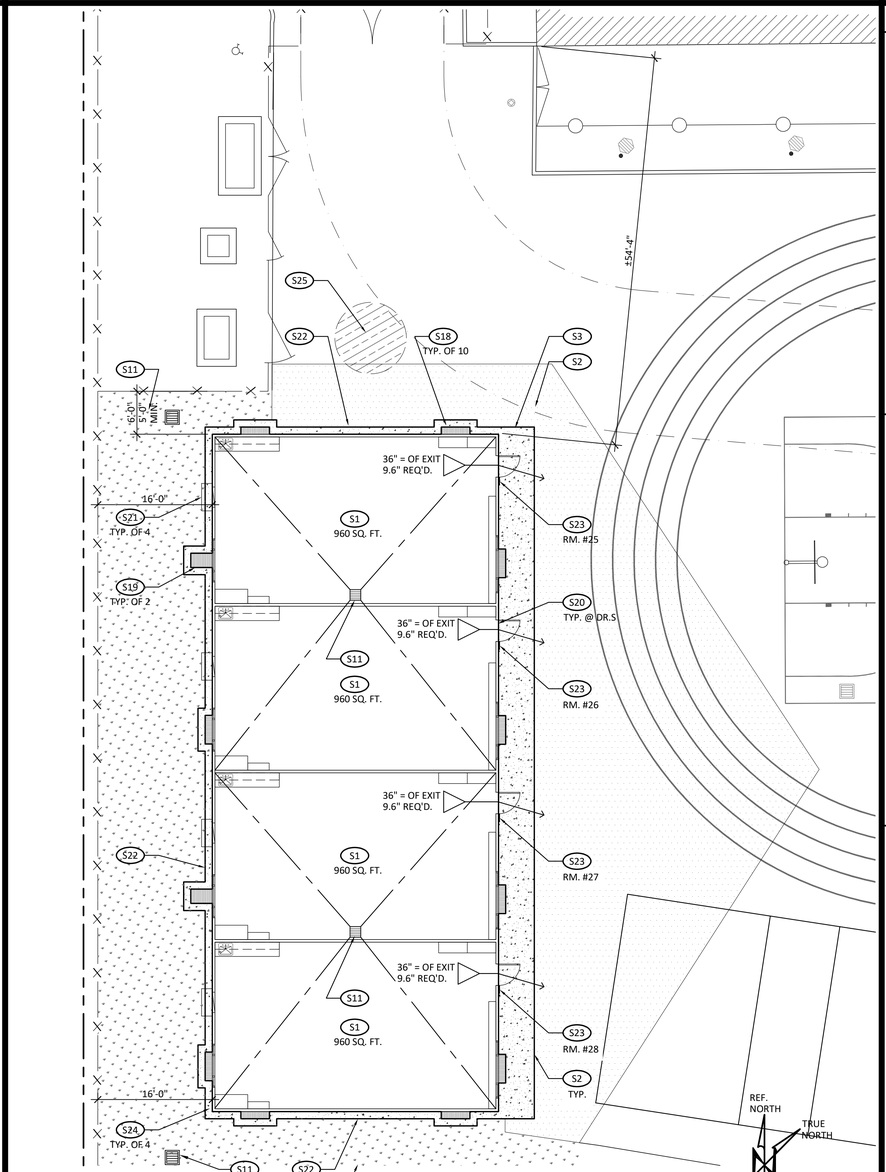
GENERAL NOTES

1. NO DEMOLITION SHALL BEGIN UNTIL PLANS INCLUDING THE DEMOLITION WORK HAVE BEEN APPROVED BY DSA.
2. CONTRACTOR SHALL PROVIDE ALL EXCAVATION REQUIRED FOR INSTALLATION OF MODULAR BUILDING FOUNDATION AND ALL UTILITIES. SEE ALSO C-SHEETS FOR RE-GRADING REQUIREMENTS FOR DRAINAGE.
3. EXTERIOR WALL SIDING HAVING DRYROT SHALL HAVE THE BOTTOM 12" OF SIDING ALONG THE FULL LENGTH OF THAT WALL REPLACED PER DETAIL
4. AT CLASSROOM INTERIORS PATCH AND LEVEL FLOOR SUBSTRATE AS REQ'D. AFTER DEMO OF VCT. INSTALL CARPET PER SPECS.
5. AT CLASSROOM INTERIORS REPAIR T-BAR TRACK AT MOD LINES & INSTALL NEW TILES PER SPECS.
6. AT CLASSROOM INTERIORS PATCH ANY DAMAGE TO TACKABLE WALL SURFACE & PAINT.
7. PREP & PAINT DOORS & FRAMES AT ALL SIDES.
8. PREP & PAINT ALL SURFACES OF BUILDING EXTERIORS INCLUDING ROOF OVERHANGS.



1D / AS2 ENLARGED SITE DEMO PLAN

FILE: SCALE: 1"=10'-0"



3D / AS2 ENLARGED SITE NEW PLAN

FILE: SCALE: 1"=10'-0"

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MODULAR CLASSROOM RELOCATION

GENEVIEVE DIDION K-8 SCHOOL

6490 HARMON DRIVE SACRAMENTO, CA 95831

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

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ENLARGED SITE PLANS

MAY 12, 2026

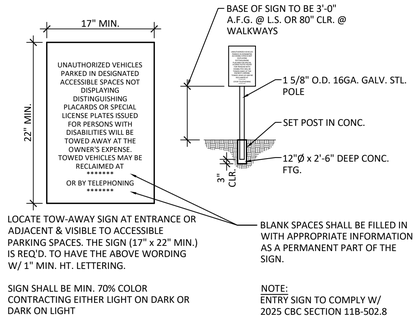
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AS2

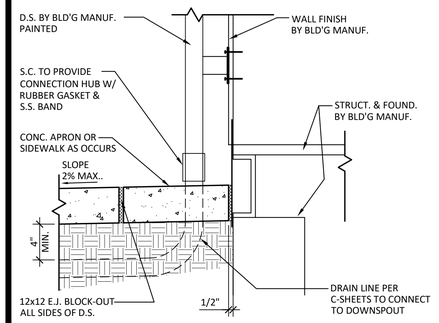
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1A
AS3

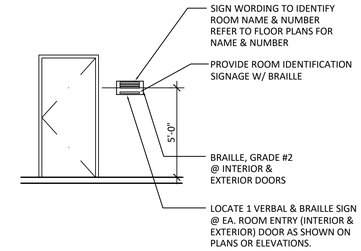
2A
AS3



3A / AS3 **TRAFFIC ENTRY WARNING SIGN**
FILE: SCALE: 1/4"=1'-0"



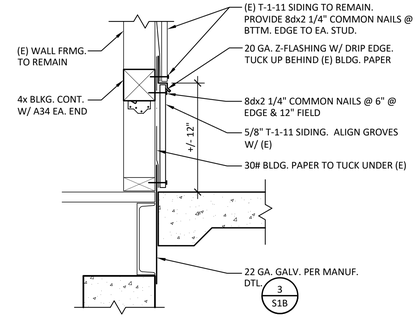
4A / AS3 **DOWNSPOUT TO BELOW GRADE DETAIL**
FILE: SCALE: 1 1/2"=1'-0"



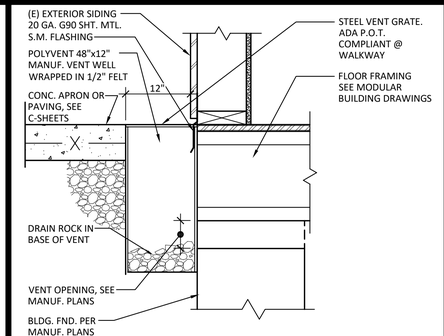
5A / AS3 **ROOM IDENTIFICATION SIGNAGE**
FILE: SCALE: 1/4"=1'-0"

1B
AS3

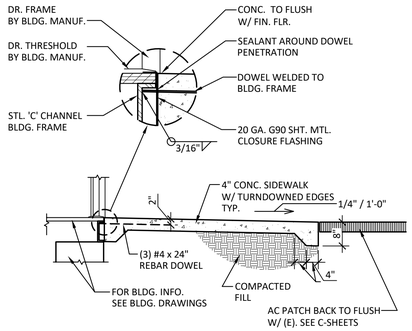
2B
AS3



3B / AS3 **DRYROT REPAIR @ EXT. SIDING**
FILE: SCALE: 1 1/2"=1'-0"



4B / AS3 **VENT WELL DETAIL**
FILE: SCALE: 1 1/2"=1'-0"

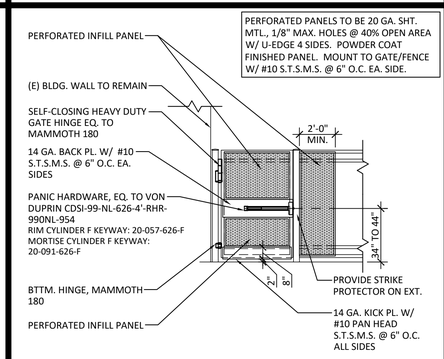


5B / AS3 **SIDEWALK AT DOOR DETAIL**
FILE: FBPDTL_WLK_DR SCALE: 1/2"=1'-0"

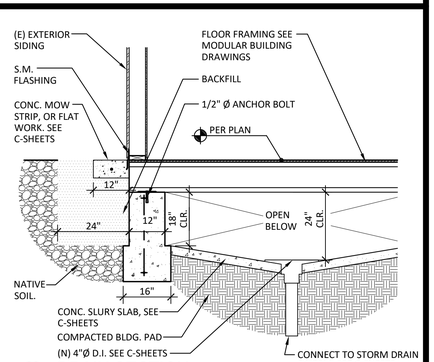
1C
AS3

2C
AS3

3C
AS3



4C / AS3 **GATE HARDWARE UPGRADE**
FILE: SCALE: 1/4"=1'-0"



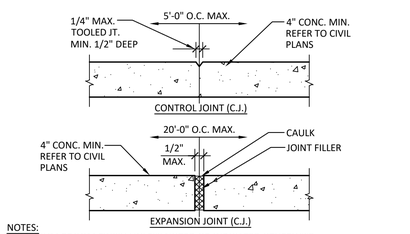
5C / AS3 **DRAIN SECTION**
FILE: WALLSEC_DRAIN SCALE: 1/2"=1'-0"

1D
AS3

2D
AS3

3D
AS3

4D
AS3



NOTES:
1. MEDIUM BROOM FINISH UNLESS NOTED OR INDICATED OTHERWISE.
2. MAXIMUM 1 : 20 (5%) SLOPE IN LONGITUDINAL DIRECTION.
3. MAXIMUM 1/4" PER FT. (2%) SLOPE FOR TRANSVERSE DIRECTION.
4. MAXIMUM 1/4" PER FT. SLOPE FOR 5'-0" AND 2'-0" BEYOND THE STRIKE SIDE AT ALL BUILDING ENTRANCE DOORS.
5. SPACING OF JIONTS AS NOTED ABOVE, G.C. TO SUBMIT SPACING PLAN SHOWING ALL LOCATIONS PRIOR TO INSTALLATION.
6. SET ALL CONCRETE WORK ON MIN. 4" A.B. BASE COORD. W/ CIVIL PLAN & SIOLS REPORT RECOMENDATION.

5D / AS3 **CONCRETE WALK & SLAB DETAIL**
FILE: SCALE: 1 1/2"=1'-0"

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CIVIL ABBREVIATIONS AND LEGEND

ABBREVIATIONS

NOTE: NOT ALL ABBREVIATIONS MAY BE USED ON THESE PLANS.

AB	AGGREGATE BASE
AC	ASPHALTIC CONCRETE
AD	AREA DRAIN
APN	ASSESSOR'S PARCEL NUMBER
ARV	AIR RELEASE VALVE
ASB	AGGREGATE SUB-BASE
BO	BLOW-OFF VALVE
BV	BUTTERFLY VALVE
BW	BACK OF WALK
C/L	CENTERLINE
CB	CATCH BASIN
CL	CLASS
CMP	CORRUGATED METAL PIPE
CATV	CABLE TELEVISION
CO	CLEANOUT
COMM	COMMUNICATION
CONC.	CONCRETE
CONST.	CONSTRUCT
CR	CURB RETURN
CS	CONCRETE SURFACE
DC	DOUBLE CHECK VALVE
DDC	DOUBLE DETECTOR CHECK VALVE
DG	DECOMPOSED GRANITE
DI	DROP INLET
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DWG	DRAWING
DS	DOWNSPOUT
E	ELECTRIC
EP	EDGE OF PAVEMENT
ESMT	EASEMENT
EX	EXISTING
FS	FIRE SERVICE LINE
FDC	FIRE DEPARTMENT CONNECTION
FL	FLOWLINE
FM	SANITARY SEWER FORCE MAIN
FF	FINISHED FLOOR ELEVATION
FH	FIRE HYDRANT
G	GAS
GR	GRATE ELEVATION
GRD	GRADE ELEVATION
GV	GATE VALVE
HB	HOSE BIBB
HBD	HEADER BOARD
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HP	HIGH POINT
INV	PIPE INVERT ELEVATION
JP	JOINT UTILITY POLE
LF	LINEAL FEET
LIP	LIP OF GUTTER
LT	LEFT
MS	MOWSTRIP
NTS	NOT TO SCALE
OH	OVERHEAD
PCC	PORTLAND CEMENT CONCRETE
PD	PLANTER DRAIN
PIV	POST INDICATOR VALVE
P/L	PROPERTY LINE
PP	POWER POLE
PUE	PUBLIC UTILITY EASEMENT
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
R	RADIUS
RIM	MANHOLE RIM ELEVATION (SOLID COVER)
RP	REDUCED PRESSURE BACKFLOW PREVENTER
RW	RIGHT OF WAY
SCH	SCHEDULE
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SG	SUBGRADE ELEVATION
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
STD	STANDARD
S/W	SIDEWALK
T	TELEPHONE
TC	TOP OF CURB
TD	TRENCH DRAIN
TDCB	TRENCH DRAIN CATCH BASIN
TP	TELEPHONE POLE
TR	TOP OF RAMP ELEVATION
TRW	TOP OF RETAINING WALL
TSW	TOP OF SEAT WALL
TW	TOP OF WALK ELEVATION
U	UTILITY
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
VCP	VITRIFIED CLAY PIPE
W	WATER
W/	WITH
W/O	WITHOUT
WV	WATER VALVE

LEGEND

NOTE: NOT ALL SYMBOLS MAY BE USED ON THESE PLANS.

PROPOSED GRADING & DRAINAGE SYMBOLS:

- 8" SD — STORM DRAIN LINE (SIZE AND FLOW SHOWN)
- STORM DRAIN MANHOLE (SDMH)
- CATCH BASIN (CB)
- DROP INLET (DI)
- AREA DRAIN (AD)
- PLANTER DRAIN (PD) OR FLOOR DRAIN (FD)
- CO — STORM DRAIN CLEANOUT
- 99.99 — ELEVATION
- FF=100.00 — FINISHED FLOOR ELEVATION
- PAD=99.33 — BUILDING PAD ELEVATION
- CONCRETE SIDEWALK
- GRADED DIRECTION FOR DRAINAGE FLOW
- SWALE
- SLOPE
- TREE TO BE REMOVED
- RETAINING WALL

PROPOSED SANITARY SEWER SYMBOLS:

- 6" SS — SANITARY SEWER LINE (SIZE AND FLOW SHOWN)
- SANITARY SEWER MANHOLE (SSMH)
- CO — SEWER CLEANOUT FLUSHER BRANCH

PROPOSED WATER SYMBOLS:

- 8" W — WATER LINE & SIZE
- 8" FS — FIRE LINE & SIZE
- 8" DW — DOMESTIC WATER LINE & SIZE
- 8" RW — RECLAIMED WATER LINE & SIZE
- 8" IRR — IRRIGATION SERVICE LINE & SIZE
- 8" NP — NON POTABLE WATER LINE & SIZE
- 8" SP — FIRE SPRINKLER SERVICE LINE & SIZE
- GATE VALVE
- M — WATER METER
- FH — FIRE HYDRANT ASSEMBLY
- FDC — FIRE DEPARTMENT CONNECTION
- DC — DETECTOR CHECK VALVE
- DDC — DOUBLE DETECTOR CHECK VALVE
- RP — REDUCED PRESSURE BACKFLOW PREVENTER
- BUTTERFLY VALVE
- 1" — AIR RELEASE VALVE + SIZE
- 1" — BLOW-OFF VALVE + SIZE
- PIV — POST INDICATOR VALVE

CIVIL SHEET INDEX

C0.1	CIVIL GENERAL NOTES AND ABBREVIATIONS
C0.2	TOPOGRAPHIC LEGEND AND ABBREVIATIONS
C0.3	TOPOGRAPHIC SURVEY
C1.1	DEMOLITION PLAN
C2.1	GRADING PLAN
C3.1	UTILITY PLAN
C4.1	PAVING AND STRIPING PLAN
C5.1	DETAILS AND SECTIONS

DEMOLITION GENERAL NOTES

1. REFER TO ARCHITECTURAL, LANDSCAPE, ELECTRICAL AND PLUMBING PLANS FOR ADDITIONAL DEMOLITION ITEMS.
2. IN THE EVENT THAT ANY UNUSUAL CONDITIONS NOT COVERED BY THE GEOTECHNICAL INVESTIGATION REPORT OR ARE ENCOUNTERED DURING GRADING OPERATIONS THE GEOTECHNICAL ENGINEER AND THE ARCHITECT SHALL BE IMMEDIATELY NOTIFIED FOR DIRECTIONS.
3. ADDITIONAL DEMOLITION INFORMATION MAY BE SHOWN ON THE GRADING, DRAINAGE, AND UTILITY PLANS, AND THOSE PLANS PREPARED BY OTHER DISCIPLINES FOR THIS PROJECT.
4. ALL DEMOLISHED ITEMS SHALL BE DISPOSED OF OFFSITE AT A SUITABLE, LEGAL, DUMP SITE OR OTHER FACILITY.
5. ALL DISPOSED OF MATERIALS SHALL BE RECYCLED IF POSSIBLE.
6. THE SCHOOL DISTRICT SHALL HAVE SALVAGE RIGHTS TO ANY DEMOLISHED ITEMS SHOWN HEREON. THE CONTRACTOR SHALL GIVE THE DISTRICT NOTICE 7 DAYS PRIOR TO THE START OF DEMOLITION. THE DISTRICT SHALL MOVE ANY RETAINED ITEMS OUT OF THE CONTRACTORS WORK AREA, UNLESS ANOTHER ARRANGEMENT IS MADE WITH THE CONTRACTOR. ANY REMAINING ITEMS BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE. ANY ITEMS NOT SHOWN FOR REMOVAL SHALL REMAIN AND SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION TO A REASONABLE EXTENT.
7. EXISTING UTILITY STRUCTURES IN AREAS OF NEW PAVING SHALL BE REMOVED AND REPLACED WITH NEW BOX/COVER AT NEW GRADE UNLESS SPECIFICALLY NOTED OTHERWISE.
8. ITEMS OUTSIDE THE LIMITS OF DEMOLITION SHALL REMAIN AND BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
9. EXISTING UTILITY STRUCTURES AND PIPING NOT SHOWN ON DEMOLITION PLAN TO BE REMOVED SHALL REMAIN AND BE PROTECTED.
10. SAWCUTS AND SUBSEQUENT PATCH BACK OF CONCRETE WALKS, SHALL BE TO THE EXISTING CONCRETE JOINT BEYOND THE NEAREST LOCATION OF DEMOLITION AS SHOWN. A REASONABLE EFFORT HAS BEEN MADE TO LOCATE, SHOW AND COORDINATE WITH EXISTING JOINTS, HOWEVER IF FIELD CONDITIONS ARE OTHERWISE, IT IS UNDERSTOOD TO REMOVE AND PATCH BACK TO THE NEAREST JOINTS BEYOND DEMOLITION.
11. PRIOR TO THE START OF CONSTRUCTION, VERIFY AND POTHOLE ALL UTILITY POINTS OF CONNECTION FOR LOCATION, DEPTH, AND SIZE. IF CONFLICT IS FOUND, CONTACT THE ENGINEER IMMEDIATELY FOR DIRECTION.
12. WITHIN LANDSCAPE AREAS TO BE DEMOLISHED THERE MAY BE EXISTING IRRIGATION LINES NOT SHOWN ON THIS PLAN. CONTRACTOR SHALL REMOVE LATERAL LINES AND HEADS ENCOUNTERED. MAIN LINES AND CONTROL WIRES MAY ONLY BE REMOVED PROVIDED THAT ROUTING IS KNOWN AND REMOVAL WILL NOT DEACTIVATE AN IRRIGATION SYSTEMS INTENDED TO REMAIN. IF CONFLICT IS FOUND, CONTACT THE ENGINEER FOR DIRECTION.
13. COORDINATE REMOVAL OF LANDSCAPE ITEMS WITH LANDSCAPE PLANS.

GENERAL NOTES

1. THE TYPES, LOCATIONS, SIZES, AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE PLANS WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS AND DEPTHS OF SUCH UNDERGROUND UTILITIES. A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES. HOWEVER, WARREN CONSULTING ENGINEERS CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF ITS DELINEATION OF SUCH UNDERGROUND UTILITIES, NOR FOR THE EXISTENCE OF OTHER BURIED OBJECTS OR UTILITIES WHICH MAY BE ENCOUNTERED BUT WHICH ARE NOT SHOWN ON THESE PLANS. THE CONTRACTOR OR ANY SUBCONTRACTOR FOR THIS CONTRACT SHALL NOTIFY MEMBERS OF UNDERGROUND SERVICE ALERT (USA) TWO (2) WORKING DAYS IN ADVANCE OF PERFORMING ANY EXCAVATION WORK BY CALLING TOLL FREE 1-800-227-2600, OR 811.

811 Know what's below. Call before you dig.

2. WARREN CONSULTING ENGINEERS, INC. (WCE) ASSUMES NO RESPONSIBILITY FOR ERRORS IN PHYSICAL LOCATION OF IMPROVEMENTS, HORIZONTAL OR VERTICAL. IN ADDITION, ANY SUCH ERRORS IN PHYSICAL LOCATION MAY AFFECT THE INTENDED DESIGN OF SUCH IMPROVEMENTS AND WCE CANNOT BE HELD RESPONSIBLE FOR SUCH CONDITIONS WHICH ARE A RESULT OF ERRORS IN SURVEYING, OR IMPROPER CONSTRUCTION.
3. IF SUBSURFACE CULTURAL RESOURCES, REMAINS, AND/OR ARTIFACTS ARE UNCOVERED DURING PROJECT CONSTRUCTION, ALL WORK IN THE VICINITY SHALL BE STOPPED UNTIL SUCH ITEMS CAN BE ASSESSED BY AN APPROPRIATE MEMBER OF THE COUNTY ENVIRONMENTAL IMPACT SECTION STAFF.
4. CONTRACTOR AGREES THAT HE/SHE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS: AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.
5. THE CONTRACTOR SHALL OBTAIN AN EXCAVATION PERMIT FROM THE STATE OF CALIFORNIA DEPARTMENT OF INDUSTRIAL SAFETY FOR ALL EXCAVATIONS OF 5 FEET OR MORE IN DEPTH.
6. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE NECESSARY PRE-CONSTRUCTION SITE REVIEWS TO DETERMINE NECESSARY MEANS AND METHODS TO COMPLETE THE IMPROVEMENTS SHOWN ON THESE PLANS.
7. WHERE IMPROVEMENTS LIE WITHIN AN EXISTING DEVELOPED AREA, CONTRACTOR SHALL USE CAUTION WHEN ACCESSING THE SITE THROUGH THESE EXISTING IMPROVEMENTS. IT IS THE CONTRACTORS RESPONSIBILITY TO PROTECT ANY SUCH EXISTING IMPROVEMENTS OUTSIDE THE PROJECT BOUNDARY, OR EXISTING IMPROVEMENTS WITHIN THE BOUNDARY WHICH ARE TO REMAIN. PROPER PRECAUTIONS SHALL BE PROVIDED AND MAINTAINED THROUGHOUT CONSTRUCTION. ANY DAMAGE SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER.
8. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO KEEP DETAILED RECORDS OF MINOR CHANGES OR ADJUSTMENTS MADE DURING CONSTRUCTION (WHICH WERE NOT FORMALLY ISSUED). UPON PROJECT COMPLETION, THESE RECORDS AND/OR INFORMATION SHALL BE PROVIDED TO THE OWNER AND WARREN CONSULTING ENGINEERS, INC. UNLESS AN OFFICIAL "AS-BUILT" SET OF PLANS IS A REQUIREMENT OF THE CONTRACT, IF AS-BUILT PLANS ARE A REQUIREMENT OF THE CONTRACT, REFER TO SPECIFICATIONS FOR AS-BUILT DELIVERABLE REQUIREMENTS.
9. IN VEHICULAR PATHWAYS, EXISTING ASPHALTIC AND/OR CONCRETE SURFACES SHALL BE CUT TO A NEAT AND STRAIGHT LINE, PARALLEL OR PERPENDICULAR TO THE VEHICULAR TRAVELED PATH. THIS IS TYPICALLY THE ROADWAY CENTERLINE, BUT MAY VARY. THAT SAWCUT EDGE SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION SO A CLEAN EDGE REMAINS FOR PATCH BACK.. IF EDGE IS DAMAGED, A NEW SAW CUT WILL BE REQUIRED. THE EXPOSED EDGE SHALL BE "TACKED" WITH EMULSION PRIOR TO PAVING.
10. NO BURNING OR BLASTING SHALL BE ALLOWED ONSITE UNLESS SPECIFICALLY ADDRESSED ON PLANS, OR SPECIFICALLY APPROVED AND COORDINATED WITH THE ARCHITECT, ENGINEER, AND LOCAL AGENCY OR OTHER ADMINISTRATIVE AUTHORITY.
11. SUBGRADE AND RESULTING FINISHED GRADE SHALL BE CONSTRUCTED SMOOTH AND UNIFORM BETWEEN SPOT ELEVATIONS, CONTOURS OR OTHER STRUCTURE ELEVATIONS SHOWN ON GRADING OR OTHER PLANS. NO MOUNDS, RUTS, DEPRESSIONS OR OTHER GRADING DEFICIENCIES WILL BE ALLOWED UNLESS SPECIFICALLY SHOWN ON PLANS.
12. ON NEW WATER SYSTEMS, SERVICE LATERALS SHALL BE MADE USING APPROPRIATE "TEE" AND "WYE" FITTINGS. SADDLE TAPS WILL ONLY BE ALLOWED WHEN MAKING CONNECTIONS TO EXISTING WATER MAINS.
13. CURING COMPOUND SHALL BE APPLIED IN A CONTINUOUS SOLID WET FLOWING COAT. ANY "SPOTTY" APPLICATIONS SHALL BE RECOATED IMMEDIATELY. APPLICATION SHALL BE INSPECTED BY PROJECT INSPECTOR DURING APPLICATION.
14. EMBEDMENT OF FEATURES IN CONCRETE PAVING, CURBS, OR WALLS, SUCH AS SQUARE OR ROUND TUBING, POSTS, OR COLUMNS, STEEL BOLTED PLATES, OR OTHER STRUCTURES, SHALL REQUIRE ADDITIONAL SCORE OR EXPANSION JOINTS TO PREVENT UNCONTROLLED CRACKING. THOSE ADDITIONAL JOINTS MAY OR MAY NOT BE SPECIFICALLY SHOWN ON PLANS BUT SHALL BE PROVIDED BY THE CONTRACTOR.
15. EMBEDMENT OF FEATURES IN CONCRETE PAVING, CURBS, OR WALLS, SUCH AS SQUARE OR ROUND TUBING, POSTS, OR COLUMNS, STEEL BOLTED PLATES, OR OTHER STRUCTURES, SHALL REQUIRE A MINOR ADJUSTMENT OF REBAR WITHIN CONCRETE TO ALLOW FOR SUCH STRUCTURE. THAT REBAR ADJUSTMENT MAY NOT BE SPECIFICALLY SHOWN ON PLANS.
16. NO MORE THAN 1 GALLON OF WATER PER YARD OF CONCRETE CAN BE ADDED TO THE TRUCK AFTER ARRIVAL TO PROJECT SITE. THE ADDITION OF WATER CAN ONLY BE ADDED UNDER THE SUPERVISION OF THE CONCRETE INSPECTOR OR LABORATORY TECHNICIAN.
17. WHEN PUMPING CONCRETE FOR PLACEMENT, ABSOLUTELY NO WATER IS TO BE ADDED TO PUMP HOPPER. ANY WATER ADDED TO HOPPER WILL BE REASON FOR CONCRETE REJECTION AT THE CONTRACTORS EXPENSE.
18. ALL CONTRACTION/CONSTRUCTION JOINTS "CJ" SHALL BE 1/4 THE SLAB THICKNESS DEEP, BUT NO LESS THAN 1" FOR CONTROLLING OF CRACKING. CONTRACTOR SHALL EXERCISE CAUTION WHEN FINAL TROWELING OF CONCRETE SO AS NOT TO FILL IN THESE JOINTS WITH CONCRETE CREAM. ANY CRACKS OUTSIDE OF JOINTS WHICH WERE CONSTRUCTED LESS THAN 1" DEEP, SHALL BE CAUSE FOR CONCRETE SLAB(S) TO BE REMOVED AND REPLACE AT CONTRACTORS EXPENSE.
19. ANY SCREED BOARDS SET WITHIN CONCRETE SLABS SHALL BE AN "OVERHEAD SCREED" SO THERE IS NO INTERFERENCE WITH THE PLACEMENT AND ALIGNMENT OF SLAB REINFORCING.
20. 3-1/2" FELT JOINTS WILL NOT BE ACCEPTED. PROVIDE A FULL 4" FELT JOINT FOR 4" SLAB CONSTRUCTION, AND A 6" FELT JOINT FOR A 6" SLAB SLAB CONSTRUCTION.
21. SHOULD ANY SHRINKAGE CRACKS OCCUR OUTSIDE OF EITHER THE EXPANSION JOINTS OR CRACK CONTROL JOINTS, THEN THE CONCRETE SLAB SHALL BE SAWCUT AT THE NEAREST JOINTS ON EACH SIDE OF THE CRACK AND THE CONCRETE SECTION SHALL BE, REMOVED AND REPLACED. NEW CONCRETE SHALL BE DOWELED INTO EXISTING CONCRETE PER DRAWING DETAIL.
22. ALL AREAS DISTURBED BY GRADING OPERATIONS WHETHER SHOWN ON THE DRAWINGS OR NOT SHALL BE HYDROSEEDED UNLESS OTHERWISE NOTED. HYDRO SEEDING SHALL CONFORM TO LOCAL CITY/COUNTY STANDARDS.
23. REPAIR OR PATCHING OF GALVANIZED METALS, SUCH AS AFTER WELDING GALVANIZED COMPONENTS, SHALL BE MADE USING A ZINC COMPOSITION "HOT STICK" APPLICATION PER ASTM A 780-01. GALVANIZING PAINTS WILL NOT BE ALLOWED.
24. AT LIMITS OF NEW PAVEMENT OR CURBS ADJACENT TO LANDSCAPING PROVIDE A 4:1 MINIMUM TRANSITION TO EXISTING GRADE WITH TOPSOIL. ADJUST EXISTING IRRIGATION HEADS TO FINISH GRADE AND PROVIDE SOD IN GRASS AREAS TO RESTORE TO EXISTING CONDITION.
37. TRANSITION BETWEEN PAVED SURFACES AND LANDSCAPE AREAS SHALL BE NO GREATER THAN 1", UNLESS NOTED OTHERWISE.
38. WITHIN LIMITS OF WORK THERE MAY BE EXISTING IRRIGATION LINES NOT SHOWN ON THIS PLAN. CONTRACTOR SHALL REMOVE LATERAL LINES AND HEADS ENCOUNTERED. MAIN LINES AND CONTROL WIRES MAY ONLY BE REMOVED PROVIDED THAT ROUTING IS KNOWN AND REMOVAL WILL NOT DEACTIVATE AN IRRIGATION SYSTEMS INTENDED TO REMAIN. IF CONFLICT IS FOUND, CONTACT THE ARCHITECT FOR DIRECTION.
39. GENERAL CONTRACTOR IS REQUIRED TO HIRE A LANDSCAPE SUBCONTRACTOR TO PERFORM ALL LANDSCAPE AND IRRIGATION REPAIRS.
40. WIDTH OF NEW SIDEWALKS SHALL MATCH WIDTH OF EXISTING, ADJACENT, SIDEWALKS.
41. SEE ARCHITECTURAL PLANS FOR EXPANSION AND CONTROL JOINT LAYOUT.
42. ADJUST TO FINISH GRADE ALL UTILITY BOXES, FRAMES, COVERS SLEEVES, POST HOLES GRATES, ETC. FOUND IN AREA OF WORK, WHETHER SHOWN OR NOT. CLEAN OR REPLACE AS NECESSARY TO ENSURE PROPER SEATING.
43. ALL NEW ASPHALT PAVING TO BE PROVIDED WITH 2 COATS OF SEALCOAT.
43. PRIOR TO NEW SEALCOAT ON EXISTING ASPHALT SURFACES, FILL ALL CRACKS 1/4" INCHES OR WIDER WITH AN APPROVED CRACK FILLER.
44. FOR ACCESSIBLE PATH OF TRAVEL REQUIREMENTS SEE ARCHITECTURAL SHEETS.
45. PERCENT OF SLOPE SHOWN ON ARROWS ARE MAXIMUM SLOPES AND NOT INTENDED TO SUPERCEDE SLOPES DEFINED BY SPOT ELEVATIONS. 0.0% MAX.
46. WITHIN THE LIMITS OF ACCESSIBLE PARKING AREA AND ACCESSIBLE DROP OFF ZONE THE SLOPE OF PAVEMENT SHALL NOT EXCEED 1.9% IN ANY DIRECTION.
47. SLOPE OF FINISHED PAVING TO BE 1% MINIMUM FOR ASPHALT, 0.5% MINIMUM FOR CONCRETE AND THE MAXIMUM SLOPE SHALL BE AS FOLLOWS;

    CROSS SLOPE PERPENDICULAR TO PATH OF TRAVEL - 1.9%
    DIRECTION OF TRAVEL - 4.9%
    RAMP IN DIRECTION OF TRAVEL - 8.0%
    PLAZA 1.9% - IN ANY DIRECTION
48. THE MINIMUM SLOPE AWAY FROM THE BUILDING ON PAVED SURFACES SHALL BE 1% MINIMUM AND 2% MAXIMUM.
49. TRANSITIONS BETWEEN CONCRETE AND OR ASPHALT SURFACES SHALL BE FLUSH, UNLESS NOTED OTHERWISE BY CURB OR STEP.

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MODULAR CLASSROOM RELOCATION

GENEVIEVE DIDION K-8 SCHOOL

6490 HARMON DRIVE SACRAMENTO, CA 95831

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

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CIVIL GENERAL NOTES AND ABBREVIATIONS

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SYMBOLS LEGEND TOPOGRAPHIC

= PROPERTY LINE
= CENTERLINE
= EASEMENT
= PROPERTY CORNER FOUND AS NOTED
= PROPERTY CORNER NOTHING FOUND OR SET
123 = TEMPORARY BENCHMARK (SEE TBM LIST FOR INFO)
= SWALE OR DRAINAGE FLOW
= DRAINAGE FLOW
= FENCE (TYPE NOTED)
= TREE (SIZE/TYPE INDICATED)
= SLOPE
100 = CONTOUR
= CONCRETE SURFACE
= EDGE OF ASPHALT
= EDGE OF BUILDING
= SIGN
= POST OR BOLLARD
99.9 = GROUND ELEVATION
99.99 = HARD SURFACE ELEVATION

EXISTING UTILITIES

12"SD = STORM DRAIN LINE (SIZE & DIRECTION OF FLOW)
12"SD = STORM DRAIN LINE (RECORD INFORMATION)
12"SD = STORM DRAIN LINE (UNDERGROUND LOCATING)
SD = STORM DRAIN MANHOLE
= STORM DRAIN CLEANOUT
= DROP INLET
= AREA DRAIN
RWL = RAIN WATER LEADER
DS = DOWNSPOUT
12"SS = SANITARY SEWER LINE (SIZE & DIRECTION OF FLOW)
12"SS = SANITARY SEWER LINE (RECORD INFORMATION)
12"SS = SANITARY SEWER LINE (UNDERGROUND LOCATING)
SS = SANITARY SEWER MANHOLE
= SANITARY SEWER CLEANOUT
—W— = WATER LINE (SIZE INDICATED)
– – –W– – = WATER LINE (RECORD INFORMATION)
— —W— — = WATER LINE (UNDERGROUND LOCATING)
W = WATER MANHOLE
= WATER VALVE
= WATER METER
= WATER BOX
= IRRIGATION CONTROL VALVE
= FIRE HYDRANT
= BACKFLOW PREVENTER
= SPRINKLER
= HOSE BIBB
— OH–E — = OVERHEAD ELECTRIC LINE
——E—— = UNDERGROUND ELECTRIC LINE
– – –E– – – = UNDERGROUND ELECTRIC LINE (RECORD INFORMATION)
— —E— — = UNDERGROUND ELECTRIC LINE (UNDERGROUND LOCATING)
E = ELECTRIC MANHOLE
= UTILITY POLE (WITH GUY WIRE)
= ELECTRIC METER
= ELECTRIC BOX
= STREET LIGHTING BOX
OR = LIGHT STANDARD
= SIGNAL LIGHT
= FLOOD LIGHT
= ELECTRICAL OUTLET
—— G —— = GAS LINE (SIZE INDICATED)
– – – G – – – = GAS LINE (RECORD INFORMATION)
— — G — — = GAS LINE (UNDERGROUND LOCATING)
G = GAS MANHOLE
= GAS VALVE
= GAS METER
—— t —— = TELEPHONE LINE
– – – t – – – = TELEPHONE LINE (RECORD INFORMATION)
— — t — — = TELEPHONE LINE (UNDERGROUND LOCATING)
= STORM DRAIN BOX
= TRAFFIC SIGNAL BOX

ABBREVIATIONS TOPOGRAPHIC

AC	ASPHALTIC CONCRETE
ACC	ACCESSIBLE
ACU	AIR CONDITIONING UNIT
AD	AREA DRAIN
APN	ASSESSOR'S PARCEL NUMBER
APP	APPARATUS
BBALL	BASKETBALL POLE
BCM	BRASS CAP MONUMENT
BFP	BACK FLOW PREVENTER
BL.	BLOCK
BLDG	BUILDING
BOL	BOLLARD
BOV	BLOW-OFF VALVE
BR.	BRICK
B.W.F.	BARBED WIRE FENCE
C	COMMUNICATION
C/L	CENTERLINE
CATV	CABLE TELEVISION
CIP	CAPPED IRON PIPE
C.L.F.	CHAIN LINK FENCE
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
COL	COLUMN
CONC.	CONCRETE
COND.	CONDENSATE
CPF	CONTROL POINT FOUND
CPS	CONTROL POINT SET
CS	CONCRETE SURFACE
D	DEPTH
DF	DRINKING FOUNTAIN
DG	DECOMPOSED GRANITE
DI	DROP INLET
DIA	DIAMETER
DRWY	DRIVEWAY
DS	DOWNSPOUT
DWG	DRAWING
E	ELECTRIC
EP	EDGE OF PAVEMENT
ESMT	EASEMENT
FA	FIRE ALARM
FDC	FIRE DEPARTMENT CONNECTION
FFE	FINISHED FLOOR ELEVATION
FH	FIRE HYDRANT
FL	FLOWLINE
FO	FIBER OPTIC
FS	FIRE SERVICE
G	GAS
GB	GRADE BREAK
GR	GRATE
GRB	GROUND ROD BOX
GROD	GROUND ROD
GV	GAS VALVE
HB	HOSE BIBB
HBD	HEADER BOARD
HP	HIGH PRESSURE
HR	HANDRAIL
HVE	HIGH VOLTAGE ELECTRIC
HWF	HOG WIRE FENCE
IC	IN CONCRETE
ICP	IRRIGATION CONTROL PANEL
ICV	IRRIGATION CONTROL VALVE
INV	PIPE INVERT ELEVATION
IRR	IRRIGATION
JP	JOINT UTILITY POLE
JT	JOINT TRENCH
LNDG	LANDING
LVE	LOW VOLTAGE ELECTRIC
M.	METAL
MH	MANHOLE
MS	MOW STRIP
MSC	METAL STORAGE CONTAINER
NTS	NOT TO SCALE
OH	OVERHEAD
OHANG	OVERHANG
OIP	OPEN IRON PIPE
OSPH	OLD STEEL POST HOLE
P/L	PROPERTY LINE
PA	PLANTER AREA
PB	PARKING BUMPER
PH	POSTHOLE
PIV	POST INDICATOR VALVE
PP	POWER POLE
PRKG	PARKING
PUE	PUBLIC UTILITY EASEMENT
PV	PAVERS
PVC	POLYVINYL CHLORIDE
R	RUBBER
RG	ROLLING GATE
RIM	MANHOLE RIM ELEVATION
ROW	RIGHT OF WAY
RW	RETAINING WALL
RWD	REDWOOD
RWL	RAIN WATER LEADER
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SIG	SIGNAL
SL	STREET LIGHT
SLB	STREET LIGHT BOX
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEANOUT
SSMH	SANITARY SEWER MANHOLE
STL.	STEEL
T	TELEPHONE
TBALL	TETHER BALL POLE
TBM	TEMPORARY BENCHMARK
TC	TOP OF CURB
TOW	TOP OF WALL
TP	TELEPHONE POLE
TRW	TOP OF RETAINING WALL
UG	UNDERGROUND
UNK	UNKNOWN
V	VENT
VBALL	VOLLEYBALL
W	WATER
W/	WITH
WD.	WOOD
WF	WOOD FENCE
W.I.F.	WROUGHT IRON FENCE
W.R.F.	WOOD RAIL FENCE
XF	TRANSFORMER
XWALK	CROSSWALK

TBM LIST

NUMBER	DESCRIPTION	NORTHING	EASTING	ELEV
1	CPS PK+WASHER	4997.31	5333.76	10.36
2	CPS CHISELED "+"	4807.81	5501.47	11.51
3	CPS CHISELED "+"	4918.94	5474.70	11.32
4	CPS PK+WASHER	4922.32	5611.25	11.02
5	CPS CHISELED "+"	5087.42	5439.83	10.44
6	CPS CHISELED "+"	5149.54	5452.83	10.09
7	CPS CHISELED "+"	5042.20	5349.67	10.09
8	CPS CHISELED "+"	5146.92	5282.96	8.86
9	CPS CHISELED "+"	5026.79	5256.01	10.54
10	CPS CHISELED "+"	4923.50	5343.06	10.58
11	CPS CHISELED "+"	4834.50	5193.12	10.52
12	CPS CHISELED "+"	5261.21	5565.95	10.90
13	CPS CHISELED "+"	4865.09	5096.27	10.77
14	CPS CHISELED "+"	5192.11	5404.61	10.15
15	CPF PK+WASH CLINTX	5267.64	5452.72	10.23
16	CPF OIP	5329.14	5552.76	10.42

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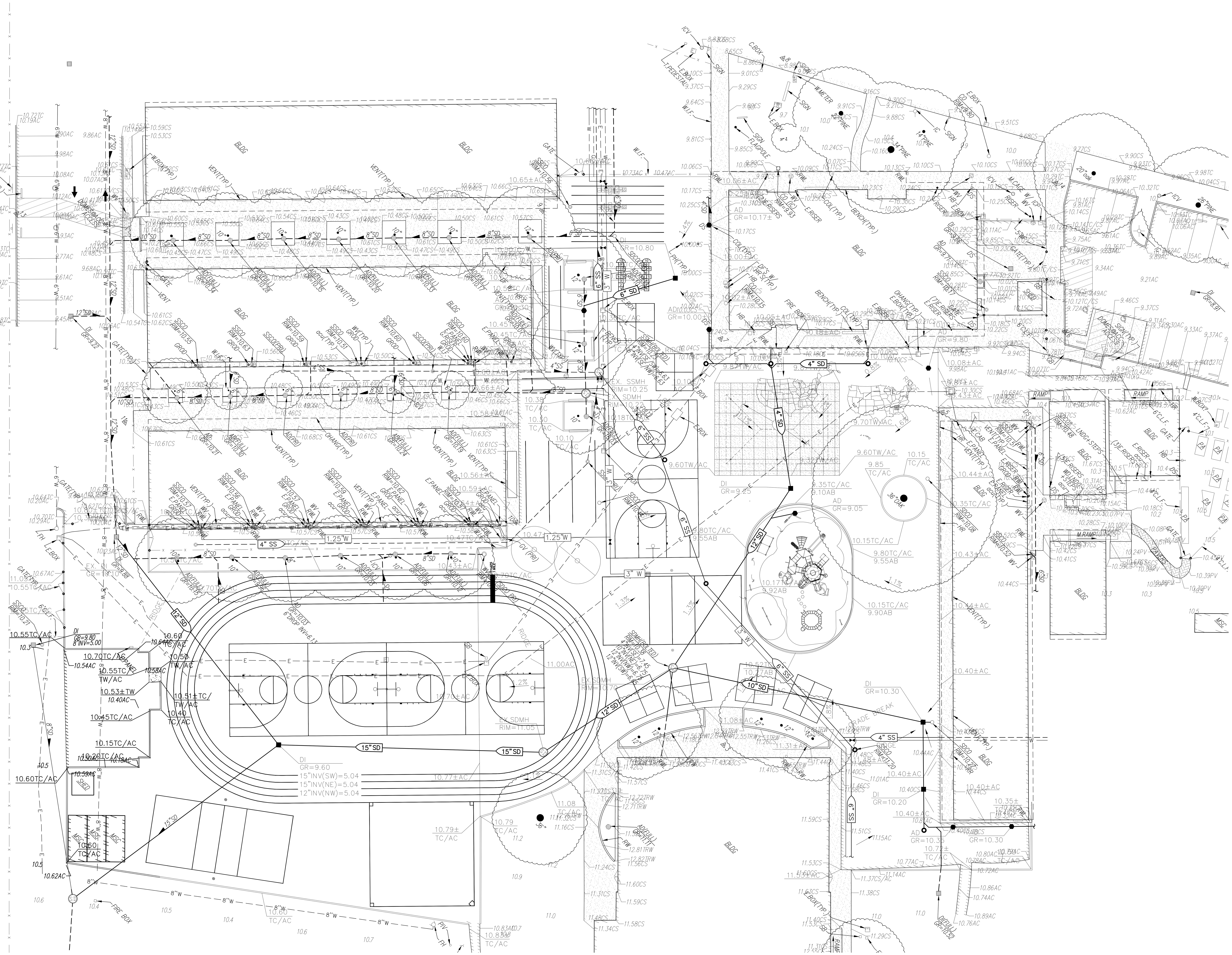
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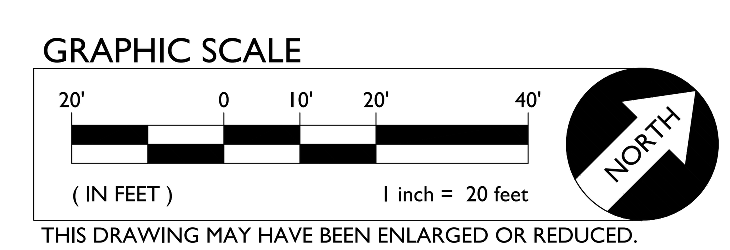
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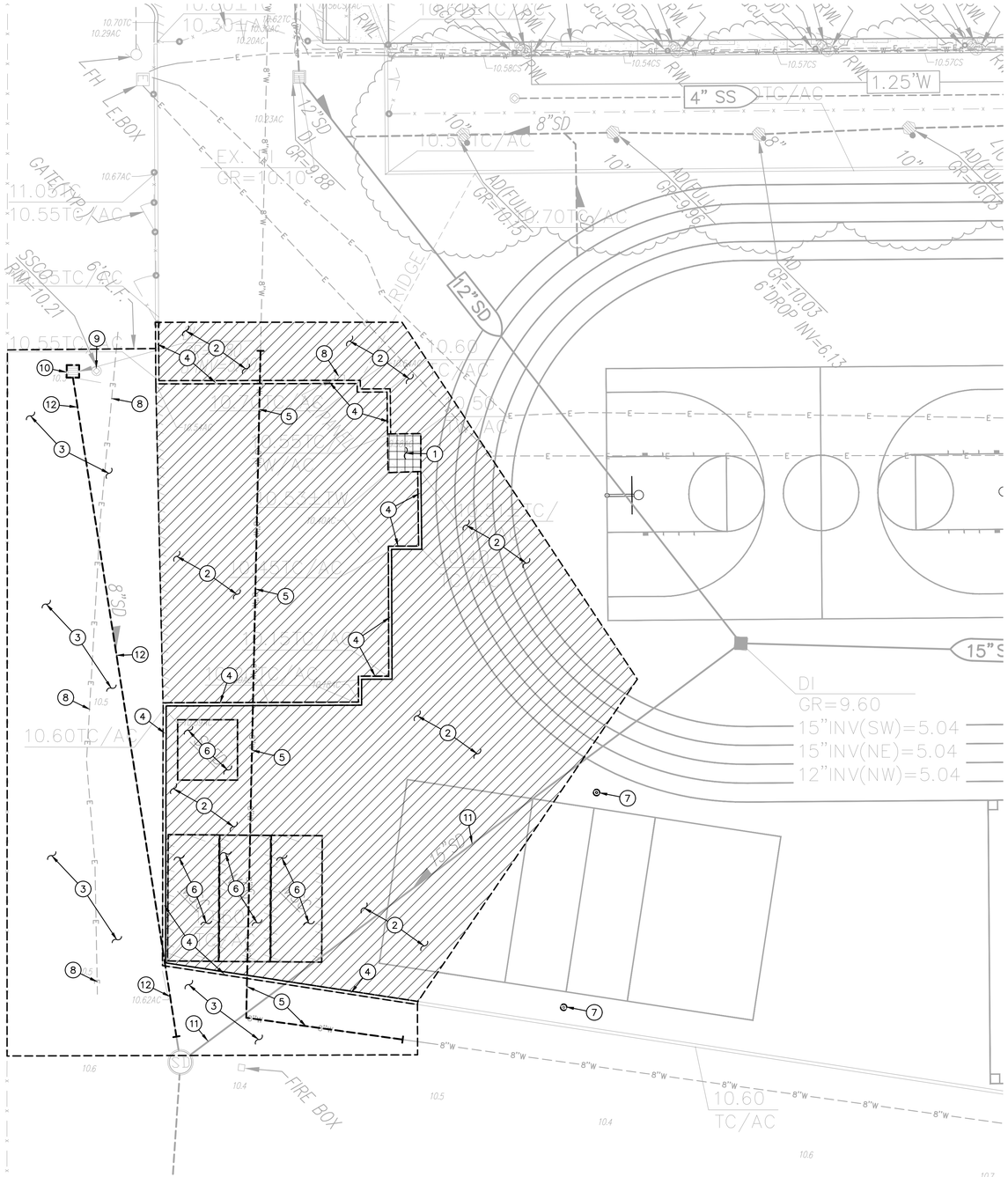
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DEMOLITION NOTES

1. REMOVE AND DISPOSE OF EXISTING CONCRETE PAVING AND AGGREGATE BASE. WHERE SAWCUTS ARE NECESSARY, THEY SHALL BE A NEAT STRAIGHT LINE. CUT SHALL BE MADE AT NEAREST EXISTING JOINT TO LOCATION SHOWN.
2. REMOVE AND DISPOSE OF EXISTING ASPHALT PAVING AND AGGREGATE BASE. WHERE SAWCUT EDGES ARE SHOWN, THEY SHALL BE A NEAT STRAIGHT LINE. MAINTAIN CLEAN STRAIGHT CUT EDGE UNTIL NEW PAVING PLACED.
3. REMOVE AND DISPOSE OF TURF/VEGETATION AS REQUIRED TO ALLOW FOR PROPOSED CONSTRUCTION. IRRIGATION PIPING AND SPRINKLER HEADS IN CONFLICT WITH PROPOSED CONSTRUCTION SHALL BE REMOVED AND REPLACED OUTSIDE OF NEW WORK TO ALLOW FOR CONTINUED COVERAGE OF TURF. PATCH BACK TURF AREAS DAMAGED/REMOVED FOR CONSTRUCTION WITH NEW SOD AND/OR MULCH TO MATCH EXISTING CONDITIONS.
4. REMOVE AND DISPOSE OF EXISTING FLUSH CONCRETE CURB TO EXTENT SHOWN.
5. REMOVE AND DISPOSE OF 8" WATER PIPE TO EXTENT SHOWN.
6. EXISTING CONTAINERS/SHED TO BE REMOVED AND RELOCATED.
7. CUT POST FLUSH WITH GRADE AND GROUT FILL POST HOLE.
8. REMOVE ELECTRICAL SERVICE IN CONFLICT WITH NEW WORK. SEE E-SHEETS FOR ADDITIONAL INFORMATION.
9. EXISTING CLEANOUT TO REMAIN.
10. REMOVE AND DISPOSE OF EXISTING DROP INLET.
11. EXISTING STORM DRAIN PIPE TO REMAIN. AT AREAS EXPOSED BY EXCAVATION, SEE SHEET C3.1 FOR SCOPE.
12. REMOVE AND DISPOSE OF EXISTING STORM DRAIN PIPE TO EXTENT SHOWN.

GRAPHIC SCALE

10' 0 5' 10' 20'

(IN FEET) 1 inch = 10 feet

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DEMOLITION PLAN

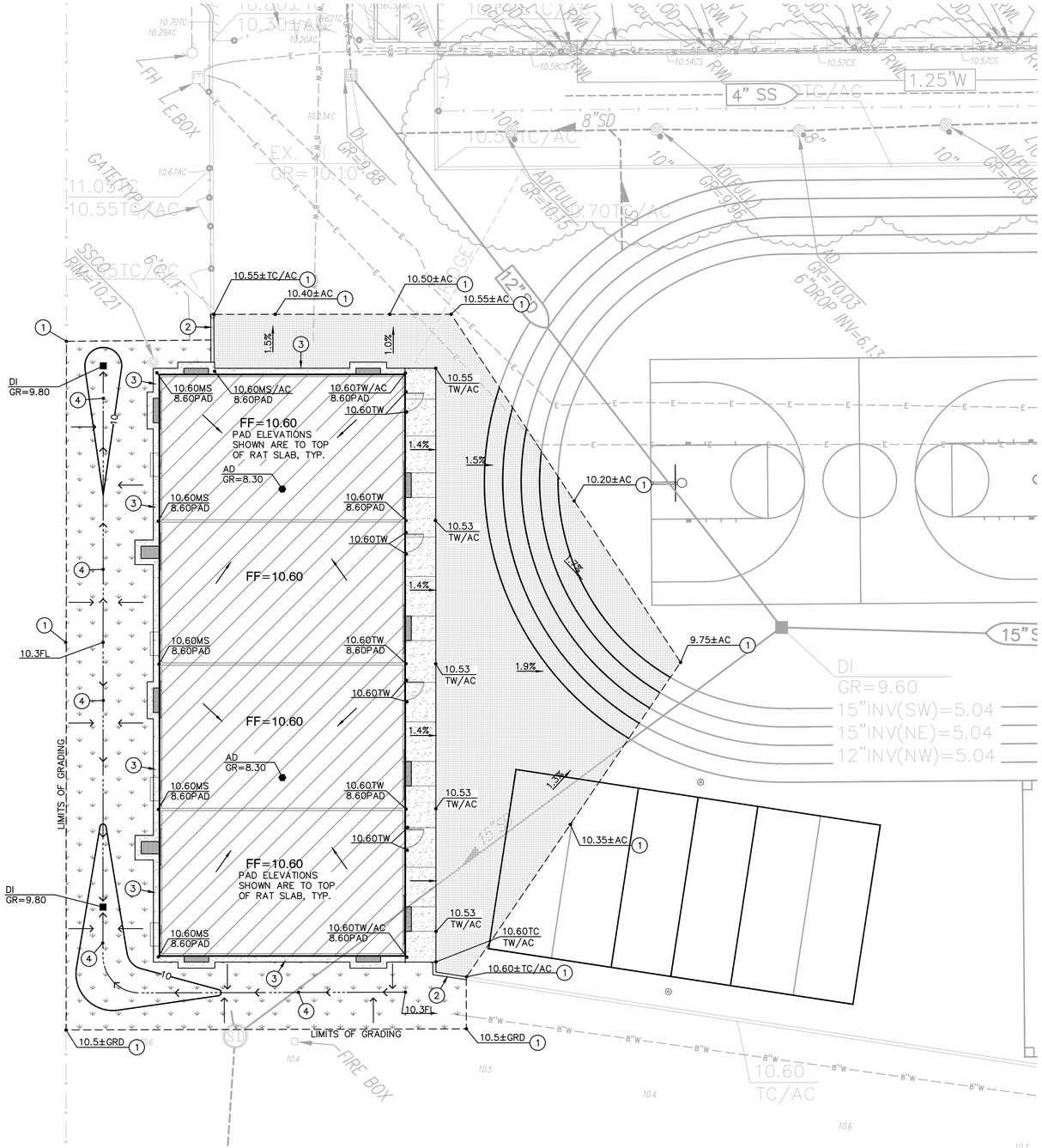
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SUBGRADE PREPARATION

FOLLOWING SITE DEMOLITION ACTIVITIES,

EXCAVATE DOWN TO ROUGH SUBGRADE ELEVATION, SCARIFY THE EXISTING SOILS TO A MINIMUM DEPTH OF 12 INCHES AND UNIFORMLY MOISTURE CONDITION TO AT LEAST 2 PERCENT ABOVE THE OPTIMUM MOISTURE CONTENT AND COMPACT TO AT LEAST 90 PERCENT OF THE MAXIMUM DRY DENSITY PER ASTM D1557.

GRADING AND PAVING NOTES

1. MATCH EXISTING GRADE/ELEVATION.
2. CONSTRUCT FLUSH CONCRETE CURB PER 2/C5.1
3. CONSTRUCT 12" WIDE CONCRETE BAND PER 3/C5.1
4. CONSTRUCT SWALE.

GRAPHIC SCALE

10' 0 5' 10' 20'

(IN FEET) 1 inch = 10 feet

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GRADING PLAN

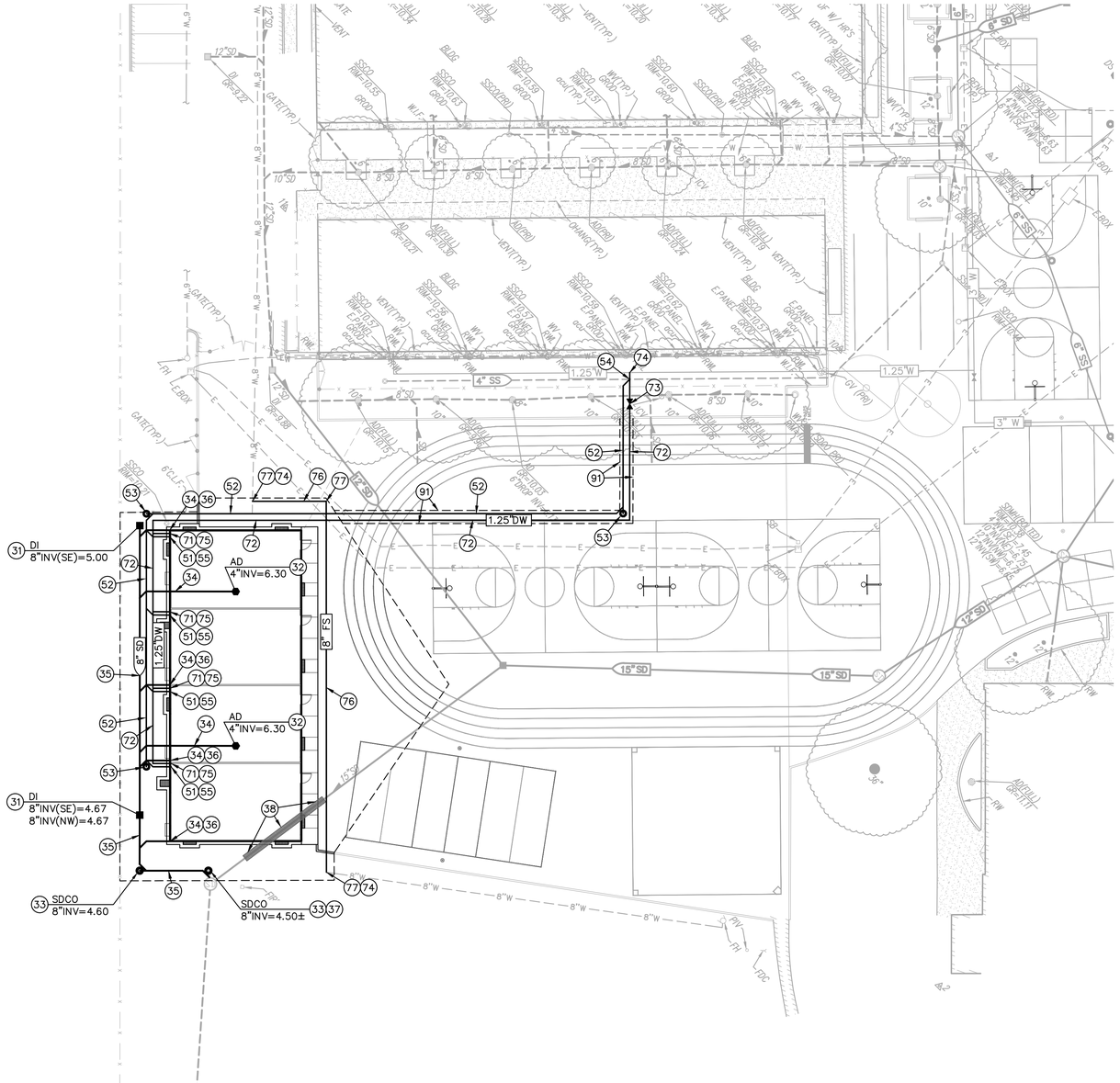
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DRAINAGE NOTES

31. CONSTRUCT DROP INLET PER 4/C5.1
32. CONSTRUCT AREA DRAIN PER 5/C5.1
33. CONSTRUCT STORM DRAIN CLEANOUT PER 6/C5.1
34. PLACE 4" STORM DRAIN PER 7/C5.1
35. PLACE 8" STORM DRAIN PER 7/C5.1
36. PROVIDE DOWNSPOUT CONNECTION PER 8/C5.1
37. CONNECT TO EXISTING STORM DRAIN. POTHOLE AND FIELD VERIFY LOCATION AND DEPTH PRIOR TO TRENCHING. PROVIDE ALL FITTINGS NECESSARY TO MAKE CONNECTION.
38. PROVIDE 3-SACK CONCRETE SLURRY FROM BOTTOM OF EXISTING 15" STORM DRAIN PIPE TO BOTTOM OF PROPOSED FOOTING ELEVATION. SLURRY TO EXTEND 6" ON EITHER SIDE OF PIPE.

SEWER NOTES

51. PLACE 2" SEWER PER 7/C5.1
52. PLACE 4" SEWER PER 7/C5.1
53. CONSTRUCT SEWER CLEANOUT PER 6/C5.1
54. CONNECT TO EXISTING SEWER PIPE. FIELD VERIFY EXACT DEPTH, LOCATION AND CONDITION PRIOR TO TRENCHING. PROVIDE ALL FITTINGS NECESSARY TO MAKE CONNECTION.
55. CONNECT TO BUILDING SEWER SERVICE. PROVIDE ALL FITTINGS NECESSARY TO MAKE CONNECTION. SEE PLUMBING PLANS FOR CONNECTION TO BUILDING.

WATER NOTES

71. PLACE 3/4" WATER PER 10/C5.1
72. PLACE 1.25" WATER PER
73. PLACE GATE VALVE AND VALVE BOX. SIZE TO MATCH LINE SIZE. 9/C5.1
74. CONNECT TO EXISTING WATER PIPE. FIELD VERIFY EXACT DEPTH, LOCATION AND CONDITION PRIOR TO TRENCHING. PROVIDE ALL FITTINGS NECESSARY TO MAKE CONNECTION.
75. CONNECT TO BUILDING DOMESTIC WATER SERVICE. PROVIDE ALL FITTINGS NECESSARY TO MAKE CONNECTION. SEE PLUMBING PLANS FOR CONNECTION TO BUILDING.
76. PLACE 8" WATER PER 10/C5.1
77. CONSTRUCT CONCRETE THRUST BLOCK PER 11/C5.1

91 ASPHALT TRENCH REPAIR

ASPHALT PAVING THAT IS SAWCUT/REMOVED FOR TRENCHING ACTIVITIES SHALL BE REPLACED WITH 2.5"AC OVER 16"AB. ANY STRIPING REMOVED SHALL BE REPLACED IN KIND WITH 2 COATS OF NEW STRIPING. 12/C5.1

GRAPHIC SCALE

20' 0 10' 20' 40'

(IN FEET) 1 inch = 20 feet

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UTILITY PLAN

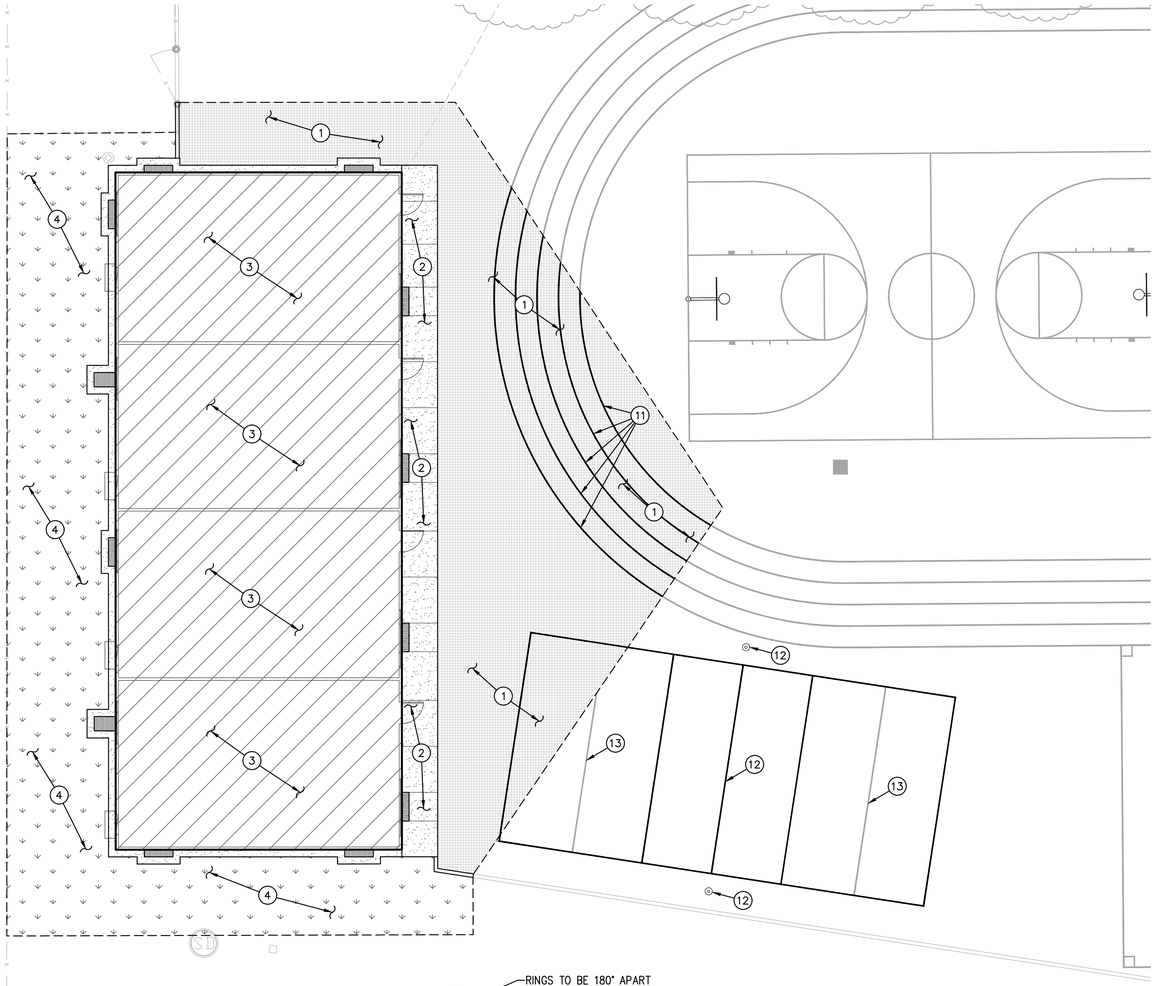
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PAVING GENERAL NOTES:

1. ALL NEW ASPHALT PAVING TO BE PROVIDED WITH SEALCOAT PER SPECIFICATIONS.
2. PRIOR TO NEW SEALCOAT ON EXISTING ASPHALT SURFACES, FILL ALL CRACKS 1/4" INCHES OR WIDER WITH AN APPROVED CRACK FILLER.
3. SLOPE IN ACCESSIBLE STALLS AND UNLOAD ZONES SHALL NOT EXCEED 1.9% IN ANY DIRECTION.
4. SLOPE OF FINISHED PAVING TO BE 1% MINIMUM FOR ASPHALT, 0.5% MINIMUM FOR CONCRETE AND THE MAXIMUM SLOPE SHALL BE AS FOLLOWS;

   CROSS SLOPE PERPENDICULAR TO PATH OF TRAVEL – 1.9%
   DIRECTION OF TRAVEL – 4.9%
   RAMP IN DIRECTION OF TRAVEL – 8.0%
   PLAZA 1.9% – IN ANY DIRECTION

5. ADJUST TO FINISH GRADE ALL UTILITY BOXES, FRAMES, COVERS SLEEVES, POST HOLES GRATES, ETC. FOUND IN AREA OF WORK, WHETHER SHOWN OR NOT. CLEAN OR REPLACE AS NECESSARY TO ENSURE PROPER SEATING.

PAVING LEGEND

(1) TYPE 1 PAVING
PLACE 2.5" AC OVER 8" CLASS II AB ON EXISTING LIME TREATED SUBGRADE. NOTE, DO NOT EXCAVATE THROUGH EXISTING LIME TREATED SUBGRADE. PROVIDE 2 COATS OF SEAL COAT ON NEW PAVING.

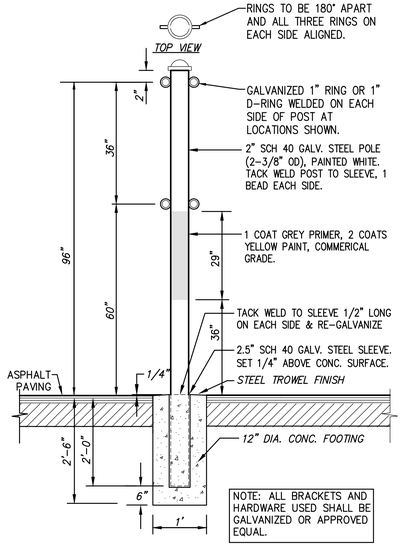
(2) TYPE 2 PAVING
PLACE 5" PCC OVER 12" AB WITH #4 BAR AT 24" O.C.E.W. ON SUBGRADE COMPACTED PER ENGINEERED FILL PLAN AND PROJECT SPECIFICATIONS. (1 / C5.1)

(3) TYPE 3 PAVING
PLACE 3" THICK 3-SACK CONCRETE SLURRY SLAB AT MODULAR CRAWL SPACE.

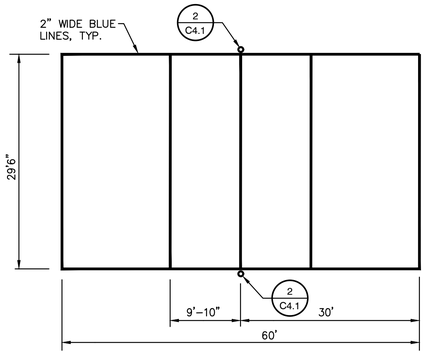
(4) TYPE 4 SURFACING
PLACE HYDROSEED IN ALL AREAS DISTURBED BY GRADING ACTIVITIES.

STRIPING NOTES

11. PLACE 2" WIDE WHITE STRIPE.
12. PLACE VOLLEYBALL COURT STRIPING AND POLES PER (1 / C4.1) (2 / C4.1)
13. BLACK OUT EXISTING VOLLEYBALL COURT STRIPING.



(2 / C4.1) VOLLEYBALL POLE — NO SCALE



(1 / C4.1) VOLLEYBALL — NO SCALE

GRAPHIC SCALE
10' 0 5' 10' 20'
(IN FEET) 1 inch = 10 feet
NORTH
THIS DRAWING MAY HAVE BEEN ENLARGED OR REDUCED.

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DSA #02-119997

MODULAR CLASSROOM RELOCATION

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PAVING AND STRIPING PLAN

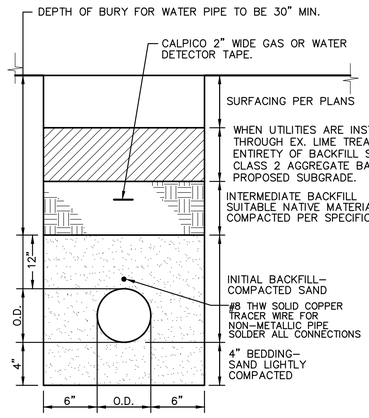
MARCH 20, 2026

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C4.1

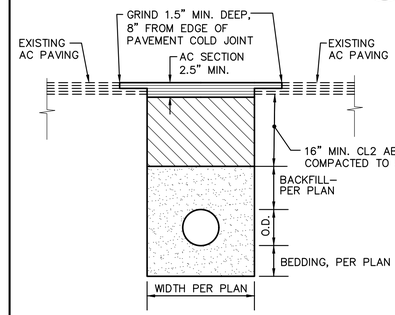
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10 C5.1 WATER TRENCH

NO SCALE



12 C5.1 ASPHALT PATCH AT TRENCH

NO SCALE

REQUIRED BEARING AREAS IN SQ. FT.

INSTALLATION	FITTING TYPE	PIPE SIZES 4"	6"	8"	10"	12"
	90° ELL	5	11	18	27	39
	45° ELL	3	6	10	15	21
	22.5° ELL	2	3	5	8	11
	11.25° ELL	1	2	3	4	5
	TEE	4	8	13	19	27
	DEAD END	4	8	13	19	27
GATE VALVE 4" OR LARGER						
#4 BARS TRENCH KEY 6" MIN.		4	8	13	19	27

VERTICAL THRUST BLOCKS REQUIRED CONCRETE VOLUME, IN CY.

INSTALLATION	FITTING TYPE	PIPE SIZES 4"	6"	8"	10"	12"
	90° ELBOW	1.3	2.6	4.5	6.8	9.6
	45° ELL	0.7	1.4	2.6	4.1	5.9
	22.5° ELL	0.4	0.8	1.4	2.2	3.2
	11.25° ELL	0.2	0.4	0.7	1.1	1.6
	REDUCER	0.9	0.7	1.2	1.8	2.6

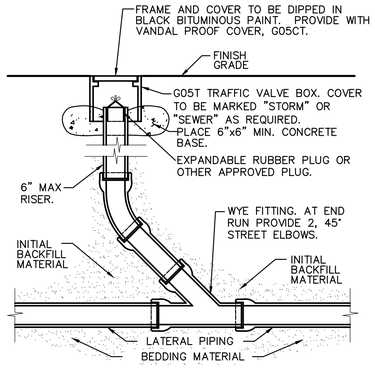
W/ MIN. 2 #5 REBAR TIES, TYP.

NOTES

1. THRUST BLOCKS ARE TO BE CONSTRUCTED OF 2000 PSI CONCRETE MIN.
2. AREAS IN TABLE HAVE BEEN DERIVED USING A WATER PRESSURE OF 200 POUNDS PER SQUARE INCH (13.8 BARS) AND SOIL RESISTANCE OF 1500 POUNDS PER SQUARE FOOT (137.9 BARS).
3. BLOCKING TO BE POURED AGAINST UNDISTURBED SOIL, 12 INCH THICK MINIMUM.
4. THRUST BLOCKS ARE TO BE FREE, SEPARATE AND INDEPENDENT OF ADJACENT OR NEARBY THRUST BLOCKS.
5. WRAP ALL FITTINGS BEFORE PLACING CONCRETE.

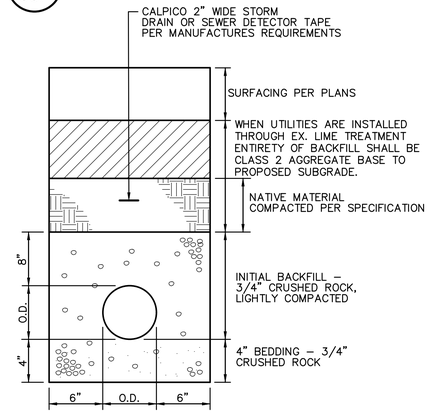
11 C5.1 THRUST BLOCKS

NO SCALE



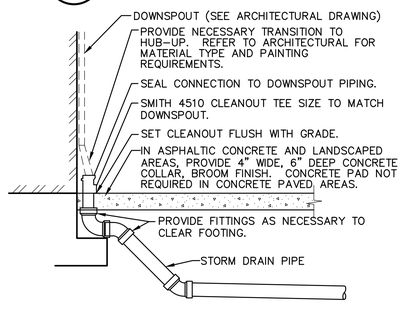
6 C5.1 CLEANOUT

NO SCALE



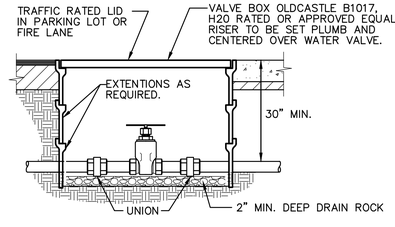
7 C5.1 SEWER AND STORM DRAIN TRENCH

NO SCALE



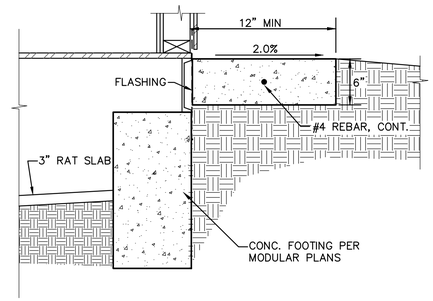
8 C5.1 DOWNSPOUT CONNECTION

NO SCALE



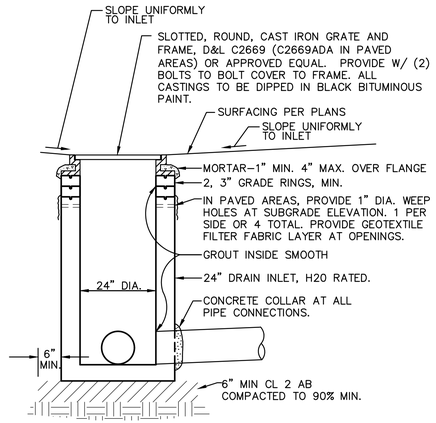
9 C5.1 WATER VALVE 1/2" TO 3" PIPE

NO SCALE



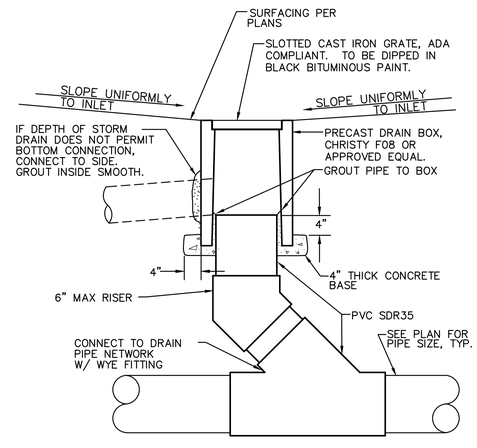
3 C5.1 12" CONCRETE BAND

NO SCALE



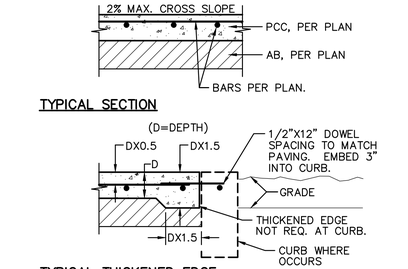
4 C5.1 DROP INLET

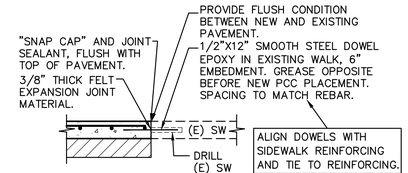
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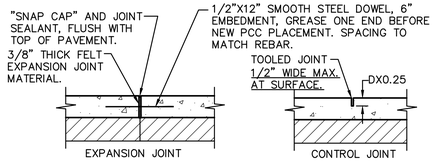


5 C5.1 AREA DRAIN

NO SCALE



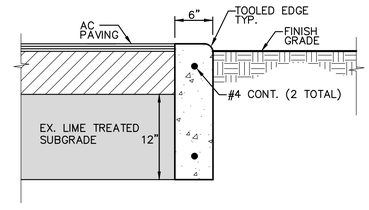




NOTES:
1. PROVIDE FELT EXPANSION JOINTS AT 20 FEET O.C. MAX. SEE PLAN FOR LAYOUT.
2. PROVIDE CONTROL JOINTS AT 10 FEET O.C. MAX. SEE PLAN FOR LAYOUT.
3. EXPANSION OR CONTROL JOINTS SHALL NOT EXCEED 1/2" IN SURFACE WIDTH.
4. CONTRACTOR TO PROVIDE SHOP DRAWING FOR REVIEW/APPROVAL OF JOINT LAYOUT IDENTIFYING CONTROL AND EXPANSION JOINTS.

1 C5.1 CONCRETE SIDEWALK

NO SCALE



NOTES:
1. PROVIDE FELT EXPANSION JOINTS (E.J.) AT 60 FEET O.C. PROVIDE CONTROL JOINTS AT 10 FEET O.C., EXCEPT WHEN PLACING ADJACENT TO CONCRETE WALKS THE EXPANSION JOINTS SHALL ALIGN WITH THE EXPANSION JOINTS SHOWN FOR THE CONCRETE WALKS.
2. AT E.J. USE 1/2"X24" SMOOTH DOWELS, ALIGN WITH REBAR,GREASE 1/2 THE LENGTH BEFORE CONCRETE PLACEMENT.

2 C5.1 FLUSH CONCRETE CURB

NO SCALE

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DETAILS AND SECTIONS

MARCH 20, 2026

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JOB NO. 21065

C5.1

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PLUMBING GENERAL NOTES

1. ALL NEW SANITARY WASTE PIPING 3" AND SMALLER SHALL BE SLOPED AT ¼" PER FOOT MINIMUM. PIPE 4" AND LARGER SHALL BE SLOPED AT ⅛" PER FOOT. UNLESS OTHERWISE NOTED.
2. PROVIDE ACCESS PANELS AS NECESSARY TO PROPERLY ACCESS THE MECHANICAL SYSTEMS INCLUDING VALVES, EQUIPMENT AND INDIRECT DRAINS. COORDINATE WITH ARCHITECTURAL REFLECTED CEILING PLAN.
3. FOR EXACT LOCATION OF ALL PLUMBING FIXTURES REFER TO ARCHITECTURAL PLANS.
4. KEEP ALL VENTS THRU ROOF A MINIMUM OF 10'-0" FROM OUTSIDE AIR INTAKES AND MINIMUM 1'-0" FROM EXTERIOR WALLS.
5. ALL VALVES SHALL BE LINE SIZE UNLESS OTHERWISE NOTED.
6. BUILDING DRAIN AND VENT PIPING MATERIALS SHALL COMPLY WITH SECTIONS 701.0 AND 903.0 OF THE CALIFORNIA PLUMBING CODE.
7. ALL SANITARY SYSTEM MATERIALS SHALL BE LISTED BY AN APPROVED LISTING AGENCY.
8. EACH VENT SHALL RISE VERTICALLY TO A POINT NOT LESS THAN SIX (6) INCHES ABOVE THE FLOOD LEVEL RIM OF THE FIXTURE SERVED BEFORE OFFSETTING HORIZONTALLY OR BEFORE BEING CONNECTED TO ANY OTHER VENT.
9. HOT WATER PIPE INSULATION: INSULATE ALL DOMESTIC HOT WATER PIPING. PIPE INSULATION SHALL HAVE CONDUCTIVITY RANGE OF 0.22-0.28 INSULATION MEAN RATING TEM 100°F. INSULATION THICKNESS SHALL BE 1" THICK INSULATION FOR ALL ¾" PIPING AND SMALLER. PIPES SIZED 1" AND 1¼" SHALL HAVE 1½" THICK INSULATION. PIPES 1½" AND LARGER SHALL HAVE 2" THICK INSULATION.
10. WHERE APPLICABLE, PROVIDE AND INSTALL APPROVED FIRE CAULK/SEALS AROUND ALL PIPES PENETRATING FIRE WALLS AND PARTITIONS.
11. FLASH AND COUNTERFLASH ALL ITEMS PASSING THROUGH THE ROOF. PROVIDE AND INSTALL ROOF JACKS, SAFES, ETC. AS REQUIRED.

APPLICABLE CODES

ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE REGULATIONS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

A) STATE OF CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24,

2025 EDITION OF THE CALIFORNIA BUILDING CODE.
2025 EDITION OF THE CALIFORNIA ELECTRICAL CODE.
2025 EDITION OF THE CALIFORNIA ENERGY CODE.
2025 EDITION OF THE CALIFORNIA FIRE CODE.
2025 EDITION OF THE CALIFORNIA GREEN BUILDING CODE.
2025 EDITION OF THE CALIFORNIA MECHANICAL CODE.
2025 EDITION OF THE CALIFORNIA PLUMBING CODE.

B) NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) LIFE SAFETY CODE

PLUMBING LEGEND

	COLD WATER LINE
CD	CONDENSATE DRAIN
F	FIRE SERVICE LINE
G	GAS
	HOT WATER LINE
	HOT WATER RETURN
LPG	LIQUID PETROLEUM GAS
OFL	OVERFLOW
	PIPING OR EQUIPMENT TO BE REMOVED
RWL	RAINWATER LEADER
	RISE OR DROP IN DIRECTION OF FLOW
	SANITARY SOIL OR WASTE LINE
SCD	SECONDARY CONDENSATE DRAIN LINE
TP	TRAP PRIMER LINE
	VENT
	CLEANOUT & WALL CLEANOUT
	FIRE DEPARTMENT CONNECTION
	FLOOR/ GRADE CLEAN OUT
	FLOOR DRAIN
	HOSE BIBB/ WALL HYDRANT
	TRAP
	TRAP PRIMER
	BALANCING VALVE
	BALL VALVE
	BUTTERFLY VALVE
	CHECK VALVE
	FLEXIBLE CONNECTION
	GATE VALVE
	SHUT OFF COCK
	PRESSURE GAUGE
	PRESSURE REDUCING VALVE
	REDUCER
	PRESSURE & TEMPERATURE RELIEF VALVE
	SHUT OFF VALVE
	STRAINER
	STRAINER & DRAIN VALVE WITH HOSE FITTING
	SOLENOID VALVE
	THERMOMETER
	UNION

ABV	ABOVE
ABC, OH	ABOVE CEILING, OVERHEAD
AD	ACCESS DOOR
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
BR	BRANCH
CL	CENTERLINE
CO	CLEANOUT
CW	COLD WATER
DHW	DOMESTIC HOT WATER
DHWR	DOMESTIC HOT WATER RETURN
DIA, ø	DIAMETER
FC	FLEXIBLE CONNECTION
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FSR	FIRE SPRINKLER RISER
GCO	GRADE CLEANOUT
HW	HOT WATER
HWR	HOT WATER RETURN
I.E.	INVERT ELEVATION
(N) (E)	NEW, EXISTING
NIC	NOT IN CONTRACT
POC	POINT OF CONNECTION
P, TRV	PRESSURE & TEMPERATURE RELIEF VALVE
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
(R) (D)	RISE, DROP
RD, OFL	ROOF DRAIN, OVERFLOW
RI	ROUGH-IN
RO	RUN-OUT
SMS	SHEET METAL SCREWS
SOV	SHUT OFF VALVE
TA, FA	TO ABOVE, FROM ABOVE
TB, FB	TO BELOW, FROM BELOW
TBR	TO BE REMOVED
TP	TRAP PRIMER
UG, UF	UNDERGROUND, UNDERFLOOR
UON	UNLESS OTHERWISE NOTED
UTR	UP THROUGH ROOF
V, VR, VTR	VENT, VENT RISER, VENT THRU ROOF
WT	WATERTIGHT
WCO	WALL CLEANOUT
ZV	ZONE VALVE

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Project Engineer:	NS	Job Number:	26120
Project Manager:	NS	Plot Date: Apr 16, 2026 - 4:26pm	
Project Drafter:	BIMB	Login: NShah	

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PLUMBING NOTES, LEGEND, AND SCHEDULES

MARCH 20, 2026

DRAWN BY: LR
CHECKED BY: XD
JOB NO. 21065

P0.1

2.05 VALVES AND FITTINGS FOR POTABLE WATER SYSTEMS

A. GENERAL:

1. PROVIDE VALVES AND FITTINGS CONFORMING TO LEAD-FREE REQUIREMENTS OF CALIFORNIA HEALTH AND SAFETY CODE SECTION 11 68 75.

A. PROVIDE VALVES LISTED TO NSF/ANSI 61-G OR NSF/ANSI 372 FOR VALVE MATERIALS FOR POTABLE-WATER SERVICE.

1) EXCEPTION: MAIN DISTRIBUTION GATE VALVES ABOVE 1-1/2 INCHES LOCATED UNDERGROUND OUTSIDE BUILDING ARE NOT REQUIRED TO CONFORM LEAD-FREE REQUIREMENTS OF CALIFORNIA HEALTH AND SAFETY CODE SECTION 11 68 75.

B. GATE VALVES:

1. GENERAL: FURNISH VALVES IN COPPER LINES WITH ADAPTERS TO SUIT VALVE/LINE REQUIREMENTS.

2. 1-1/2 INCHES AND SMALLER: MINIMUM 200 PSI CWP, BRONZE BODY, THREADED BONNET, RISING OR NON-RISING STEM, SOLID WEDGE, THREADED OR SOLDER ENDS, CONFORMING TO MSS SP-80. MILWAUKEE UP148, UP149, NIBCO T-113-LF, S-113-LF, OR EQUAL.

3. 2 INCHES THROUGH 3 INCHES: MINIMUM 200 PSI CWP, BRONZE BODY, THREADED BONNET, NON-RISING STEM, SOLID WEDGE, THREADED OR SOLDER ENDS, CONFORMING TO MSS SP-80. NIBCO T-113-LF, S-113-LF, OR EQUAL.

C. BALL VALVES:

1. 2 INCHES AND SMALLER: 600 PSI CWP, CAST BRONZE OR BRASS BODY, FULL PORT, TWO PIECE, THREADED ENDS, AND REINFORCED PTFE SEAL, CONFORMING TO MSS SP-110. NIBCO T-685-80-LF, MILWAUKEE UPBA400, APOLLO 77C-LF10, KITZ 868, OR EQUAL.

2. 2-1/2 INCHES: APOLLO 77C-LF10, OR EQUAL.

2.06 VALVES AND FITTINGS FOR GAS SYSTEMS

A. BUILDING GAS SHUT-OFF VALVES:

1. 2 INCHES AND SMALLER: PROVIDE 175 PSI SWP BALL VALVE, CSA LISTED, FULL PORT, LOCKWING TYPE, WITH AGA PAINTED GREY FINISH. JOMAR 175-LWN, OR EQUAL.

2. ABOVE 2 INCHES: PROVIDE RESUN D-126, KEY PORT, OR EQUAL, LUBRICATED PLUG COCK, CSA LISTED, RECTANGULAR PORT, FULL PIPE AREA, 125 PSI SWP, FLANGED ENDS. PROVIDE T-HANDLE SOCKET WRENCH AND ADAPTER FITTINGS AS REQUIRED FOR OPERATION OF VALVES. PROVIDE ONE PACKAGE OF SPARE LUBRICANT STICKS, SIZES AS REQUIRED FOR VALVE SIZES. LUBRICANT SHALL BE THE PRODUCT RECOMMENDED BY VALVE MANUFACTURER FOR USE WITH TYPE OF GAS CONVEYED BY THE PIPING SYSTEM.

3. PROVIDE VALVES SAME SIZE AS UPSTREAM PIPING. MAKE ANY REDUCTION IN SIZE OF GAS PIPING DOWNSTREAM OF SHUTOFF VALVES.

B. GAS SHUT_OFF VALVE ABOVE GRADE:

1. 2 INCHES AND SMALLER: PROVIDE MILWAUKEE BB2-100, JOMAR T-100NE, OR EQUAL, BALL VALVE, CSA LISTED, FULL PORT.

2. ABOVE 2 INCHES: PROVIDE RESUN D-126, KEY PORT, OR EQUAL, CSA LISTED, RECTANGULAR PORT, FULL PIPE AREA, 125 PSI SWP, FLANGED ENDS. PROVIDE T-HANDLE SOCKET WRENCH AND ADAPTER FITTINGS AS REQUIRED FOR OPERATION OF VALVES. PROVIDE ONE PACKAGE OF SPARE LUBRICANT STICKS, SIZES AS REQUIRED FOR VALVE SIZES. LUBRICANT SHALL BE THE PRODUCT RECOMMENDED BY VALVE MANUFACTURER FOR USE WITH TYPE OF GAS CONVEYED BY THE PIPING SYSTEM.

3. PROVIDE VALVES SAME SIZE AS UPSTREAM PIPING. MAKE ANY REDUCTION IN SIZE OF GAS PIPING DOWNSTREAM OF SHUTOFF VALVES.

C. FOR GAS SERVICE BELOW GRADE:

1. LUBRICATED PLUG COCKS: RESUN MODEL D-126, KEY PORT, OR EQUAL, LUBRICATED PLUG COCK, CSA LISTED, RECTANGULAR PORT, FULL PIPE AREA, 125 PSI SWP, FLANGED ENDS. PROVIDE EXTENDED LUBRICATION STEM, ARRANGED TO ALLOW FOR LUBRICATION OF THE VALVE FROM GRADE. THE EXTENSION MUST BE CONSTRUCTED TO ALLOW FOR LUBRICATION OF THE VALVE AND FOR OPERATION OF THE VALVE FROM GRADE. PROVIDE T-HANDLE SOCKET WRENCH AND ADAPTER FITTINGS AS REQUIRED FOR OPERATION OF VALVES. PROVIDE ONE PACKAGE OF SPARE LUBRICANT STICKS, SIZES AS REQUIRED FOR VALVE SIZES. LUBRICANT SHALL BE THE PRODUCT RECOMMENDED BY VALVE MANUFACTURER FOR USE WITH TYPE OF GAS CONVEYED BY THE PIPING SYSTEM.

A. PROVIDE FLANGED ENDS ON VALVES INSTALLED BELOW GRADE. CONNECT TO POLYETHYLENE PIPING WITH FLANGES AND STAINLESS STEEL BOLTS.

B. ANCHOR EACH VALVE FLANGE TO VALVE BOX WITH WELDED ANGLE IRON, OR PROVIDE VERTICAL STIFF LEG, MINIMUM 18 INCHES INTO EARTH.

C. PROVIDE CENTRAL DOUBLE O SEAL TRANSITION FITTINGS, OR EQUAL, FLANGED STYLE FOR CONNECTION BETWEEN VALVE AND PIPING SYSTEM.

D. WRAP VALVE, FLANGES AND EXPOSED PIPE WITH PASCO SPECIALTY & MFG., INC., OR EQUAL TAPE WRAP, INSTALLED IN ACCORDANCE WITH REQUIREMENTS LISTED UNDER “PIPE PROTECTION”.

2. MOLDED POLYETHYLENE BODY BALL VALVES: NORDSTROM VALVES - POLYVALVE II FOR SIZES 1-1/4 INCHES TO 2 INCHES, AND POLYVALVE FOR SIZES 2 INCHES AND LARGER, OR EQUAL. VALVES 1 INCH AND SMALLER SHALL BE LISTED LUBRICATED PLUG COCKS, WITH TRANSITION FITTINGS..

A. PROVIDE STUB ENDS TO MATCH SDR OF THE PIPING, ARRANGED FOR BUTT FUSION WELDING. PROVIDE VALVE BODY MATERIAL TO SUIT THE ADJACENT PIPING SYSTEM.

B. PROVIDE WRENCH TO SUIT THE VALVE OPERATOR.

2.07 GAS PIPING SPECIALTIES

A. GAS PRESSURE REGULATING VALVES:

1. PROVIDE SINGLE_STAGE, SPRING-LOADED, CORROSION_RESISTANT GAS PRESSURE REGULATORS, WITH DIE-CAST ALUMINUM OR CAST IRON BODY, COMPLYING WITH ANSI Z21.80. UNIT SHALL BE WITH ATMOSPHERIC VENT, INTERNAL RELIEF OVERPRESSURE PROTECTION, THREADED ENDS FOR 2 INCHES AND SMALLER, FLANGED ENDS FOR 2_1/2 INCHES AND LARGER. FOR INLET AND OUTLET GAS PRESSURES, SPECIFIC GRAVITY, AND VOLUME FLOW REFER TO DRAWINGS SCHEDULE.

2. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE THE FOLLOWING, OR EQUAL:

SIZEMANUFACTURER/MODEL1/2 INCHELSTER (AMERICAN, SINGER) MODEL 1213B

ITRON (ACTARIS, SLUMBERGER, SPRAGUE) MODEL B42R.3/4 THRU 1-1/4INCHESELSTER (AMERICAN, SINGER) MODEL 1813C

SENSUS (IVENSYS, EQUIMETER, ROCKWELL) MODEL 143-80-12

ITRON (ACTARIS, SLUMBERGER, SPRAGUE) MODELS B42R, B57R, B58R1-1/2 THRU 2 INCHESELSTER (AMERICAN, SINGER) MODELS 1813, 1813B

SENSUS (IVENSYS, EQUIMETER, ROCKWELL) MODEL 243

ITRON (ACTARIS, SLUMBERGER, SPRAGUE) MODELS B43SR, B34R, B38RB.

2.08 DRAIN AND WASTE PIPING SPECIALTIES

A. CLEANOUTS:

1. GENERAL: INSTALL CLEANOUTS OF SAME DIAMETER AS PIPE (4 INCH MAXIMUM) IN ALL HORIZONTAL SOIL AND WASTE LINES WHERE INDICATED AND AT ALL POINTS OF CHANGE IN DIRECTION. CLEANOUTS SHALL BE LOCATED NOT LESS THAN 18 INCHES FROM BUILDING CONSTRUCTION SO AS TO PROVIDE SUFFICIENT SPACE FOR RODDING. NO HORIZONTAL RUN OVER 50 FEET INSIDE BUILDINGS OR 100 FEET OUTSIDE BUILDINGS SHALL BE WITHOUT CLEANOUT, WHETHER SHOWN ON DRAWINGS OR NOT. PROVIDE TWO-WAY CLEANOUTS WHERE INDICATED ON DRAWINGS, AND WHENEVER SANITARY SEWER EXITS BUILDING. ALL TWO-WAY CLEANOUTS SHALL HAVE (2) RISERS, EACH IN OPPOSING DIRECTIONS.

A. PROVIDE CLEANOUTS IN WASTE DROP FROM EACH SINK AND URINAL.

B. PROVIDE ONE WRENCH FOR EACH SIZE AND TYPE OF CLEANOUT USED. TURN OVER TO OWNER AT COMPLETION OF THE PROJECT, AND OBTAIN RECEIPT. PLACE RECEIPT IN OPERATION AND MAINTENANCE MANUALS.

2. CLEANOUTS IN FLOOR AND IN CONCRETE SIDEWALKS: DUCCO CAST IRON WITH NICKEL BRONZE TOP, CLAMPING COLLAR AND ABS PLASTIC PLUG: ZURN ZN_1400-KC, OR EQUAL, WITH SQUARE OR ROUND TOP TO SUIT FLOOR CONSTRUCTION.

3. CLEANOUTS IN COMPOSITION FLOORS: ZURN ZN-1400-X-DX, OR EQUAL (NICKEL BRONZE TOP).

4. CLEANOUTS IN CONCEALED, ABOVEGROUND CAST_IRON SOIL OR WASTE LINES: ZURN Z_1440A, OR EQUAL, WITH ABS PLASTIC PLUG.

5. CLEANOUTS IN WALLS: ZURN Z-1441 OR Z-1443, OR EQUAL, WITH STAINLESS STEEL COVER. PROVIDE LONG SWEEP ELBOW OR COMBINATION WYE AT CONNECTION TO RISER AND INSTALL WITH SURFACE OF CLEANOUT WITHIN ½ INCH OF FRONT FACE OF FINISHED WALL.

A. WHERE SPACE DOES NOT PERMIT THE ABOVE INSTALLATION, PROVIDE ZURN Z_1446, OR EQUAL, WITH STAINLESS STEEL ACCESS COVER, AND VANDAL RESISTANT SCREW.

B. INSTALL FACE OF CLEANOUT PLUG WITHIN 1/2 INCH OF FRONT FACE OF FINISHED WALL.

6. CLEANOUTS EXTERIOR TO BUILDING IN LANDSCAPED AREAS: ZURN Z_1449-BP, OR EQUAL, CLEANOUT FERRULE WITH TAPERED BRONZE PLUG. WHERE LOCATED AT GRADE, PROVIDE 18 BY 18 BY 6 INCH CONCRETE PAD; TROWEL CONCRETE SMOOTH AND EDGE; SET FLUSH WITH FINISHED GRADE.

7. CLEANOUTS IN DRIVE AREAS: ZURN -1400-HD-KC, OR EQUAL, WITH HEAVY-DUTY TOP AND ABS PLASTIC PLUG.

8. CLEANOUTS IN ACID WASTE SYSTEMS: ZURN ZN-1404, OR EQUAL, CLEANOUT ACCESS HOUSING, WITH DUCTILE CAST IRON BODY AND NICKEL BRONZE TOP. EXTEND ACID WASTE PIPING WITHIN THE CLEANOUT, AND TERMINATE WITH THREADED CAP. SECURE ACID WASTE PIPE INSIDE CLEANOUT ACCESS HOUSING WITH SETSCREWS PROVIDED.

G. GAS PIPE: SCHEDULE 40 BLACK STEEL CONFORMING TO ASTM A53, WITH MALLEABLE IRON THREADED FITTINGS ABOVE GRADE FOR PIPING 2 INCH AND SMALLER; WELDED PIPING BELOW GRADE AND FOR ABOVE GRADE PIPING LARGER THAN 2 INCHES, WITH CLASS 150 WELDING FITTINGS.

1. APPLIANCE FLEXIBLE CONNECTORS FOR INDOOR EQUIPMENT WITHOUT EXTERNAL SPRING ISOLATION:

A. CONTRACTOR MAY CHOOSE ONE OF THE FOLLOWING:

1) DIRECT GAS PIPE CONNECTION.

2) APPLIANCE FLEXIBLE CONNECTOR:

A) COMPLY WITH ANSI Z21.24.

B) POLYMER OR HOT-DIPPED PVC COATED CORRUGATED 304 STAINLESS STEEL.

C) OPERATING-PRESSURE RATING: 0.5 PSIG.

D) END FITTINGS: ZINC-COATED STEEL.

E) MAXIMUM LENGTH: 30 INCHES.

F) MANUFACTURERS: DORMONT, SERIES 30C, 31, 40C, 41, AND 51, BRASSCRAFT MODEL PROCOAT, OR EQUAL.

B. PROVIDE WITH END CONNECTIONS COMPATIBLE WITH EQUIPMENT AND PIPING SYSTEM.

C. EQUIPMENT LOCATED IN SPACES NORMALLY ACCESSIBLE TO BUILDING OCCUPANTS, OTHER THAN MAINTENANCE PERSONNEL, SHALL UTILIZE DIRECT GAS PIPE CONNECTION.

D. PROVIDE ANTI-MICROBIAL PVC COATING FOR USE WITH APPLIANCES LOCATED IN KITCHEN AREAS.

2. FLEXIBLE GAS CONNECTOR FOR OUTDOOR EQUIPMENT WITHOUT EXTERNAL SPRING ISOLATION:

A. CONTRACTOR MAY CHOOSE ONE OF THE FOLLOWING:

1) DIRECT GAS PIPE CONNECTION.

2) CORRUGATED STAINLESS STEEL HOSE WITH 304 STAINLESS STEEL BRAID COVERING, CSA CERTIFIED. METRAFLEX MODEL GASCT, UNISOURCE MANUFACTURING SERIES 400, OR EQUAL. PROVIDE WITH END CONNECTIONS COMPATIBLE WITH EQUIPMENT AND PIPING SYSTEM.

3. FLEXIBLE GAS CONNECTOR FOR EQUIPMENT WITH EXTERNAL SPRING ISOLATION, INDOORS AND OUTDOORS:

A. WHERE DRAWINGS INDICATE INSTALLATION OF MECHANICAL EQUIPMENT ON SPRING ISOLATION RAILS SPRING MOUNTED CURBS, OR SPRING HANGERS, PROVIDE METAL FLEXIBLE CONNECTORS, METRAFLEX METRALOOP, OR EQUAL BY UNISOURCE MFG. CO., OR FLEXICRAFT INDUSTRIES, CSA CERTIFIED FOR 4 INCHES OF MOVEMENT IN ALL DIRECTIONS.

4. FLEXIBLE GAS CONNECTION SYSTEM FOR MOVABLE GAS-FIRED COOKING EQUIPMENT:

A. SYSTEM SHALL INCLUDE FLEXIBLE PVC COATED BRAIDED STAINLESS STEEL HOSE, QUICK DISCONNECT FITTING, FULL PORT CSA CERTIFIED BALL VALVE, 2 SWIVEL ELBOWS, COILED STEEL RESTRAINING CABLE AND MOUNTING HARDWARE. ASSEMBLY SHALL BE CERTIFIED PER ANSI Z21.69/CSA 6.16, “CONNECTORS FOR MOVABLE GAS APPLIANCES.” SIZE AS REQUIRED FOR APPLIANCE CONNECTION, 48” MINIMUM HOSE LENGTH. INSTALL PER MANUFACTURER'S INSTRUCTIONS. CONNECTORS SHALL BE DORMONT SAFETY SYSTEM, T&S SAFE-T-LINK, OR EQUAL.

H. CONDENSATE DRAIN PIPING:

1. OUTSIDE BUILDINGS PROVIDE SCHEDULE 40 GALVANIZED STEEL PIPE AND CAST IRON DRAIN OR VENT FITTINGS.]

2. CONNECT CONDENSATE DRAINS TO MECHANICAL EQUIPMENT PER EQUIPMENT MANUFACTURER'S RECOMMENDATIONS; PROVIDE P-TRAP WHERE REQUIRED. SLOPE PIPING TO DRAIN, WITH 1 INCH IN 10 FOOT MINIMUM PITCH. PROVIDE DI-ELECTRIC COUPLINGS OR UNIONS AT CONNECTIONS TO DISSIMILAR MATERIALS.

2.03 SITE PIPING AND FITTINGS TO 5 FEET FROM BUILDINGS

A. BURIED DRAIN, WASTE, AND VENT PIPING:

1. INSTALL PIPING FROM STREET CONNECTION TO THE PROPERTY LINE IN ACCORDANCE WITH LOCAL REQUIREMENTS.

2. 4 INCHES AND LARGER: PVC, ASTM D3034 - SDR 35; USE MATCHING RING TITE FITTINGS.

3. 3 INCHES AND SMALLER: CAST IRON SOIL PIPE AND FITTINGS, ASPHALTIC COATED, CONFORMING TO ASTM A888 AND CAST IRON SOIL PIPE INSTITUTE STANDARD 301 AND SO MARKED. PIPE AND FITTINGS SHALL BE AS MANUFACTURED BY AB&I, CHARLOTTE, TYLER PIPE, OR EQUAL. PROVIDE ANACO-HUSKY SD 4000, CLAMP-ALL 125, OR EQUAL COUPLINGS AND NO_HUB FITTINGS, MEETING THE REQUIREMENTS OF FM 1680, SD CLASS I AND ASTM C1540. PIPE AND FITTINGS SHALL BE THE PRODUCT OF A SINGLE MANUFACTURER.

B. WATER SERVICE PIPING:

1. SIZES 2 INCHES AND LARGER (NOT UNDER BUILDING): GASKET STYLE PVC CONFORMING TO ASTM D2241_SDR21, CLASS 200 WITH GASKET TYPE FITTINGS OR DUCTILE IRON MECHANICAL JOINT COUPLINGS. GASKET FITTINGS SHALL BE ONE PIECE INJECTION MOLDED PVC FITTINGS, EQUAL TO FLO-SEAL WATER MAIN FITTINGS FOR PVC PRESSURE PIPE, 200 PSI, ASTM D-3139.

2. SIZES LESS THAN 2 INCHES: TYPE K COPPER TUBING, HARD TEMPER, WITH WROUGHT COPPER FITTINGS. SEE SECTION 22 00 50 FOR PIPE PROTECTION REQUIREMENTS FOR BELOW GRADE COPPER PIPING.

3. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE THE FOLLOWING, OR EQUAL:

A. J.M. EAGLE.

B. P.W. PIPE.

C. IPEX SERIES PIPE.

C. WATER SERVICE PIPING ABOVE GRADE:

1. PIPING 2-1/2 INCHES AND SMALLER: TYPE K COPPER TUBING, HARD TEMPER, WITH BRAZED WROUGHT COPPER FITTINGS.

D. GAS PIPING UNDERGROUND: PERFORMANCE PIPE, “DRISCOPLEX” 6500 PE 2708 (YELLOW), POLYPIPE, INC., “POLYPIPE”, OR EQUAL, POLYETHYLENE GAS DISTRIBUTION PIPE, ASTM D2513, ASTM D3261, AND ASTM D2683 FITTINGS WITH FUSION WELDED JOINTS. PROVIDE PIPING LABELED FOR NATURAL GAS IN ACCORDANCE WITH CPC.

1. ELECTRICALLY ISOLATE UNDERGROUND FERROUS GAS PIPING FROM THE REST OF THE GAS SYSTEM WITH LISTED OR APPROVED ISOLATION FITTINGS INSTALLED A MINIMUM OF SIX INCHES ABOVE GRADE.

2. PROVIDE CENTRAL PLASTICS CORP., PERFECTION, OR EQUAL, ANODELESS, SINGLE SEAL RISER FOR TRANSITION FROM BELOW GRADE POLYETHYLENE TO SCHEDULE 40 STEEL PIPING ABOVE GRADE. MINIMUM HORIZONTAL LENGTH SHALL BE 30 INCHES. MINIMUM VERTICAL LENGTH SHALL BE 30 INCHES, OR GREATER AS REQUIRED. PROVIDE FUSION CONNECTION TO POLYETHYLENE PIPE BELOW GRADE, AND SCREWED CONNECTION TO STEEL PIPE ABOVE GRADE.

E. GAS PIPING ABOVEGROUND TO 30 INCHES BELOWGROUND: SCHEDULE 40 BLACK STEEL WITH BEVELED ENDS FOR WELDING, WITH CLASS 150 WELDING FITTINGS. MITERING TO FORM ELBOWS OR TEES WILL NOT BE PERMITTED; WHERE BRANCH TEE CONNECTIONS OF WELDED PIPING ARE REQUIRED, BONNEY "WELDOLET" ALLIED PIPE FITTINGS, OR EQUAL FITTINGS MAY BE USED IF THE BRANCH IS ONE_HALF OF THE DIAMETER OF THE MAIN OR LESS.

2.04 PIPE JOINING MATERIALS

A. REFER TO PIPING ARTICLES IN THIS SECTION FOR SPECIAL JOINING MATERIALS NOT LISTED BELOW.

B. PIPE-FLANGE GASKET MATERIALS: SUITABLE FOR CHEMICAL AND THERMAL CONDITIONS OF PIPING SYSTEM CONTENTS.

1. ASME B16.21, NONMETALLIC, FLAT, ASBESTOS-FREE, 1/8-INCH (3.2-MM) MAXIMUM THICKNESS UNLESS THICKNESS OR SPECIFIC MATERIAL IS INDICATED

A. FULL-FACE TYPE: FOR FLAT-FACE, CLASS 125, CAST IRON AND CAST BRONZE FLANGES.

B. NARROW-FACE TYPE: FOR RAISED-FACE, CLASS 250, CAST IRON AND STEEL FLANGES.

2. AWWA C111, RUBBER, FLAT FACE, 1/8-INCH (3.2MM) THICK, UNLESS OTHERWISE INDICATED; AND FULL-FACE OR RING TYPE, UNLESS OTHER INDICATED.

3. FLANGE BOLTS AND NUTS: AWWA C111, CARBON STEEL, UNLESS OTHERWISE INDICATED.

4. PLASTIC, PIPE-FLANGE GASKET, BOLTS AND NUTS: TYPE AND MATERIAL RECOMMENDED BY PIPING SYSTEM MANUFACTURER, UNLESS OTHERWISE INDICATED.

C. SOLDER FILLER METALS: ASTM B 32, 100 PERCENT LEAD FREE ALLOYS. INCLUDE WATER-FLUSHABLE FLUX ACCORDING TO ASTM B813.

D. BRAZING FILLER METALS: AWS A5.8, BCUP-5 SERIES, COPPER-PHOSPHORUS UNLESS OTHERWISE INDICATED. SIL-FOS 15, OR EQUAL.

E. SOLVENT CEMENTS FOR JOINING CPVC PIPING: ASTM F 493.

1. CPVC SOLVENT CEMENT SHALL HAVE VOC CONTENT OF 490 G/L OR LESS.

2. ADHESIVE PRIMER SHALL HAVE VOC CONTENT OF 550 G/L OR LESS.

3. SOLVENT CEMENT AND ADHESIVE PRIMER SHALL COMPLY WITH TESTING AND PRODUCT REQUIREMENTS OF SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, RULE 1168.

G. SOLVENT CEMENTS FOR JOINING PVC PIPING: ASTM D 2564. INCLUDE PRIMER ACCORDING TO ASTM F 656.

1. PVC SOLVENT CEMENT SHALL HAVE VOC CONTENT OF 510 G/L OR LESS.

2. ADHESIVE PRIMER SHALL HAVE VOC CONTENT OF 550 G/L OR LESS.

3. SOLVENT CEMENT AND ADHESIVE PRIMER SHALL COMPLY WITH TESTING AND PRODUCT REQUIREMENTS OF SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, RULE 1168.

SECTION 22 10 00

PLUMBING PIPING SYSTEMS

PART 1 - GENERAL

1.01 SUMMARY

A. SECTION INCLUDES:

1. PIPE AND FITTINGS.
2. VALVES.
3. DOMESTIC WATER PIPING SPECIALTIES.
4. GAS PIPING SPECIALTIES.
5. DRAIN AND WASTE PIPING SPECIALTIES.

1.02 RELATED REQUIREMENTS

A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

B. SECTION 22 00 50 BASIC PLUMBING MATERIALS AND METHODS.

1.03 ACTION SUBMITTALS

A. FOR ADDITIONAL REQUIREMENTS, REFER TO SECTION 22 00 50, BASIC PLUMBING MATERIALS AND METHODS.

B. PRODUCT DATA: SUBMIT MANUFACTURER'S TECHNICAL PRODUCT DATA AND INSTALLATION INSTRUCTIONS FOR PLUMBING PIPING SYSTEMS MATERIALS AND PRODUCTS.

1.04 INFORMATIONAL SUBMITTALS

A. FOR ADDITIONAL REQUIREMENTS, REFER TO SECTION 22 00 50, BASIC PLUMBING MATERIALS AND METHODS.

B. PROVIDE WELDING CERTIFICATE FOR ALL GAS PIPE WELDERS.

C. GAS PIPE INSTALLER QUALIFICATIONS: PROVIDE EVIDENCE OF CURRENT QUALIFICATIONS FOR INDIVIDUALS PERFORMING WORK REQUIRING QUALIFICATIONS.

1.05 CLOSEOUT SUBMITTALS

A. FOR ADDITIONAL REQUIREMENTS, REFER TO SECTION 22 00 50, BASIC PLUMBING MATERIALS AND METHODS.

B. MAINTENANCE DATA: SUBMIT MAINTENANCE DATA AND PARTS LISTS FOR PLUMBING PIPING SYSTEMS MATERIALS AND PRODUCTS. INCLUDE THIS DATA IN OPERATION AND MAINTENANCE MANUAL.

1.06 MAINTENANCE MATERIAL SUBMITTALS

A. FURNISH TO OWNER, WITH RECEIPT, ONE VALVE KEY FOR EACH KEY OPERATED HYDRANT, BIBB, OR FAUCET INSTALLED.

1.07 QUALITY ASSURANCE

A. FOR ADDITIONAL REQUIREMENTS, REFER TO SECTION 22 00 50, BASIC PLUMBING MATERIALS AND METHODS.

B. GAS PIPE INSTALLER QUALIFICATIONS: INDIVIDUALS PERFORMING TASKS REQUIRING QUALIFICATIONS UNDER FEDERAL AND STATE REGULATIONS SHALL BE QUALIFIED BY THE GAS UTILITY SUPPLYING PROJECT SITE. THE QUALIFICATIONS SHALL BE CURRENT AT THE TIME OF PERFORMING THE WORK.

C. NFPA/ANSI COMPLIANCE: FABRICATE AND INSTALL NATURAL GAS SYSTEMS IN ACCORDANCE WITH LATEST EDITION OF NFPA 54/ANSI Z223.1 "NATIONAL FUEL GAS CODE."

D. PIPE WELDING: QUALIFY PROCEDURES AND OPERATORS ACCORDING TO ASME BOILER AND PRESSURE VESSEL CODE.

E. FABRICATE AND INSTALL NATURAL GAS SYSTEMS IN ACCORDANCE WITH CALIFORNIA PLUMBING CODE.

F. UTILITY COMPLIANCE: FABRICATE AND INSTALL NATURAL GAS SYSTEMS IN ACCORDANCE WITH LOCAL GAS UTILITY COMPANY REQUIREMENTS.

PART 2 - PRODUCTS

2.01 MATERIALS AND PRODUCTS

A. PROVIDE PIPING MATERIALS AND FACTORY_FABRICATED PIPING PRODUCTS OF SIZES, TYPES, PRESSURE RATINGS, TEMPERATURE RATINGS, AND CAPACITIES AS INDICATED. PROVIDE MATERIALS AND PRODUCTS COMPLYING WITH CALIFORNIA PLUMBING CODE. WHERE MORE THAN ONE TYPE OF MATERIAL OR PRODUCT IS INDICATED, SELECTION FROM MATERIALS OR PRODUCTS SPECIFIED IS CONTRACTOR'S OPTION.

B. POTABLE-WATER PIPING AND COMPONENTS SHALL COMPLY WITH NSF 14, NSF 61, AND NSF 372. PLASTIC PIPING COMPONENTS SHALL BE MARKED WITH "NSF-PW."

2.02 PIPE AND FITTINGS ATTACHED TO AND BELOW BUILDINGS INCLUDING 5 FEET FROM BUILDINGS

A. PIPING AND FITTINGS ATTACHED TO COVERED WALKWAYS AND CORRIDORS SHALL COMPLY WITH THE REQUIREMENTS OF THIS ARTICLE.

B. DRAIN AND WASTE PIPE ABOVE GRADE: SOLVENT WELD PVC DWV PIPE WITH BELLED END, AND FITTINGS, CONFORMING TO ASTM D2729 AND SO MARKED. WHERE INSTALLED EXPOSED IN DUCTS OR PLENUMS PVC PIPE AND FITTINGS SHALL HAVE A FLAME/SMOKE SPREAD RATING OF NOT MORE THAN 25/50 IN ACCORDANCE WITH ASTM E84 OR UL 723. PIPE AND FITTINGS SHALL BE AS MANUFACTURED BY CHARLOTTE, WESTLAKE, OR EQUAL. PIPE AND FITTINGS SHALL BE THE PRODUCTS OF A SINGLE MANUFACTURER. OR, CAST IRON SOIL PIPE AND FITTINGS, ASPHALTIC COATED, CONFORMING TO ASTM A888 AND CAST IRON SOIL PIPE INSTITUTE STANDARD (CISPI) 301 AND SO MARKED. PIPE AND FITTINGS SHALL BE AS MANUFACTURED BY AB&I, CHARLOTTE, TYLER PIPE, OR EQUAL. PIPE AND FITTINGS SHALL BE THE PRODUCTS OF A SINGLE MANUFACTURER. AT CONTRACTOR'S OPTION, VERTICAL PIPING ABOVE FLOOR FROM LAVATORIES, SINKS, AND DRINKING FOUNTAINS MAY BE SCHEDULE 40 GALVANIZED STEEL PIPE WITH BLACK CAST IRON DRAINAGE FITTINGS, OR DWV WELD PIPE AND FITTINGS.

1. CAST IRON JOINTS ABOVE GRADE: NO_HUB PIPE CONFORMING TO ASTM A888 AND CISPI 301. COUPLINGS CONFORMING TO ASTM 1277 AND CISPI 310, WITH STAINLESS STEEL BANDS. PROVIDE PRODUCTS BY ANACO-HUSKY, TYLER, IDEAL OR EQUAL. PROVIDE SWAY BRACE AT 20'_0" MAXIMUM SPACING FOR SUSPENDED PIPE WITH NO_HUB JOINTS. PROVIDE A BRACE ON EACH SIDE OF A CHANGE IN DIRECTION OF 90 DEGREES OR MORE. BRACE RISER JOINTS AT EACH FLOOR AND AT 15 FOOT MAXIMUM INTERVALS (ALSO SEE SPECIFICATION SECTION 22 00 50).

C. DRAIN AND WASTE PIPE BELOW GRADE: SOLVENT WELD PVC DWV PIPE WITH BELLED END, AND FITTINGS, CONFORMING TO ASTM D2729 AND SO MARKED. PIPE AND FITTINGS SHALL BE AS MANUFACTURED BY CHARLOTTE, WESTLAKE, OR EQUAL. PIPE AND FITTINGS SHALL BE THE PRODUCTS OF A SINGLE MANUFACTURER. OR, CAST IRON SOIL PIPE AND FITTINGS, ASPHALTIC COATED, CONFORMING TO ASTM A888 AND CISPI 301 AND SO MARKED. PIPE AND FITTINGS SHALL BE AS MANUFACTURED BY AB&I, CHARLOTTE, TYLER PIPE, OR EQUAL. PIPE AND FITTINGS SHALL BE THE PRODUCTS OF A SINGLE MANUFACTURER. AT CONTRACTOR'S OPTION, HUB AND SPIGOT CAST IRON SOIL PIPE AND FITTINGS, ASPHALTIC COATED, CONFORMING TO ASTM A_74 AND SO MARKED, MAY BE USED.

1. CAST IRON JOINTS BELOW GRADE: ANACO-HUSKY SD 4000, CLAMP-ALL 125, OR EQUAL COUPLINGS AND NO_HUB FITTINGS, MEETING THE REQUIREMENTS OF FM 1680, SD CLASS I AND ASTM C1540.

2. CAST IRON JOINTS BELOW GRADE (HUB AND SPIGOT OPTION): NEOPRENE GASKETS CONFORMING TO ASTM C564, AS MANUFACTURED BY TY_SEAL, DUAL_TITE, OR EQUAL.

D. VENT PIPE:

1. 3 INCH AND LARGER, ABOVE GRADE: SOLVENT WELD PVC DWV PIPE WITH BELLED END, AND FITTINGS, CONFORMING TO ASTM D2729 AND SO MARKED. WHERE INSTALLED EXPOSED IN DUCTS OR PLENUMS PVC PIPE AND FITTINGS SHALL HAVE A FLAME/SMOKE SPREAD RATING OF NOT MORE THAN 25/50 IN ACCORDANCE WITH ASTM E84 OR UL 723. PIPE AND FITTINGS SHALL BE AS MANUFACTURED BY CHARLOTTE, WESTLAKE, OR EQUAL. PIPE AND FITTINGS SHALL BE THE PRODUCTS OF A SINGLE MANUFACTURER. OR, CAST IRON SOIL PIPE AND FITTINGS CONFORMING TO ASTM A888 AND CAST IRON SOIL PIPE INSTITUTE STANDARD 301 AND SO MARKED. JOINTS IN CAST IRON VENT PIPE SHALL BE THE SAME AS SPECIFIED FOR CAST IRON WASTE PIPE ABOVE GRADE.

2. 2_1/2 INCH AND SMALLER, ABOVE GRADE: SOLVENT WELD PVC DWV PIPE AND FITTINGS AS SPECIFIED FOR SIZES 3” AND LARGER. OR, CAST IRON SOIL PIPE AND FITTINGS AS SPECIFIED FOR SIZES 3 INCH AND LARGER, SCHEDULE 40 GALVANIZED STEEL PIPE WITH BLACK CAST IRON DRAINAGE FITTINGS, OR DWV COPPER PIPE AND FITTINGS.

3. VENT PIPE BELOW GRADE AND TO 6 INCHES ABOVE GRADE: SOLVENT WELD PVC DWV PIPE WITH BELLED END, AND FITTINGS, CONFORMING TO ASTM D2729 AND SO MARKED. PIPE AND FITTINGS SHALL BE AS MANUFACTURED BY CHARLOTTE, WESTLAKE, OR EQUAL. PIPE AND FITTINGS SHALL BE THE PRODUCTS OF A SINGLE MANUFACTURER. OR, CAST IRON SOIL PIPE AND FITTINGS CONFORMING TO ASTM A888 AND CAST IRON SOIL PIPE INSTITUTE STANDARD 301 AND SO MARKED. JOINTS IN CAST IRON VENT PIPE SHALL BE THE SAME AS SPECIFIED FOR CAST IRON WASTE PIPE BELOW GROUND.

E. TYPE DWV COPPER TUBING OR NO_HUB CAST IRON PIPE AND FITTINGS MAY BE USED FOR CONCEALED RAINWATER LEADERS. WHERE NO-HUB PIPING IS USED, THE FITTINGS AND COUPLINGS SHALL MATCH THOSE USED FOR WASTE PIPING.

F. TEMPERATURE AND PRESSURE RELIEF VALVE PIPING: ASTM B88, TYPE L COPPER TUBING, HARD_TEMPER, WITH WROUGHT COPPER FITTINGS. PROVIDE FULL SOLDER CUP FOR ALL FITTINGS. CAPPED OR PLUGGED OUTLETS SHALL BE SCHEDULE 40 SCREWED BRASS.

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MODULAR CLASSROOM RELOCATION

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REVISIONS

NO.	DESCRIPTION	DATE

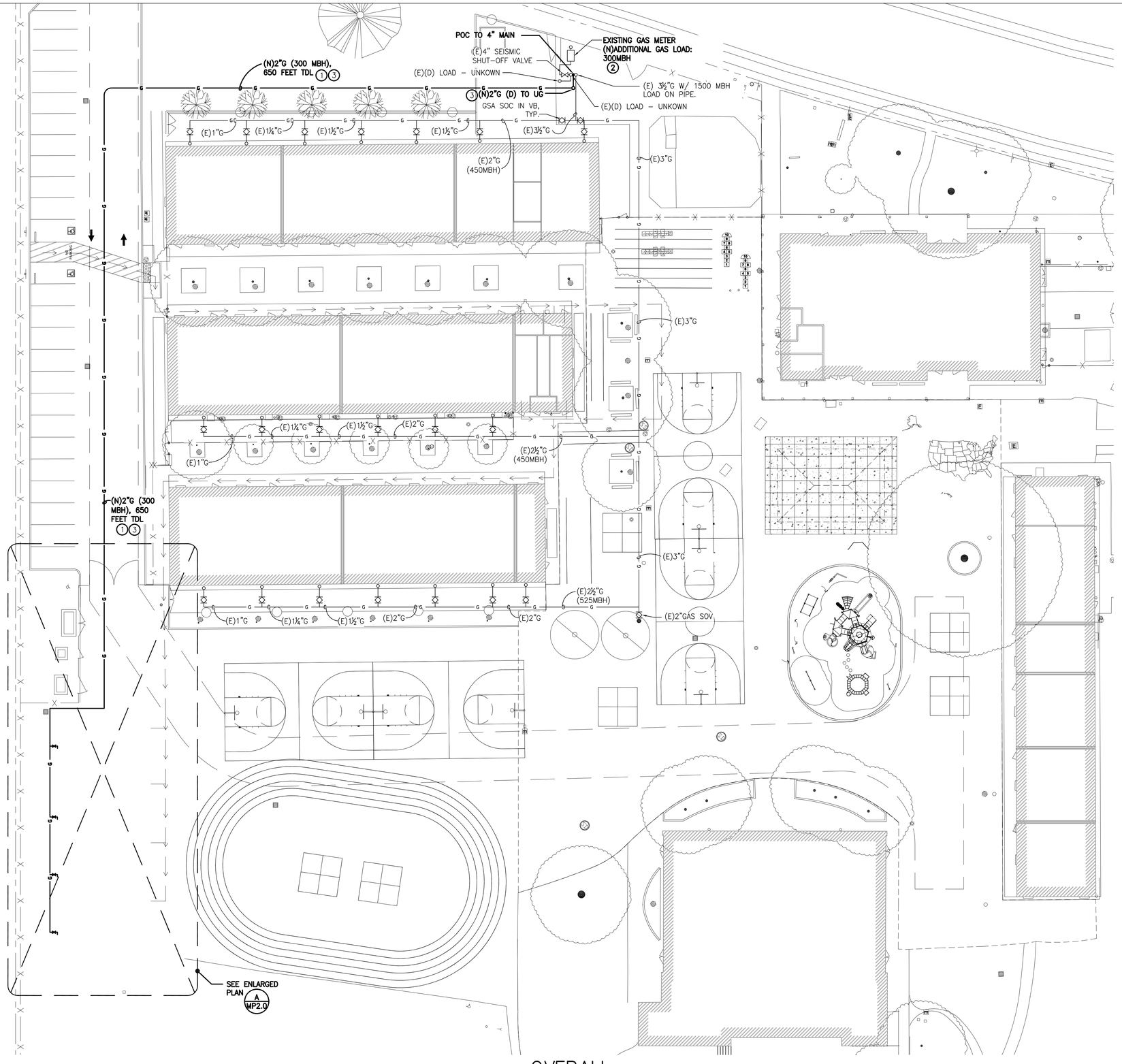
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PLUMBING SPECIFICATIONS

MARCH 20, 2026

DRAWN BY: LR
CHECKED BY: KD
JOB NO. 21065

P0.2



1. UNDERGROUND GAS PIPING SHALL BE "DRISCOPLEX" 6500 – PE2708 (YELLOW PIPE) IN COMPLIANCE WITH ASTM D2513, ASTM D3261 AND ASTM D2683 FITTINGS WITH FUSION WELDED JOINTS. PE PIPING SHALL BE LISTED FOR GAS APPLICATION AND INSTALLATION FOR DIRECTIONAL BORING.
2. CONTRACTOR TO COORDINATE WITH UTILITY PROVIDER FOR NEW 300 MBH LOAD ADDITION TO EXISTING METER. EXISTING METER IS STANDARD PRESSURE (7–11 INCH W.C.) METER.
3. REFER TO CIVIL DRAWINGS (SHEET C5.1) FOR PATCH BACK REQUIREMENTS FOR PAVING, ASHPLHALT, OR CONCRETE

A OVERALL PLUMBING SITE PLAN
SCALE: 1" = 20'–0"

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OVERALL PLUMBING SITE PLAN

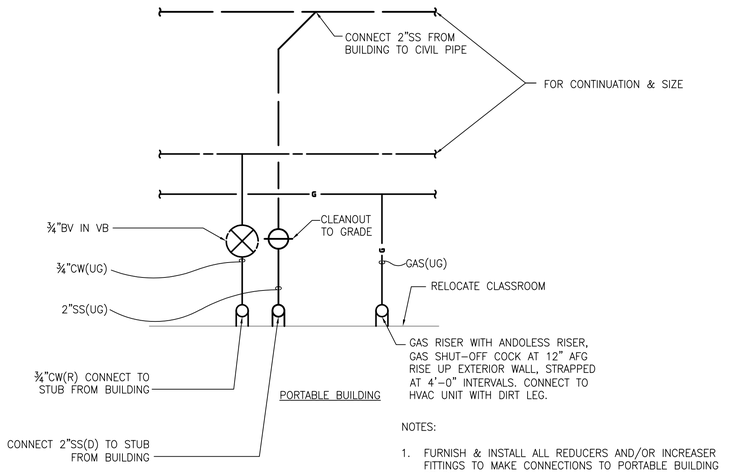
MARCH 20, 2026

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Project Engineer:	NS	Job Number:	26120
Project Manager:	NS	Plot Date: Apr 16, 2026 - 4:27pm	
Project Drafter:	BIMB	Login: NShah	

DRAWN BY: LR
CHECKED BY: KD
JOB NO. 21065

P1.0

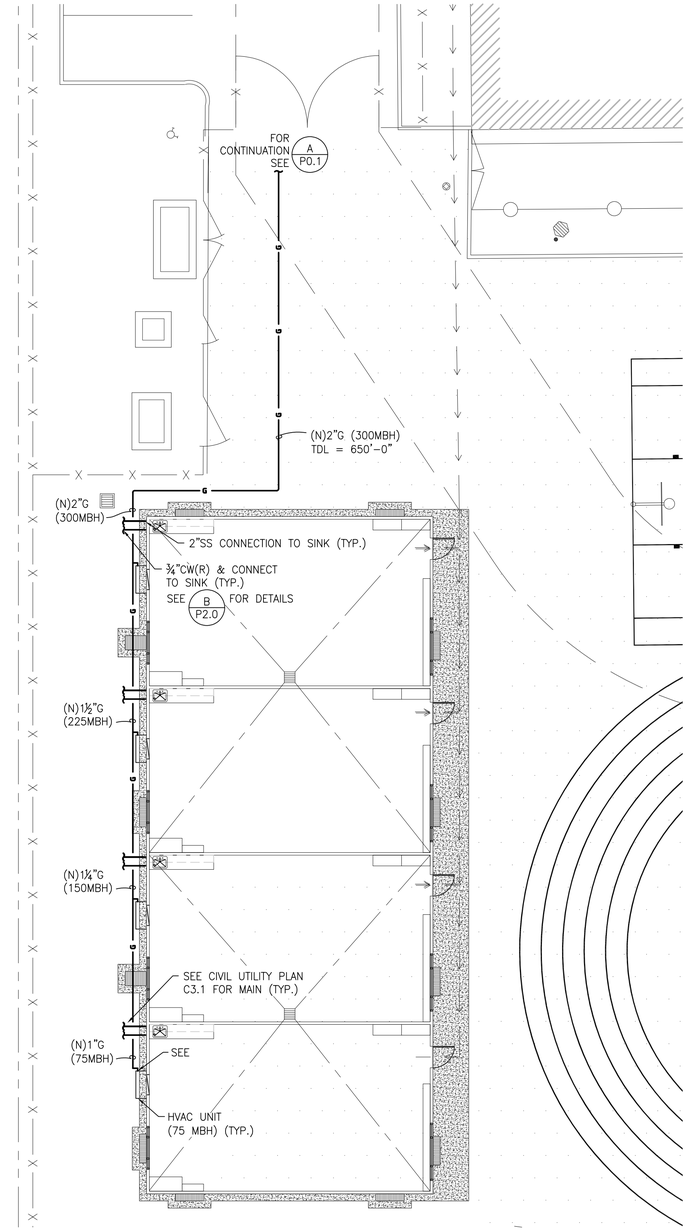


NOTES:

1. FURNISH & INSTALL ALL REDUCERS AND/OR INCREASER FITTINGS TO MAKE CONNECTIONS TO PORTABLE BUILDING STUBS.
2. SEE A/P2.0 FOR GAS PIPE SIZES.
3. CONNECTION TO WASTE, WATER AND GAS PIPE STUBS BY SITE PLUMBING CONTRACTOR.
4. VERIFY EXACT SIZE & LOCATION OF WATER, GAS AND WASTE PIPE STUBS WITH PORTABLE BUILDING MANUFACTURER.

B PORTABLE BUILDING WATER, WASTE & GAS CONNECTIONS

SCALE: NOT TO SCALE



A ENLARGED PLUMBING SITE PLAN

SCALE: 1" = 10'-0"

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ENLARGED PLUMBING SITE PLAN

MARCH 20, 2026

DRAWN BY: LR
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JOB NO. 21065

P2.0

GENERAL NOTES

1. FOR ALL UNDERGROUND CONDUITS, USE CAUTION WHEN TRENCHING NOT TO DAMAGE EXISTING CONDUIT, FULL BOXES, TREES, ETC. CUT & PATCH (E) CONCRETE, ASPHALT, LAWN, ETC. TO MATCH (E) CONDITIONS. IF ANY DAMAGE OCCURS TO EXISTING CONDUITS, IRRIGATION LINES, SEWER, ETC. THE CONTRACTOR SHALL REPAIR THE DAMAGE AT THEIR OWN COST TO LIKE NEW CONDITIONS.
2. NEW FIRE ALARM DEVICES ARE SHOWN ON EQUIPMENT SCHEDULE. PROVIDE ALL REQUIRED CONNECTIONS, REPROGRAMMING, HARDWARE, EXPANSION CARDS, ETC. FOR A COMPLETE AND OPERATIONAL INSTALLATION.
3. MOUNTING HEIGHTS SHOWN ARE FROM FINISHED FLOOR TO THE DEVICE. ALL MOUNTING HEIGHTS SHALL BE AS SHOWN ON THE SYMBOLS LIST UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS.
4. THE CONTRACTOR SHALL VISIT THE PROJECT JOB SITE AND VERIFY ALL EXISTING CONDITIONS BEFORE BIDDING AND SHALL INCLUDE IN THE BID NECESSARY COSTS TO CONSTRUCT THIS PROJECT IN ACCORDANCE WITH THE ELECTRICAL DRAWINGS, SPECIFICATIONS AND ALL APPLICABLE CODES.
5. ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE LISTED BY UNDERWRITERS LABORATORIES AND BEAR THEIR LABEL.
6. ALL LOCATIONS SHOWN ON PLANS FOR ALL POWER, FIRE ALARM AND LOW VOLTAGE SIGNAL SYSTEM DEVICES ARE APPROXIMATE. COORDINATE EXACT LOCATION IN FIELD.
7. CONTRACTOR SHALL REMOVE ALL LEFT OVER WIRE, SCRAPS, CONDUIT ETC. AND LEAVE THE PROJECT JOB SITE CLEAN AND FREE OF TRASH AND DEBRIS RESULTING FROM HIS WORK.
8. CONTRACTOR SHALL REPORT TO THE OWNER'S ENGINEER ANY OBSERVATIONS OF CONDITIONS WHICH ARE DISCOVERED IN THE BUILDING WHICH WOULD PREVENT THE CORRECT INSTALLATION OF THE ELECTRICAL SYSTEMS.
9. CONDUIT ROUTING ON PLANS IS SHOWN DIAGRAMMATIC. CONTRACTOR SHALL LAYOUT CONDUIT RUNS TO SUIT FIELD CONDITIONS AND THE COORDINATION REQUIREMENTS OF UTILITIES AND OTHER DISCIPLINES.
10. ALL CONDUITS AND RACEWAYS PENETRATIONS THROUGH FIRE RATED WALLS AND FLOORS SHALL BE SEALED WITH APPROVED SEALANT TO MAINTAIN THE FIRE RATING OF THE FLOOR AND WALL.
11. ALL CONDUITS CROSSING EXPANSION JOINTS SHALL BE PROVIDED WITH SPECIFIED EXPANSION/DEFLECTION FITTINGS.
12. ALL CONDUIT PENETRATIONS THROUGH ROOF AND EXTERIOR WALL SHALL BE SEALED WATERTIGHT.
13. CONTRACTOR SHALL VERIFY EXACT LOCATION OF ALL MECHANICAL EQUIPMENT WITH MECHANICAL PLANS AND MECHANICAL CONTRACTOR IN FIELD. MOUNT SMOKE DETECTORS A MINIMUM OF 3' AWAY FROM MECHANICAL DIFFUSERS.
14. COORDINATE ALL CEILING MOUNTED DEVICES WITH (E) BUILDING LIGHTING FIXTURES TO AVOID CONFLICTS.
15. CONTRACTOR SHALL MAINTAIN BARRIER SEPARATION BETWEEN SURFACE RACEWAY SYSTEM COMPARTMENTS AT ALL TEES AND OR CROSSES.
16. PROVIDE A CEC SIZED INSULATED COPPER GROUND CONDUCTOR IN ALL 120 VOLT THROUGH 600 VOLT FEEDER AND BRANCH CIRCUIT DISTRIBUTION CONDUITS AND CABLES UNLESS OTHERWISE NOTED.
17. CONTRACTOR SHALL REFER TO POWER PLANS FOR THE LOCATION OF ALL PANELBOARDS.
18. FURNISH AND INSTALL ALL PANELBOARDS WITH CIRCUIT BREAKERS AS SHOWN ON PANEL SCHEDULES.
19. CONTRACTOR SHALL REFER TO ONE LINE DIAGRAM AND PANEL SCHEDULES FOR COMPONENTS OF THE ELECTRICAL SYSTEM.
20. LIGHTING AND POWER PLANS TYPICALLY INDICATE HOMERUNS WITH CIRCUIT NEXT TO DEVICES. CONTRACTOR SHALL ROUTE BRANCH CIRCUITS BASED ON CIRCUITING SHOWN AND SWITCH CONFIGURATIONS.
21. CONTRACTOR SHALL PAINT ALL EXPOSED CONDUITS TO MATCH ADJACENT MATERIAL COLOR.
22. THESE DRAWINGS ARE NOT TO BE USED FOR CONSTRUCTION UNLESS APPROVED BY AHJ.
23. THE ELECTRICAL DRAWINGS ARE NOT INTENDED TO SERVE AS STAND ALONE DOCUMENTS TO COMMUNICATE THE ENTIRE SCOPE OF ELECTRICAL WORK. THE ELECTRICAL CONTRACTOR SHALL OBTAIN A COMPLETE SET OF CONSTRUCTION DOCUMENTS INCLUDING DRAWINGS, SPECIFICATIONS AND MANUALS.
24. WORK INCLUDES ALL LABOR, MATERIALS AND EQUIPMENT TO REMOVE AND INSTALL ELECTRICAL ITEMS SPECIFIED AS SHOWN OR NOT SHOWN WHICH CAN BE REASONABLY ASSUMED TO BE REQUIRED AND NECESSARY TO PROVIDE COMPLETE AND WORKABLE SYSTEMS.
25. ALL ELECTRICAL WORK SHALL CONFORM WITH THE MOST RECENTLY ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE AS WELL AS ALL STATE AND LOCAL CODES & REQUIREMENTS.
26. THE COMPLETE SYSTEM SHALL BE GROUNDED PER NEC ART. 250.
27. PROVIDE A PULL ROPE IN ALL EMPTY CONDUITS FOR FUTURE PULLING OF CONDUCTORS OR CABLES.

EQUIPMENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2025 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26 AND 30:

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORTS THE COMPONENT.
B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS.

PIPING & ELEC. DIST. SYS. BRACING NOTE

PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7 SECTION 13.3 AS DEFINED IN ASCE 7 SECTION 13.6.5, 13.6.6, 13.6.7, 13.6.8 AND 2025 CBC SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. THE MEP DESIGN PROFESSIONAL ENGINEER RESPONSIBLE FOR CONTENT ON THESE SHEETS HAS VERIFIED THAT THE DESIGN METHODS IDENTIFIED BELOW ARE IN ACCORDANCE WITH DSA IR 16-13.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP) AND ELECTRICAL DISTRIBUTION SYSTEMS (E).

MP☐ MD☐ PP☐ E☒ - OPTION #1: PROJECT SPECIFIC DESIGN.

MP☐ MD☐ PP☐ E☐ - OPTION #2: DESIGN BASED ON OSHPD OPM, WITHIN PROJECT SUBMITTAL.

MP☐ MD☐ PP☐ E☐ - OPTION #3: DESIGN BASED ON OSHPD OPM, DEFERRED SUBMITTAL.

RECEPTACLES, CONTROLS & SWITCHES

PER CBC 11B-308.1.1 & 11B-308.1.2, ELECTRICAL RECEPTACLES ON BRANCH CIRCUITS OF 30 AMPERES OR LESS, COMMUNICATION SYSTEM RECEPTACLES, CONTROLS AND SWITCHES SHALL BE LOCATED AS FOLLOWS:

1. WHERE THERE IS NO OBSTRUCTION, 48 INCHES (1219 mm) MAXIMUM MEASURED FROM THE TOP OF THE RECEPTACLE BOX AND 15 INCHES (381 mm) MINIMUM MEASURED FROM THE BOTTOM OF THE RECEPTACLE BOX TO THE FINISH FLOOR.
2. WHERE THE REACH IS OVER AN OBSTRUCTION, ELECTRICAL RECEPTACLES, CONTROLS AND SWITCHES SHALL COMPLY WITH SECTIONS 11B-308.2 AND 11B-308.3.
3. WHEN THE REACH IS OVER A KITCHEN WORK SURFACE AND BASE CABINET, THE WORK SURFACE SHALL BE 36 INCHES (914 mm) MAXIMUM ABOVE THE FINISH FLOOR AND 25 1/2 INCHES (650 mm) MAXIMUM IN DEPTH. THE BASE CABINET SHALL BE 24 INCHES (610 mm) MAXIMUM DEPTH.
4. WHERE RECEPTACLES ARE PROVIDED IN A KITCHEN AT A CORNER WORK SURFACE, ONE RECEPTACLE SHALL BE LOCATED 36 INCHES (915 mm) FROM EITHER WALL AT THE INSIDE CORNER.

ABBREVIATIONS LIST

@	AT	J-BOX	JUNCTION BOX
A	AMPERE	KVA	KILO VOLT AMP
A/C	AIR CONDITIONING	KW	KILOWATT
AFF.	ABOVE FINISHED FLOOR	LV	LOW VOLTAGE
AL	ALUMINUM	M.C.	MECHANICAL CONTRACTOR
AS	AMP SWITCH	MCC	MOTOR CONTROL CENTER
A.T.S.	AUTOMATIC TRANSFER SWITCH	MECH.	MECHANICAL
AWG	AMERICAN WIRE GAUGE	MH	METAL HALIDE
BC	BARE COPPER	MISC.	MISCELLANEOUS
BD.	BOARD	MSB	MAIN SWITCHBOARD
B.F.C.	BELOW FINISHED CEILING	MV	MERCURY VAPOR
BKR	BREAKER	(N)	NEW
BLDG.	BUILDING	N.I.C.	NOT IN CONTRACT
C.	CONDUIT	N.I.E.S	NOT IN ELECTRICAL SECTION OF THESE PLANS & SPECS.
C/B	CIRCUIT BREAKER		
CKT.	CIRCUIT	NL	NIGHT LIGHT
CLG.	CEILING	NO. #	NUMBER
C.O.	CONDUIT ONLY, WITH PULL LINE	NTS	NOT TO SCALE
		O.C.	ON CENTER
CU	COPPER	P	POLE
DISC.	DISCONNECT	P.C.	PLUMBING CONTRACTOR
(E)	EXISTING	PH	PHASE
EA.	EACH	PLUMB.	PLUMBING
E.C.	ELECTRICAL CONTRACTOR	PLY.	PLYWOOD
ELECT.	ELECTRIC(AL)	PNL.	PANEL
EMERG.	EMERGENCY	PRI.	PRIMARY
EMT	ELECTRICAL METALLIC TUBING	PVC	POLYVINYL CHLORIDE CONDUIT
EQUIP.	EQUIPMENT	REQ'D.	REQUIRED
EWC	ELECTRICAL WATER COOLER	RM.	ROOM
EWH	ELECTRIC WATER HEATER	RSC	RIGID STEEL CONDUIT
EXIST.	EXISTING	SEC.	SECONDARY
(F)	FUTURE	SQ.	SQUARE
F.A.C.P.	FIRE ALARM CONTROL PANEL	SW.	SWITCH
FLUOR.	FLUORESCENT	TEL.	TELEPHONE
FT.	FOOT	TTB	TELEPHONE TERMINAL BOARD
G.C.	GENERAL CONTRACTOR	TTC	TELEPHONE TERMINAL CABINET
GND.	GROUND		
GYP.	GYPSUM	TYP.	TYPICAL
H.I.D.	HIGH INTENSITY DISCHARGE	UG	UNDERGROUND
H.P.S.	HIGH PRESSURE SODIUM	UON	UNLESS OTHERWISE NOTED
HP	HORSEPOWER	UPS	UNINTERRUPTED POWER SUPPLY
HT.	HEIGHT	V	VOLTS
HV	HIGH VOLTAGE	WP	WEATHERPROOF
I/C	INTERCOM	W	WATT
IMC	INTERMEDIATE METALLIC CONDUIT	W/	WITH
		W/O	WITHOUT
INCAN.	INCANDESCENT	XFMR.	TRANSFORMER
IG	ISOLATED GROUND	&	AND
Isc	SHORT CIRCUIT INTERRUPTING CURRENT	ø	PHASE

ELECTRICAL SYMBOLS

- NON-FUSED DISCONNECT SWITCH, SIZE AS REQUIRED
- FUSED DISCONNECT SWITCH WITH TIME DELAY FUSES SIZED PER UNIT NAMEPLATE OR AS NOTED. DISCONNECT SHALL ACCEPT MAXIMUM RECOMMENDED FUSE SIZE.
- DUPLEX RECEPTACLE, NEMA 5-20R, +18" UON
  RECEPTACLE SUBSCRIPTS:
  GFI -or- GFCI = GROUND FAULT-CIRCUIT INTERRUPTER
  R = ROOF MOUNTED, WEATHERPROOF (IN-USE), GFCI
  EWC = ELECTRIC WATER COOLER, GFCI
  WP = WEATHERPROOF (WHILE IN-USE COVER)
- JUNCTION BOX, SIZE AND TYPE AS REQUIRED
- PULLBOX, SIZE AND TYPE AS REQUIRED
- COMBINATION TEL/DATA OUTLET, +18" UON. CAT6 CABLE IN RACEWAY. THE NUMBER REPRESENTS THE NUMBER OF RJ45 JACKS AT EACH OUTLET.
- SWITCHBOARD, SEE ONE LINE DIAGRAM
- BRANCH CIRCUIT PANEL, SEE PANEL SCHEDULES
- SIGNAL OR CONTROL PANEL, TYPE AS INDICATED
- TELEPHONE TERMINAL BOARD, SIZE AS INDICATED
- IDENTIFICATION TAG FOR EQUIPMENT PROVIDED BY M.C. CONNECT EQUIPMENT AS INDICATED OR AS REQUIRED.
- NUMBERED NOTE TAG - SEE NUMBERED NOTES, SAME SHEET
- INDICATES DETAIL "A" AT SHEET "E1"

WIRE AND CONDUIT LEGEND

- CONDUIT RUN CONCEALED IN WALL OR ABOVE CEILING.
- CONDUIT RUN UNDERFLOOR OR UNDERGROUND.
- HOME RUN, NUMBER OF ARROWS INDICATE NUMBER OF CIRCUITS IN HOME RUN.
- FLEXIBLE CONDUIT
- F FACTORY WHIP
- NO CROSSBARS ON CONDUIT INDICATE ½" CONDUIT WITH TWO #12 AWG CONDUCTORS, CROSSBARS INDICATE NUMBER OF #12 AWG CONDUCTORS IN CONDUIT. CONDUCTOR SIZE OTHER THAN #12 NOTED ON DRAWING. CONDUIT SIZE OTHER THAN ½" NOTED ON DRAWING.
- CONDUIT UP.
- #10 / ¾" C. #10 EXAMPLE: THREE CIRCUITS IN HOME RUN - FOUR #10 AWG CONDUCTORS AND ONE #10 AWG GROUNDING CONDUCTOR IN ¾" CONDUIT, RUN CONCEALED IN WALL OR ABOVE CEILING.

ASSISTED LISTENING SYSTEM NOTE

THE CONTRACTOR SHALL PROVIDE AN ASSISTED LISTENING SYSTEM PER ADA & CBC REQUIREMENTS. PROVIDE A WILLIAMS AV, MODEL FM ADA KIT 37 RCH WHICH PROVIDES THE REQUIRED MINIMUM NUMBER OF RECEIVERS AND ACCESSORIES TO MEET THE ADA & CBC REQUIREMENTS OF 4% OF OCCUPANTS.

FM ADA KIT 37 RCH INCLUDES THE FOLLOWING:

(1) PPA T46 TRANSMITTER
(4) PPA R37 RECEIVERS
(4) HED 027 HEADPHONES
(2) NKL 001 NECKLOOPS
(1) MIC 090 LAPEL MICROPHONE
(1) MIC 149 DESKTOP CONFERENCE MICROPHONE
(5) BAT 026-2 RECHARGEABLE AA BATTERIES (2 PACK)
(1) BAT KT6 CHARGING KIT FOR BODY PACKS
(1) CHG 3502 BATTERY CHARGER
(1) CCS 029 EQUIPMENT CARRY CASE
(1) IDP 008 ADA WALL PLAQUE

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REGISTERED PROFESSIONAL ENGINEER — ROBERT C. HEWGLEY — No. E-10629 — EXP. 6-30-2027 — STATE OF CALIFORNIA — ELECTRICAL

Date Signed: 4/23/2026

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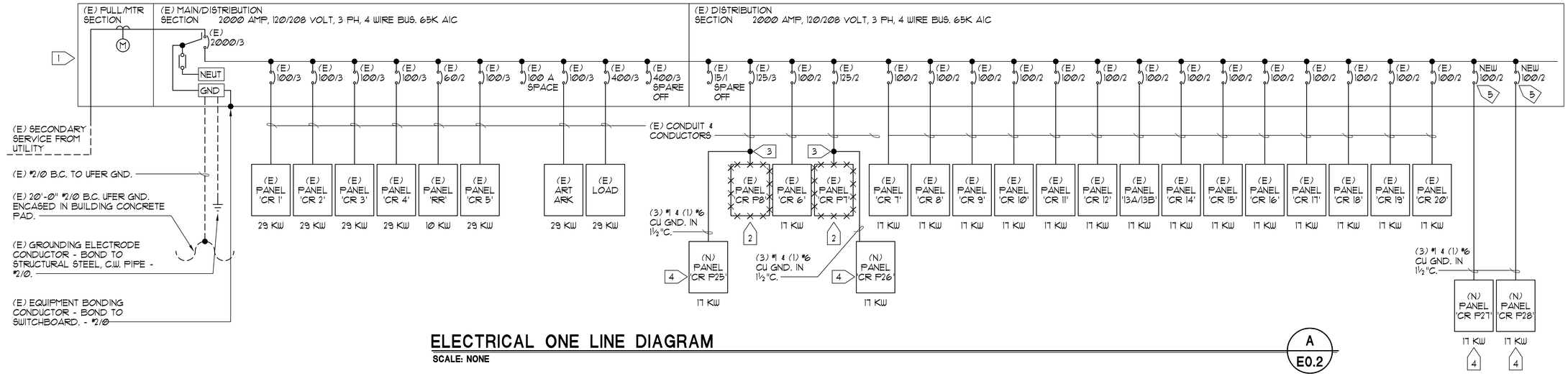
ELECTRICAL SCHEDULES, SYMBOLS & NOTES

MAY 12, 2026

DRAWN BY: JD
CHECKED BY: RH
JOB NO. 26009

E0.1

(E) MAIN SWITCHBOARD - "MSB" (E) NEMA 3R ENCLOSURE



ELECTRICAL ONE LINE DIAGRAM

SCALE: NONE

A E0.2

LOAD CALCULATION

(E) (6) 100/3 PANELS AT 29 KW EACH	174.0 KVA
(E) RESTROOM PANEL AT 10 KW	10.0 KVA
(E) 400 AMP C.B. LOAD	130.0 KVA
(E) (15) 100/2 PANELS AT 17 KW EACH	255.0 KVA
RELOCATED (4) 100/2 PANELS AT 17 KW EACH	68.0 KVA
TOTAL LOAD	637.0 KVA

637.0 KVA/36 =1770 AMPS ON 2000 AMP, 120/208 VOLT, 3 PHASE, 4 WIRE SERVICE.

NOTE: KW USED FOR CALCULATION IS TAKEN AT 80% OF CIRCUIT BREAKER.

NUMBERED NOTES

1. (E) ELECTRICAL MAIN SWITCHBOARD 'MSB' TO REMAIN.
2. (E) RELOCATABLE BUILDING BEING REMOVED FOR RELOCATION TO ANOTHER CAMPUS. REMOVAL BY SEPARATE CONTRACT. (E) BREAKER, CONDUIT & CONDUCTORS TO REMAIN FOR CONNECTION TO NEW RELOCATED BUILDING TO THIS CAMPUS. PANEL PROVIDED BY BUILDING MANUFACTURER.
3. CONTRACTOR TO SPLICE AND EXTEND NEW CONDUIT & CONDUCTORS IN PULL BOX AS SHOWN TO NEW RELOCATED BUILDING PANEL. GROUND PANEL TO UFER GROUND PER B/E0.2 AND GROUND ROD PER DETAIL C/E0.2.
4. NEW RELOCATED BUILDING PANEL TO THIS CAMPUS. PANEL PROVIDED BY BUILDING MANUFACTURER. CONNECT NEW CONDUIT & CONDUCTORS TO PANEL FOR A COMPLETE AND OPERATIONAL INSTALLATION. CONNECT PANEL GROUND TO NEW UFER GROUND IN BUILDING FOUNDATION AND GROUND ROD. SEE DETAILS B & C/E0.2.
5. PROVIDE NEW 208 VOLT, 1 PHASE, 3 WIRE, 100 AMP BREAKER AND INSTALL IN (E) SWITCHBOARD SPACE. PROVIDE ALL REQUIRED HARDWARE FOR A COMPLETE AND OPERATIONAL INSTALLATION. CONNECT NEW CONDUIT AND CONDUCTORS TO SWITCHBOARD AND BREAKER AND ROUTE TO NEW RELOCATED BUILDING PANEL AS SHOWN. SEE SHEET E2.2 AND E3.0 FOR ROUTING AND PANEL LOCATION.

TRENCH NOTES

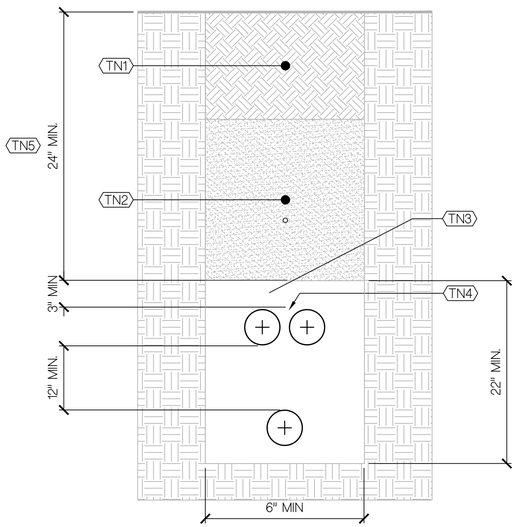
TN1 CONCRETE, ASPHALT, GRASS, ETC TRENCH COVER TO MATCH (E) CONDITIONS.

TN2 NATIVE BACKFILL WITH 95% COMPACTION. PROVIDE A WARNING TAPE WITH TRACE WIRE 12" ABOVE CONDUIT PER 2022 C.E.C. 300.5.

TN3 3" SAND ENCASEMENT ALL SIDES.

TN4 CONDUIT AS SHOWN ON PLAN. SEE SHEET E3.0.

TN5 24" MINIMUM COVER ABOVE CONDUIT AND SAND ENCASEMENT.

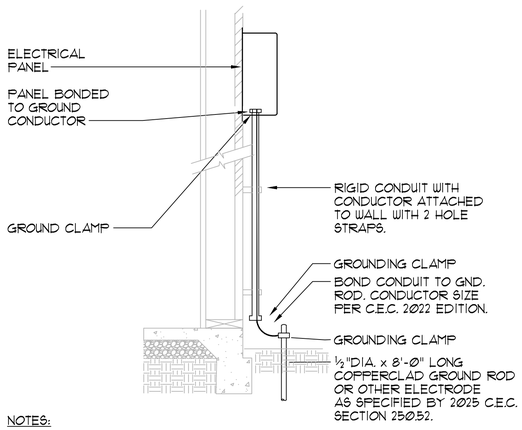


NOTE: TRENCH BOTTOM MUST BE SQUARE.

CONDUIT TRENCH DETAIL

SCALE: NONE

D E0.2



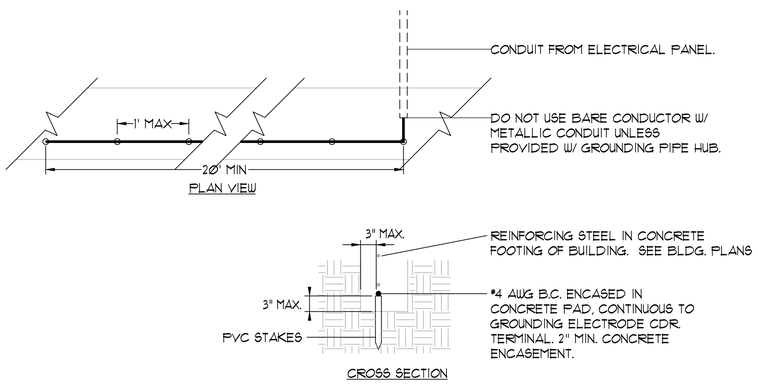
NOTES:

1. SIZE OF CONDUCTORS SHALL COMPLY WITH 2022 C.E.C.
2. BOND TO SEPARATE CONDUCTORS FROM GROUND ROD TO ELECTRICAL PANEL (2025 C.E.C.). PANEL TO UFER GROUND. GROUND TO METAL WATER PIPE EMBEDDED AT LEAST 10'-0" INTO THE SOIL IF AVAILABLE (C.E.C. 2025 EDITION).
3. CHECK RESISTANCE TO GROUND. IF RESISTANCE EXCEEDS 25 OHMS, INSTALL ADDITIONAL GROUND RODS WITH CONDUCTORS AS SHOWN SEPARATED AT LEAST 6'-0" UNTIL RESISTANCE IS REDUCED TO 25 OHMS OR LESS (C.E.C. 2025 EDITION).
4. PROVIDE WATER BOND.
5. SITE INSPECTOR OF RECORD SHALL WITNESS AND VERIFY ALL TESTING.

BUILDING GROUNDING DETAIL

SCALE: NONE

C E0.2



UFER GROUNDING DETAIL

SCALE: NONE

B E0.2

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REGISTERED PROFESSIONAL ENGINEER
ROBERT C. HEWASER
No. E-10629
EXP. 6-30-2027
ELECTRICAL
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Date Signed: 4/23/2026

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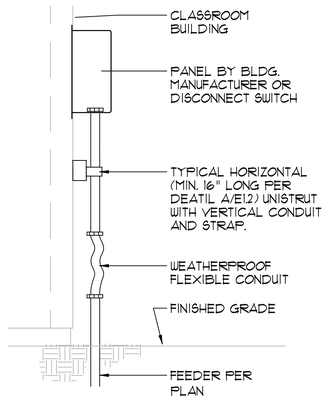
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ONE LINE DIAGRAM, DETAILS & NOTES

MAY 12, 2026

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JOB NO. 26009

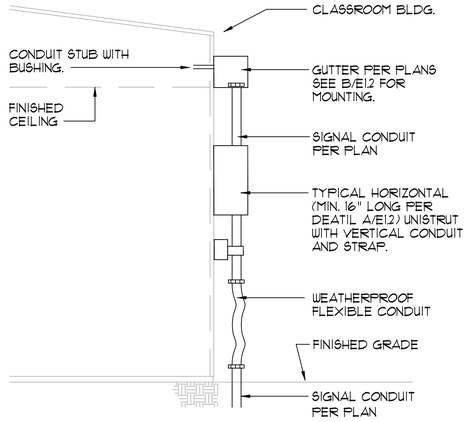
E0.2



POWER CONNECTION TO PANEL DETAIL

SCALE: NONE

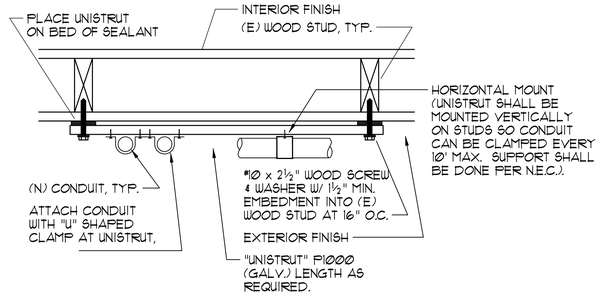
C / E0.3



POWER & SIGNAL CONNECTION DETAIL

SCALE: NONE

B / E0.3



NOTES:

1. ALL HORIZONTAL UNISTRUT FOR VERTICAL CONDUIT MOUNTING SHALL BE A MINIMUM OF 16" LONG, SPAN AND CONNECT TO (2) STUDS.
2. ALL VERTICAL UNISTRUT FOR HORIZONTAL CONDUIT MOUNTING SHALL BE A MINIMUM OF 12" LONG, MOUNT TO STUD. FASTEN TO STUD WITH (2) WOOD SCREWS FOR WOOD WALL, (2) ANCHOR BOLTS FOR CMU/CONCRETE WALL AND (2) SELF TAPPING SCREWS FOR METAL STUDS.

CONDUIT SUPPORT DETAIL (EXT. WALL)

(VERTICAL & HORIZONTAL)

SCALE: NONE

A / E0.3

SURFACE SIGNAL TERMINAL CABINET DETAIL

SCALE: NONE

D / E0.3

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DSA #02-119997

MODULAR CLASSROOM RELOCATION

GENEVIEVE DIDION K-8 SCHOOL

6490 HARMON DRIVE SACRAMENTO, CA 95831

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

REVISIONS

NO.	DESCRIPTION	DATE

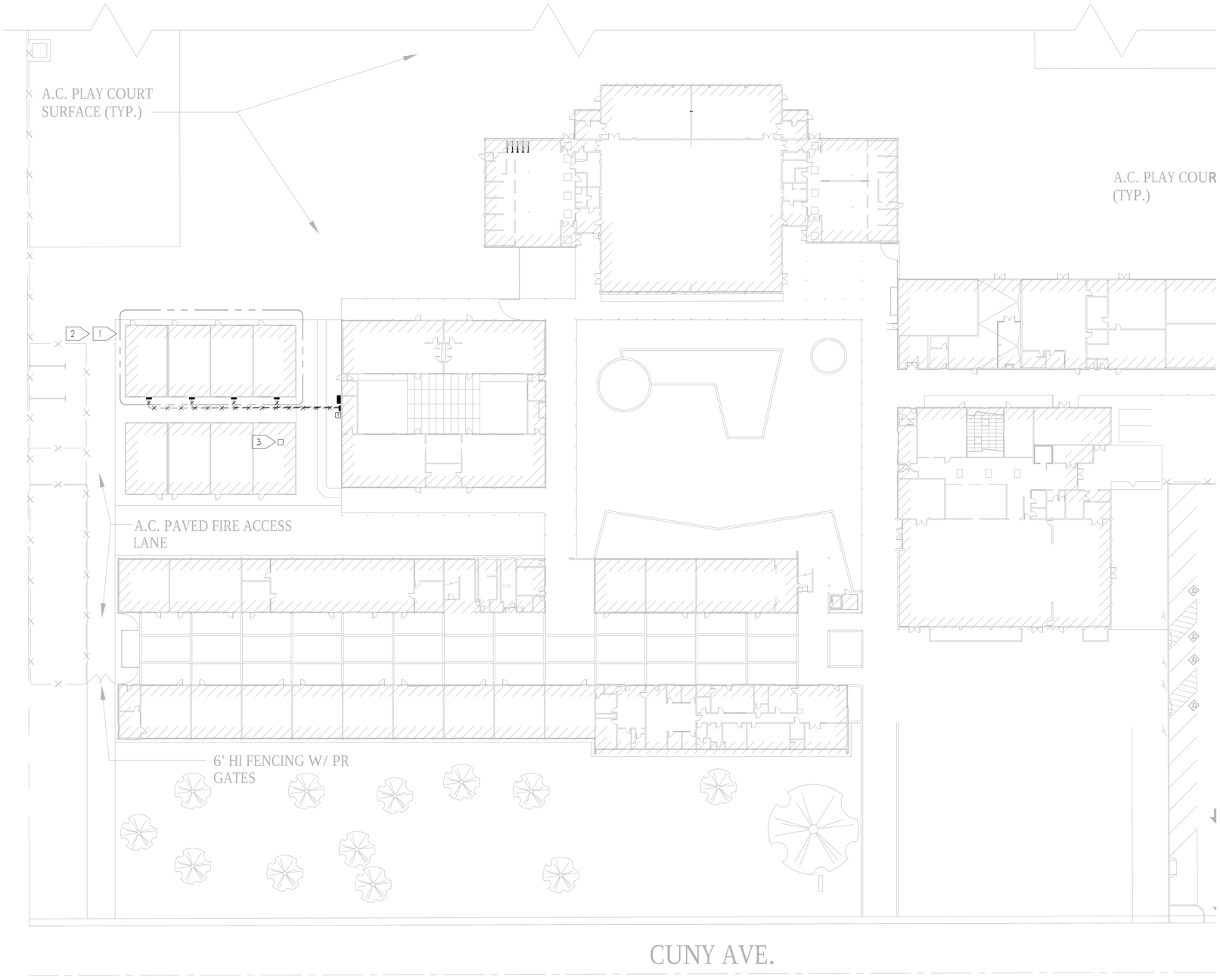
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ELECTRICAL DETAILS

MAY 12, 2026

DRAWN BY: JD
CHECKED BY: RH
JOB NO. 26009

E0.3



NUMBERED NOTES

1. 96' X 40' (4) CLASSROOM BUILDING TO BE RELOCATED TO GENEVIEVE DIDION K-8 SCHOOL. CONTRACTOR TO DISCONNECT AND REMOVE FEEDER CONDUIT AND CONDUCTORS BACK TO DISTRIBUTION PANEL AS SHOWN. DISCONNECT (E) LOW VOLTAGE DEVICES IN (E) SIGNAL TERMINAL CABINETS ON BACK OF BUILDING. (E) SIGNAL TERMINAL CABINETS, GUTTERS AND CONDUITS ROUTED INTO CLASSROOMS TO REMAIN WITH BUILDING. (E) INTRUSION ALARM MOTION DETECTORS AND DOOR CONTACTS TO REMAIN WITH BUILDING AND MOVED TO DIDION SCHOOL.
2. (E) FIRE ALARM DEVICES, CLOCKS, SPEAKERS, SECURITY CAMERAS SHALL BE DISCONNECTED AND REMOVED AND TURNED OVER TO SCHOOL DISTRICT FOR FUTURE USE. (E) WIREMOLD WITH POWER AND DATA OUTLETS TO REMAIN WITH BUILDING AND MOVED TO DIDION SCHOOL.
3. (E) IDF IN BUILDING BEING REMOVED. DISCONNECT AND REMOVE ALL HARDWARE EQUIPMENT AND TURN OVER TO SCHOOL DISTRICT. THE IDF CABINET WILL BE MOVED WITH 4 CLASSROOM BUILDING TO DIDION.

FERN BACON SITE DEMO PLAN

SCALE: 1" = 30' - 0"

A / E2.0

N

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GENEVIEVE DIDION K-8 SCHOOL

6490 HARMON DRIVE SACRAMENTO, CA 95831

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

REVISIONS

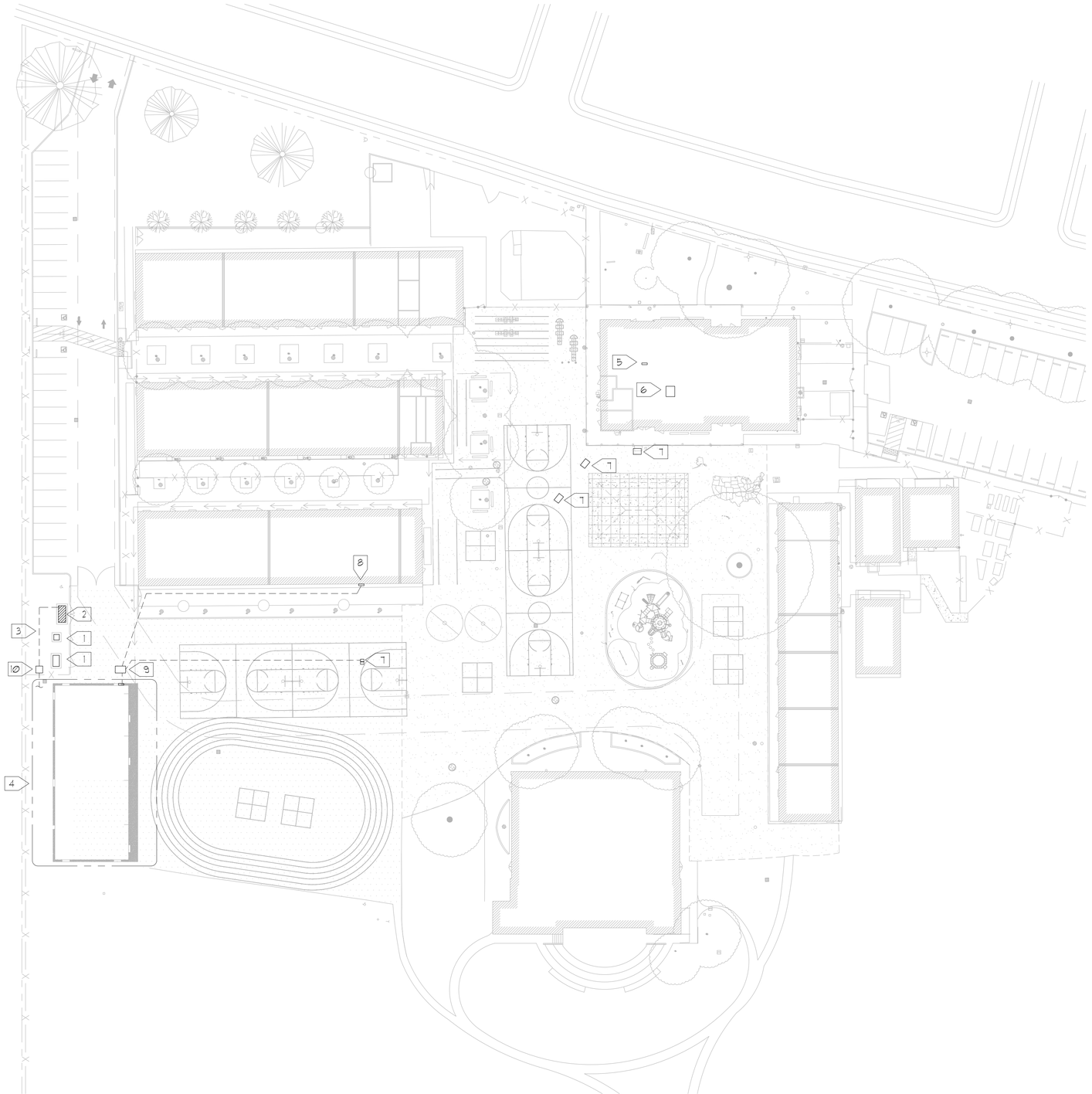
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ELECTRICAL SITE DEMOLITION PLAN & NOTES

MAY 12, 2026

DRAWN BY: JD	E2.0
CHECKED BY: RH	
JOB NO.: 26009	



NUMBERED NOTES

1. (E) UTILITY TRANSFORMER SERVING THE CAMPUS TO REMAIN.
2. (E) MAIN SWITCHBOARD SERVING THE CAMPUS TO REMAIN. SEE ONE LINE DIAGRAM FOR NEW WORK TO PROVIDE POWER TO RELOCATED (4) CLASSROOM BUILDING BEING INSTALLED ON THIS CAMPUS.
3. (E) AND NEW FEEDER CONDUIT AND CONDUCTORS FOR POWER TO EACH CLASSROOM ELECTRICAL PANEL. SEE SHEET E3.0 FOR CONTINUATION OF FEEDERS TO NEWLY RELOCATED (4) CLASSROOM BUILDING ELECTRICAL PANELS. SEE ONE LINE DIAGRAM ON SHEET E0.2 FOR SIZE OF CONDUIT AND CONDUCTORS.
4. RELOCATED (4) CLASSROOM BUILDING TO BE INSTALLED IN THIS LOCATION PER ARCHITECTURAL PLANS. SEE SHEET E3.0 FOR RELOCATED (4) CLASSROOM BUILDING CONNECTION.
5. (E) FIRE ALARM CONTROL PANEL 'FACP', INTRUSION ALARM CONTROL PANEL AND TV HEADEND IN ADMIN BUILDING TO REMAIN.
6. (E) MAIN DISTRIBUTION FRAME 'MDF' IN ADMIN BUILDING TO REMAIN.
7. (E) IN-GRADE PULL BOX WITH LOW VOLTAGE CABLES & COILED FIBER OPTIC CABLE TO REMAIN. CONDUIT SHOWN ROUTED FROM THIS PULL BOX TO PULL BOX IS (E). ROUTE (E) COILED FIBER OPTIC CABLE IN INNER DUCT IN (E) AND NEW CONDUIT TO RELOCATED (4) CLASSROOM BUILDING STC. SEE SHEET E3.0 FOR CONTINUATION OF FIBER OPTIC CABLE TO IDF IN RELOCATED CLASSROOM BUILDING.
8. (E) BUILDING MOUNTED SIGNAL TERMINAL CABINET ON (E) CLASSROOM BUILDING TO REMAIN. CONDUIT SHOWN ROUTED FROM THIS STC TO NEW BUILDING IS (E) AND WAS TAKEN FROM AS-BUILT PLANS. CONTRACTOR TO VERIFY EXACT CONDUIT SIZES IN FIELD.
9. PULL BOX WITH (E) CONDUIT AND LOW VOLTAGE CABLES INSTALLED UNDER (E)(2) PORTABLE DEMO PLANS. PROVIDE (4) 2" AND (1) 1" CONDUITS AND ROUTE FROM PULL BOX OVER TO AND UP EXTERIOR WALL OF NEWLY RELOCATED (4) CLASSROOM BUILDING. CONNECT CONDUITS TO NEW SIGNAL TERMINAL CABINET 'STC' ON BUILDING. PULL COILED LOW VOLTAGE AND FIRE ALARM CABLES IN NEW CONDUIT TO STC. LAND LOW VOLTAGE CABLES ON TERMINAL BLOCKS. SEE SHEET E3.0 FOR SIZE OF NEW SIGNAL TERMINAL CABINET STC.
10. PULL BOX WITH (E) POWER CONDUITS AND CONDUCTORS FROM (E)(2) PORTABLE DEMO PLANS. FROM PULL BOX, ROUTE CONDUIT AND CONDUCTORS TO NEWLY RELOCATED (4) CLASSROOM BUILDING. SEE ONE LINE DIAGRAM ON SHEET E0.2 FOR SIZE AND QUANTITY OF NEW CONDUIT AND CONDUCTORS TO PROVIDE POWER TO NEWLY RELOCATED (4) CLASSROOM BUILDING.

DIDION SITE PLAN
SCALE: 1" = 30' - 0"

A
E2.1

N

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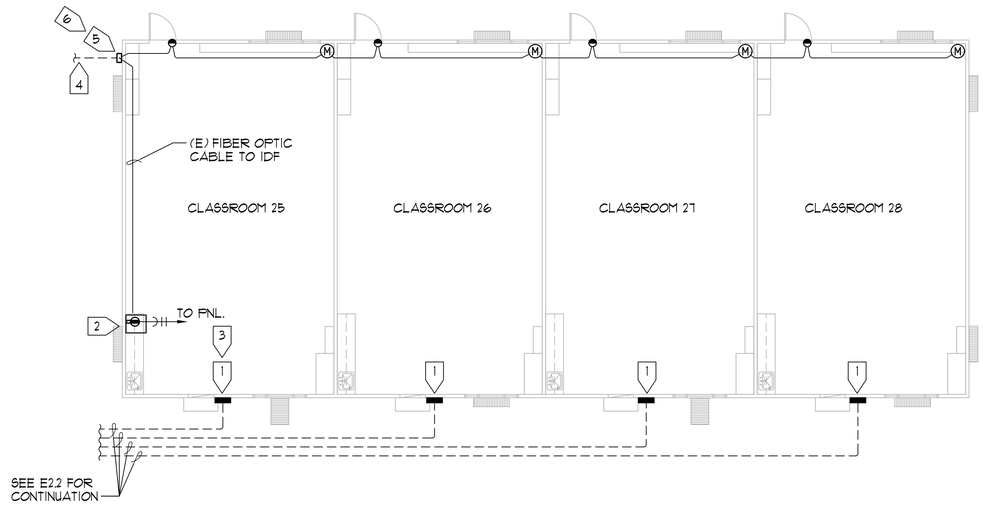
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ELECTRICAL SITE PLAN & NOTES

MAY 12, 2026

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JOB NO. 26009

E2.1

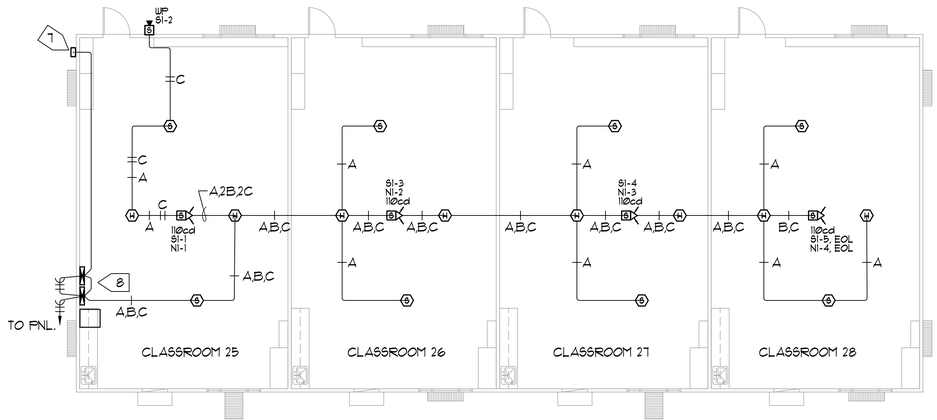


RELOCATED (4) CLASSROOM POWER PLAN

SCALE: 1" = 30' - 0"

A / E3.0

N



RELOCATED (4) CLASSROOM F.A. PLAN

SCALE: 1" = 30' - 0"

A / E3.0

N

NUMBERED NOTES

1. (E) 96' X 40' (4) CLASSROOM BUILDING ELECTRICAL PANEL. TYPICAL FOR EACH CLASSROOM. CONTRACTOR SHALL CONNECT NEW FEEDER CONDUIT AND CONDUCTORS FROM (E) MAIN SWITCHBOARD TO PANEL FOR A COMPLETE AND OPERATIONAL INSTALLATION. SEE ONE LINE DIAGRAM ON SHEET E0.2 FOR SIZE AND QUANTITY OF NEW FEEDER CONDUIT AND CONDUCTORS.
2. (E) IDF RACK FROM FERN BACON 4 CLASSROOM BUILDING BEING REMOVED. PROVIDE FIRE RATED ¾" PLYWOOD BACKBOARD WITH FIRE RESISTANT PAINT AND INSTALL ON WALL ABOVE LAST BASE CABINET. INSTALL (E) IDF RACK TO BACKBOARD. SEE DETAIL X/XX. INSTALL ALL DATA/PHONE EQUIPMENT, FIBER OPTIC CABLINE, DATA CABLING, ETC. IN (E) IDF FOR A COMPLETE AND OPERATIONAL INSTALLATION.
3. PROVIDE AND INSTALL (3) 120 VOLT, 1 PHASE, 20 AMP, DEDICATED CIRCUIT BREAKERS AND INSTALL IN (E) PANEL SPACE. (1) 20 AMP BREAKER TO PROVIDE POWER TO IDF RECEPTACLE. (1) 20 AMP BREAKER, RED WITH LOCK ON TAB, TO PROVIDE POWER TO RELOCATED FIRE ALARM POWER SUPPLY AND BOOSTER PANEL. (1) 20 AMP BREAKER TO BE SPARE.
4. (4) 2" AND (1) 1" SIGNAL CONDUITS FROM PULL BOX TO STC. SEE SHEET E2.2 FOR CONTINUATION TO PULL BOX.
5. PROVIDE AND INSTALL A NEW 16" X 16" X 6" WEATHERPROOF, LOCKABLE SIGNAL TERMINAL CABINET 'STC' ON BUILDING AT +60" TO TOP OF STC. PROVIDE A PLYWOOD BACKBOARD WITH TERMINAL BLOCKS FOR LOW VOLTAGE CABLE TERMINATION. ROUTE (4) 2" CONDUITS WITH MYERS HUB FROM TOP OF STC, UP TO 6" GUTTER NEAR ROOF. FROM GUTTER, STUB (4) 2" CONDUITS 6" INTO BUILDING ABOVE CEILING. PROVIDE A BUSHING ON END OF CONDUITS. ROUTE FIBER OPTIC CABLE INTO STC AND THEN INTO BUILDING ABOVE T-BAR CEILING AND OVER TO IDF.
6. FROM NEW STC, ROUTE NEW INTRUSION ALARM CABLE IN 2" CONDUIT UP AND INTO BUILDING. ONCE INSIDE BUILDING ROUTE INTRUSION ALARM CABLE OVER TO DOOR CONTACTS AND MOTION DETECTORS AS SHOWN. PROGRAM INTRUSION ALARM SYSTEM FOR A COMPLETE AND OPERATIONAL INSTALLATION.
7. FROM NEW STC, ROUTE NEW FIRE ALARM SLC LOOP IN 2" CONDUIT UP AND INTO BUILDING. ONCE INSIDE BUILDING ROUTE SLC LOOP OVER TO (E) FIRE ALARM POWER SUPPLY. ROUTE (E) VOICE EVAC AMPLIFIER CABLES FROM STC OVER TO (E) VOICE EVAC AMPLIFIER PANEL. MAKE ALL CONNECTIONS TO (E) FIRE ALARM POWER SUPPLY AND (E) VOICE EVAC AMPLIFIER FOR A COMPLETE AND OPERATIONAL INSTALLATION.
8. (E) FIRE ALARM POWER SUPPLY AND (E) VOICE EVACUATION AMPLIFIER TO BE REINSTALLED IN NEWLY RELOCATED (4) CLASSROOM BUILDING. FROM POWER SUPPLY AND AMPLIFIER, ROUTE NEW NAC CIRCUIT, VOICE CIRCUIT TO SPEAKER/STROBES AND SLC TO SMOKE AND HEAT DETECTORS FOR A COMPLETE AND OPERATIONAL INSTALLATION. ROUTE (2) #12 CU AND #12 CU GND IN ½" CONDUIT TO PANEL AND CONNECT TO NEW 120 VOLT RED BREAKER WITH LOCK ON TAB. LABEL CIRCUIT BREAKER NUMBER IN FIRE ALARM PANELS. LABEL PANEL DIRECTORY.

FIRE ALARM NOTE FOR BIDDING

CONTRACTOR TO PROVIDE NEW FIRE-LITE SMOKE DETECTORS BELOW CEILING AND HEAT DETECTORS ABOVE CEILING AS SHOWN AND CONNECT TO (E) SLC LOOP. THE (E) FIRE ALARM POWER SUPPLY AND (E) VOICE EVACUATION AMPLIFIER PANEL THAT WERE REMOVED FROM RELOCATED BUILDING SHALL BE INSTALLED NEXT TO IDF AS SHOWN NEAR CEILING IN NEWLY RELOCATED (4) CLASSROOM BUILDING. CONTRACTOR TO PROVIDE NEW VOICE EVACUATION SPEAKER STROBES AND INSTALL IN CEILING AS SHOWN. MAKE ALL CONNECTIONS TO FIRE ALARM SYSTEM COMPLETE AND OPERATIONAL.

A TEST OF THE SYSTEM SHALL BE PERFORMED ONCE COMPLETED WITH DSA INSPECTOR AND SCHOOL DISTRICT.

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6490 HARMON DRIVE
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SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

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ELECTRICAL POWER, SIGNAL, FIRE ALARM PLANS & NOTES

MAY 12, 2026

DRAWN BY: JD
CHECKED BY: RH
JOB NO. 26009

E3.0

American Modular Systems

72 X 40 RELOCATABLE BUILDINGS
SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

TEST AND INSPECTION LIST

TEST NG LABORATORY _____ DATE _____

NAME _____

D STR CT/OWNER _____

D V S ON F LE NO _____ APPL CAT ON NO _____

ARCH TECT _____

STRUCTURAL ENG NEER _____

STATE OF CALFORN A
DEPT OF GENERA SERV CES
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STRUCTURAL
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Sample and est bo s eel					Compress e es s
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spec p a g at job					Samp es de ve ed a oba story
STRUCTURAL STEEL					De ve samp e a ma o jobs e
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Shop ab ca o spec a					
Fe d e ec on spec on					
spec a o o we ds Shop					
spec a we ds Fe d					
spec a o o ve ng a bo ng Shop					
spec a o ve g a or bo ng Fe d					
Samp e a d es gh s e g h bo s a d washe s					
BR CK AND BLOCK					
Samp e a d es					
es a ty					
spec a o p o ng					
Co e d samp es					
GLUED LAM NATED STRUCTURAL LUMBER					
Fabr ca on spec a					
Sample and est stee a cesso es					
spec ab ca o s ee accesso es					

SU TAB L TY TESTS	CONCRETE MATER ALS	GUNITE	MORTAR	GROUT
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Reac v ty es s				
me ho ge				

M X DES GNS CONCRETE GROUT MORTAR OR GUN TE

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CONCRETE	/2'	3000					

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3 1/2 x 3 1/2 x 1/4 SQ COL
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10 ga & 12 ga ROOF CEE
6 3/4 X14 GA ALT JO STS
6 3/8 x 12 ga ALT JOIST
6 x 14 ga ROOF JOIST
4 x 12ga ROOF JOIST
3 1/2 x 10 ga ALT JO ST
2 x16 ga STRAPS

TESTING MAY BE WA VED F STEEL HAS BEEN PROPERLY DENT F ED BY MFR S MILL ANALYS S AND TEST REPORTS PER T TLE 24 C C R SECT ON 223 A

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INDEX

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1	FLOOR PLAN & NOTES
1A	FLOOR PLAN
2	EXTERIOR ELEVATIONS
3	CEILING GRID DETAILS & NOTES
4	INTERIOR ELEVATIONS & OPTIONAL PLANS
S1	FOUNDATION PLAN & NOTES
S1B	FOUNDATION DETAILS
S2	FLOOR FRAMING PLANS & DETA LS
S2A	BUILDING SECTIONS & WALL DETA LS
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M1	MECHANICAL PLAN DETAILS & NOTES
E1	ELECTRICAL LIGHTING PLAN DETAILS & NOTES
E2	ELECTRICAL PLAN DETAILS & NOTES

BUILDING DATA

FERN BACON AND ALBERT EINSTEIN SCHOOL

OCCUPANCY	E–1 OR E–2
TYPE OF CONSTRUCTION	V – NON–RATED
WIND LOAD (80 MPH EXPOSURE C)	21 LBS/SQ FT
FLOOR LIVE LOAD	50 LBS /SQ FT + 20 LBS PARTITION LOAD
ROOF LIVE LOAD	20 LBS/SQ FT (REDUCIBLE)
BUILDING AREA	2880

FIRE MARSHAL– CALIFORNIA BUILDING CODE (CBC)
T TLE 24 PART 2 CCR (997UBC W/ CAL AMENDS)
T TLE 24 PART 3 CCR (996 NEC W/ CAL AMENDS)
T TLE 24 PART 4 CCR (997 UMC W/ CAL AMENDS)
T TLE 24 PART 5 CCR (997 UPC W/ CAL AMENDS)
T TLE 24 PART 9 CCR (1997 UFC W/ CAL AMENDS)
T TLE 24 PART 12 CCR (997 STD W/ CAL AMENDS)
T TLE 9

STRUCTURAL – 1998 CALIFORNIA BUILDING CODE (CBC)
TITLES 24 PARTS 1 AND 2

2001 CAL FORN A BU LD NG STANDARDS ADM N STRAT VE CODE (PART 1 T TLE 24 CCR)

200 CAL FORN A BU LD NG CODE VOLUMES 2 AND 3 (PART 2 T TLE 24 CCR)
(997 ED T ON UN FORM BU LD NG CODE W TH 200 CAL FORN A AMENDMENTS)

200 CAL FORN A ELECTR CAL CODE (PART 3 T TLE 24 CCR)
(999 EDITION NAT ONAL ELECTR CAL CODE W TH 2001 CAL FORN A AMENDMENTS)

200 CAL FORN A MECHAN CAL CODE (PART 4 T TLE 24 CCR)
(2000 EDIT ON IAPMO UNIFORM MECHAN CAL CODE WITH 2001 CAL FORN A AMENDMENTS)

200 CAL FORN A PLUMB NG CODE (PART 5 T TLE 24 CCR)
(2000 EDIT ON IAPMO UN FORM PLUMB NG CODE W TH 2001 CAL FORN A AMENDMENTS)

200 CAL FORN A ENERGY CODE (PART 6 T TLE 24 CCR)

200 CAL FORN A ELEVATOR SAFETY CONSTRUCT ON CODE (PART 7 T TLE 24 CCR)

200 CAL FORN A FIRE CODE (PART 9 T TLE 24 CCR)

2001 CAL FORN A REFERENCED STANDARDS CODE (PART 2 T TLE 24 CCR)

NFPA 3 999 EDITION THE INSTALLAT ON OF AUTOMAT C SPR NKLER SYSTEMS AS AMENDED
NFPA 4 2000 ED TION NSTALLAT ON OF STANDP PE PR VATE HYDRANT AND HOSE SYSTEMS
NFPA 24 1995 ED T ON NSTALLAT ON OF PR VATE F RE SERV CE MAINS AND THE R APPURTENANCES
NFPA 72 1999 ED T ON NATIONAL F RE ALARM CODE AS AMENDED

MODULES
SYSTEM
FOUNDATION
SEISMIC

LICENSED ARCHITECT
ROBERT DIESA
No C17485
REN 3.05
STATE OF CALIFORNIA

MOMENT–RESISTANT
12 X 40 MODULES
CONCRETE
ZONE 4
SE SM C SOURCE A
D S ANCE FROM SE SM C SOURCE < 2 KM
SO YPE S

FILE 34-53
IDENTIFICATION STAMP
DIV OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02 10 15
AC FLS
DA 3 12 02
ALBERT EINSTEIN

BASED ON PC# 02-101848

FLE NO 34 53
DENT F CAT ON STAMP
D V S ON OF THE STATE ARCH TECT
OFF CE OF REGULA ON SERV CES
02/10/21
AC FLS
DATE 2/21/03
FERN BACON

American Modular Systems
787 Spreckels Ave Manteca CA 95336
(209)825 1921 Fax (209)825 7018
amencanmodular com

JOB NO	
DATE	FEBRUARY 4 2003
SHEET NUMBER	TS–1
B ND NG ORDER	

GENERAL NOTES AND SPECIFICATIONS

SECT ON 1A GENERAL REQU REMENTS WORKMANSHIP

1 GENERAL

A THE REQU REMENTS OF THE GENERAL COND T ONS OF THE AGREEMENT AND TH S GENERAL REQU REMENT APPLY TO THE SEVERAL TRADE SECT ONS W TH THE SAME FORCE AS THOUGH FULLY REPEATED N EACH TRADE SECT ON

B NAME BRANDS ARE ND CATED TO ESTABL SH A STANDARD OF QUAL TY TEMS OF EQUAL OR BETTER QUAL TY MAY BE SUBST TUTED FOR THE L STED BRAND NAMED PRODUCTS W TH THE WR TTEN APPROVAL OF D S A AND THE ARCH TECT

C ALL WORK SHALL COMPLY W TH THE REQU REMENTS OF T TLES 9 AND 24 CAL FORN A CODE OF REGULAT ONS NO CHANGES SHALL BE MADE FROM D S A APPROVED DRAW NGS OR SPEC F CAT ONS W THOUT PR OR WR TTEN APPROVAL OF D S A AND THE ARCH TECT

2 SCOPE OF WORK

A THE WORK CONS STS OF MANUFACTUR NG OFF S TE N A PLANT AND NSTALL NG ON S TE MODULAR RELOCATABLE BU LD NGS AS DEF NED HERE N AND SHOWN AND DETA LED ON DRAW NGS

B ALL REQU REMENTS OF T TLES 24 OF THE STATE OF CAL FORN A CODE OF REGULAT ONS RELAT NG TO NSPECT ONS AND VER F ED REPORTS SHALL BE COMPL ED W TH AND SHALL NCLUDE

GENERAL RESPONS BLE CHARGE OF F ELD ADM N STRAT ON BY THE ARCH TECT OF RECORD

2 NSPECTION N PLANT DURING THE COURSE OF CONSTRUCT ON BY AN NSPECTOR APPROVED BY THE D V S ON OF THE STATE ARCH TECT AND THE D STR CT ARCH TECT THE NSPECTOR SHALL BE RESPONS BLE FOR AND APPROVED TO NSPECT THE GENERAL CONSTRUCT ON WELD NG MECHAN CAL AND ELECTR CAL WORK COST OF THESE NSPECT ONS SHALL BE BORNE BY THE SCHOOL D STR CTS

3 ON S TE INSPECT ON OF THE BU LD NG NSTALLAT ON ELECTR CAL AND UT L TY NSTALLAT ON OR CONNECT ONS BY AN NSPECTOR APPROVED BY THE D V S ON OF THE STATE ARCH TECT AND THE D STR CT ARCH TECT AND RETA NED BY THE SCHOOL D STR CT

4 OTHER SPEC AL TESTS OR NSPECTIONS AS MAY BE REQU RED BY THE D V S ON OF THE STATE ARCH TECT

5 ADDENDUMS SHALL BE S GNED BY THE ARCH TECT & APPROVED BY D S A

6 CHANGE ORDERS SHALL BE S GNED BY THE OWNER & ARCH TECT & APPROVED BY D S A

7 THE TEST NG LAB SHALL BE N THE EMPLOY OF THE OWNER

8 ALL CONTRACTORS SHALL VER FY ALL WORK COND T ONS D MENS ONS AND DETA LS AND REPORT ANY OR A L OM SS ONS AND D SCREPANC ES TO THE DES GNER/OWNER MMED ATELY BEFORE COMMENC NG WORK

9 EACH CONTRACTOR TO BE RESPONS BLE TO SEE THAT THE R WORK CONFORMS O ALL GOVERNMENTAL CODES WHETHER OR NOT SO STATED ON THE DRAW NGS

0 AL MATER A S AND WORKMANSH P TO CONFORM TO THE LATEST REQU REMENTS OF THE GOVERN NG BU LD NG CODES N EFFECT AT T ME OF DSA APPL CAT ON

A MANUFACTURED ART CLES MATER ALS AND EQU PMENT SHALL BE APPL ED NSTALLED CONNECTED AND ERECTED PER MANUFACTURER S D RECT ONS AND NSTRUCT ONS

2 SHOP DRAW NGS MAY BE REQU RED F SO THEY W LL BE ACCURATELY DRAWN O A LARGE ENOUGH SCALE O SHOW A L PERT NENT FEATURES OF THE TEM AND TS CONNECT ON TO RELATED WORK

3 HE MANUFACTURER OF BU LD NG S TO PLACE TWO PERMANENT METAL DENT F CAT ON LABE ON EACH MODULE MECHAN CA Y FASTENED TO THE FRAME SEE GENERA DES GN REQU REMENTS TH S PAGE

FOR PROJECTS MANUFACTURED OFF S TE THE PLANT NSPECTOR S TO ND CATE THE MANUFACTURER S NAME AND SER AL NUMBER OF EACH MODU E ON THE VER F ED REPORT AND D S A APP NUMBER

4 A TESTS AND NSPECT ONS REQU RED BY DSA SHA L BE COMPL ED W TH A TESTS REQ BY F RE AND L FE SAFETY REGULAT ONS SHALL BE BY A NAT ONALY RECOGN ZED TEST NG LABORATORY

FOUNDAT ON

ASSUMED ALLOWABLE SO BEAR NG 000 PSF

2 FOO NGS SHALL BE LOCA ED ON UND S URBED F RM NA URAL SO L APPROVED COMPACTED F L OR ON AN APPROVED PAVED SURFACE

NO E THE FOUNDAT ON SYSTEM PRESENTED HERE N COMPL ES W TH NTERPRETAT ON OF REGULAT ONS R 6 SSUED BY D V S ON OF THE STATE ARCH TECT FOR TEMPORARY BU LD NGS TH S FOUNDAT ON SYSTEM S NON CONVENT ONAL AND THE STRUCTURA ENG NEER TAKES NO RESPONS B L TY FOR TS CONSTRUCT ON OR LONGEV TY

3 WORK NOT NCLUDED

A ALL ON SITE OR OFF S TE UT L T ES AND THE CONNECT ON OF THEM TO THE BU LD NG UNLESS ND CATED ON THE DRAW NGS

B ALL LEVEL NG GRAD NG OR OTHER S TE PREPARAT ON EXCEPT CONCRETE OR WOOD LEVELING STR PS WHERE REQU RED UNLESS OTHERW SE ND CATED ON THE DRAW NGS

C F RE ALARM SYSTEM PROGRAM BELL PUBL C ADDRESS SYSTEM NTERCOM SYSTEM TV TELEPHONE SYSTEM UNLESS OTHERW SE ND CATED ON THE DRAW NGS OR MOD F ED BY CHANGE ORDER

4 WHEELS AND H TCH SHALL REMA N THE PROPERTY OF THE CONTRACTOR

5 ACCESS B L TY OF S TE THE SCHOOL D STR CT SHALL PROV DE ACCESS TO THE S TE FOR THE NSTALLAT ON OF BU LD NGS REMOVAL OF TREES SHRUBS FENC NG SPR NKLERS ETC NECESSARY FOR THE MOVE N OF BUILD NGS SHALL BE THE RESPONS B L TY OF THE SCHOOL D STR CT

TRIM/ FIN SH NA LING

DESCR PT ON	SET	S ZE	ENG H	F N SH
S D NG		31	2 /4	GALV
CAS NG S LL & NT CORNER TR M	X	6g	/4	N
2X FASC A		31	3	GALV
SOFF T		3	2 4	GALV
X EXT R M W NDOWS EXT DOORS EXT TRIM		1 3	2	GALV

SECT ON 6 STRUCTURAL STEEL

A GENERAL ALL WORK SHALL CONFORM TO THE REQU REMENTS OF AISC STANDARD SPECIF CAT ONS T TLE 24 OF CAL FORN A CODE OF REGULAT ONS AND THE AMER CAN RON AND STEEL NSTITUTE SPEC F CAT ONS FOR DES GN OF STEEL STRUCTURAL MEMBERS A COPY OF T TLE 24 SHALL BE KEPT AT THE JOBSITE AT ALL T MES

B WELD NG ALL WELD NG DONE BY SHIELDED ELECTR C ARC OR FLUX CORED ARC PROCESS COMPLY NG W TH REQU REMENTS OF THE STRUCTURAL WELDING CODE OF THE AMER CAN WELD NG SOC ETY WELD NG DONE BY OPERATORS QUAL F ED BY TESTS ACCEPTABLE TO THE OFF CE OF THE STATE ARCH TECT WELD NG NSPECT ON PER T TLE 24 PART 2 CCR SECT ON 223 A 5 WELD NG ELECTRODE SHALL BE E70XX

1 STRUCTURAL STEEL SHALL CONFORM TO A S T M A 36 & A 570 GR 36

2 P PE COLUMNS SHALL COMFORM TO A S T M A 53 W TH SULFUR CONTENT NOT EXCEED NG 0 05%

3 STEEL TUB NG SHALL CONFORM TO A S T M A 500 GRADE B OR A S T M A579 GRADE 50 FOR GAUGE TUB NG TYP U N O

4 STRUCTURAL WELDS ARE DES GNED FOR FULL ALLOWABLE STRESS UNLESS OTHERW SE NOTED

C ERECT ON STRUCTURAL STEEL ERECTED TRUE STRA GHT PLUMB AND TO TS DES GNATED LOCAT ONS F ELD CONNECT ONS BOLTED OR WELDED AS ND CATED ON THE DRAW NGS

D NAILS BOLTS SCREWS AND NUTS ETC FOR EXTER OR WORK SHALL BE CADM UM PLATED OR GALVAN ZED

BOLTS FOR STRUCTURAL STEEL JO NTS SHALL CONFORM TO A S T M A 307 UNLESS OTHERW SE NOTED ALL HOLES FOR MACH NE AND CARR AGE BOLTS THROUGH STEEL TO BE DR LLED OR TORCH P LOT HOLE AND REAM M N / 6 TO CORRECT S ZE NELSON STUDS (WELDED TO STEEL) MAY BE SUBST TUTED FOR BOLTS SAME LENGTH AND D AMETER EXCEPT AT S MPSON MTT28B

E HANDRA LS FABR CATED AS DETA LED WELDS GROUND SMOOTH

F SHOP PA NT

EXPOSED STEEL COATED W TH ONE SHOP COAT OF RED OX DE PR MER

2 NON EXPOSED STEEL COATED W TH ONE SHOP COAT OF RED OX DE PRIMER

3 ALL SURFACES THOROUGHLY CLEANED BY EFFECT VE MEANS PR OR TO APPL CAT ON OF SHOP COATS

G TESTS

PROV DE M LL CERT F CATES OR TEST ALL STEEL MEMBERS PER T 24 PART 2 CCR SECT ON 2231 A

SECT ON 6A CARPENTRY

1 SCOPE OF WORK

CONTRACTOR SHALL PROV DE ALL LABOR MATER ALS AND SERVICES TO NSTALL CARPENTRY

2 MATER ALS

LUMBER GRADE MARKED IN ACCORDANCE W TH STANDARD GRAD NG AND DRESS NG RULE NO 7 OF WEST COAST LUMBER NSPECT ON BUREAU OR GRAD NG RULES FOR LUMBER 3RD ED T ON OF WESTERN WOOD PRODUCTS ASSOC AT ON OR W C L B PLYWOOD GRADE MARKED N ACCORDANCE W TH PRODUCT STANDARD PS 95 FOR SOFTWOOD PLYWOOD OF AMER CAN PLYWOOD ASSOCIAT ON COMPLY NG W TH UBC STANDARD 23 2 EACH SHEET SHALL BEAR THE STAMP OF APA P TTSBURGH TEST NG OR TECO

A JO STS PLATES STUDS DOUGLAS F R S4S #2 U N O NOTE MSR 650 E 5 MAY BE SUBST TUTED FOR #2 GRADE F T MEETS THE STRUCTURAL REQU REMENTS FOR FLOOR AND ROOF MEMBERS

B HEADERS POSTS AND T MBERS DOUGLAS F R S4S #

C BLOCK NG DOUG F R #3 OR HEM F R #3 OR STD & BET

D S LLS AND LUMBER & SH M PLATES N CONTACT W TH CONCRETE MASONRY OR EARTH DOUG F R #2 PRESSURE TREATED N ACCORDANCE W TH CBC 8 7 EACH P ECE SHALL BEAR AWPB STAMP LP 22 GROUND CONTACT D F #2 ABOVE GROUND

E PLYWOOD ROOF DECKING SEE A/S3

F PLYWOOD FLOOR DECK NG APA STURD FLOOR 2 4 OR UN FLOOR BY P TTSBURGH TEST NG LAB /8 NOM OR EQUAL TONGUE AND GROOVE FLOOR SHEATH NG W TH EXTER OR GLUE

G EXTERIOR S D NG/SHEATH NG APA TYPE 303 EXTER OR

H MO STURE BARR ER KRAFT WATERPROOF BU LD NG PAPER OR 5 LB FELT UBC STANDARD 7 1 FOR KRAFT 32 FOR FELT

J STUDS S4S DOUG F R #2 OR #2 HEM F R MAX MUM MO STURE CONTENT OF 23% AT T ME OF NSTALLAT ON

K FASTENERS ALL NA LS SHALL BE CORROS ON RES STANT PER C B C 23 8A 3 4 COMMON NA LS U N O FOR EXT S D NG & FNDN ONLY

L BU LD NG TR M 2X RESAWN SELECT D F H F OR CEDAR

M DOOR/W NDOW TR M X4 REWAWN D F H F OR CEDAR

N FRAM NG CONNECTORS SHALL BE FROM S MPSON CATALOG LATEST ED

O F RE BLOCKS SHALL CONFORM TO CBC SECT ON 708

P ALL NA LS SHALL BE COMMON NA LS UNLESS OTHERW SE NOTED

Q FOUNDAT ON LUMBER ALL CUT ENDS AND HOLES N PRESSURE TREATED LUMBER SHALL BE TREATED W TH CUPR NOL

3 WORKMANSH P

A FRAM NG SECURELY NA LED BR DGED AND BLOCKED TO FORM R G D STRUCTURE WORK CUT F TTED AND ASSEMBELED LEVEL PLUMB AND TRUE TO L NE TR M N AS LONG LENGTHS AS POSS BLE W TH ALL STANDING TRIM N ONE P ECE TR M SEALED AT ALL EDGES

B NA L NG N ACCORDANCE W TH T TLE 24 CAL FORN A CODE CODE TABLE 23A B 1

C EXTER OR WALLS FACTORY FABR CATED CAULK NG PROV DED BETWEEN PER METER OF WALL AND STRUCTURAL MEMBERS PROV D NG WEATHER PROOF AND WATER T GHT SEAL NECESSARY CLOSERS SEALS AND FLASH NGS PLACED AT TOP AND BASE SUPPORT OF PANELS AND AROUND OPEN NGS

D MACH NE APPL ED NAIL NG USE OF MACH NE NA L NG IS SUBJECT TO A SAT SFACTORY JOBS TE DEMONSTRAT ON FOR EACH PROJECT AND THE APPROVAL BY THE PROJECT ARCH TECT OR STRUCTURAL ENG NEER AND THE D V S ON OF THE STATE ARCH TECT THE APPROVAL S SUBJECT TO CONT NUED SAT SFACTORY PERFORMANCE MACH NE NA LING W LL NOT BE APPROVED N 5/ 6 PLYWOOD F NA LHEADS PENETRATE THE OUTER PLY MORE THAN WOULD BE NORMAL FOR A HAND HAMMER OR F M N MUM ALLOWABLE EDGE D STANCES ARE NOT MA NTA NED THE PERFORMANCE W LL BE DEEMED UNSAT SFACTORY

E MO STURE BARR ER APPL ED TO STUDS WEATHER BOARD FASH ON HOR ZONTAL JO NTS LAPPED M N 6 NCLUD NG BU LD NG CORNERS SHEATH NG APPL ED OVER MO STURE BARR ER

F TR M SEALED AT ALL EDGES SEALANT PA NTED TO MATCH TR M OR S D NG UNLESS TRANSPARENT TYPE

SECT ON 7B SHEET METAL

1 SCOPE OF WORK

CONTRACTOR SHALL PROV DE ALL LABOR MATER ALS AND SERV CES TO NSTALL ND CATED SHEET METAL

2 MATER ALS

A SHEET METAL STEEL SHEETS HOT D P GALVAN ZED W TH 1 25 OZ PER SQUARE FOOT ZINC COAT NG CONFORM NG TO ASTM A526 M N MUM 26 GA UNLESS OTHERW SE NOTED ON THE DRAW NGS

B SOLDER OF STAND GRADE A OF EQUA PARTSARD BRAND LEAD AND T N ASTM B32

C FLUX Z NC SATURATED MUR AT C AC D

D GUTTERS 26 GA G 90 GALV STEEL
DOWNSPOUTS 2 X3 CONVOLUTED 30 GA G 90 GALV STEEL
GUTTER ENDCAPS 26 GA G 90 GALV STEEL
GUTTER CL PS 8 GA G 90 GALV STEEL

3 WORKMANSH P

SHEET METAL ACCURATELY FORMED TO D MENS ONS AND SHAPES DETA LED W TH TRUE STRA GHT L NES CORNERS AND ANG ES FLASH NG NSTALLED N LONGEST LENGTHS POSS BLE EXTER OR WORK FORMED FABR CATED AND NSTALLED SO THAT T ADEQUATELY PROV DES FOR EXPANS ON AND CONTRACT ON N THE COMPLETED WORK AND F N SHES WATER AND WEATHER T GHT ALUM NUM SHALL BE SEPARATED FROM FERROUS METAL BY POLYETHYLENE TAPE OR FLOOD COAT OF ASPHALTIC PAINT

SECTION 7C METAL ROOF NG

1 SCOPE OF WORK

CONTRACTOR SHALL PROVIDE ALL LABOR MATER ALS AND SERV CES TO NSTALL METAL ROOF NG TEST RESULTS SHOW NG THE ROOF NG SYSTEM W LL W THSTAND THE UPL FT OF A 80 MPH W ND SHALL BE SUBM TTED W TH THE PLANS AND SPEC F CAT ONS

2 MATER ALS

A ROOF NG 1/8 NCH STAND NG SEAM 26 GAUGE G 90 GALV ALTER 22 GA PAN PER 3/S3 MA N ROOF NG NTER OCK NG (UNPENETRATED) SHEET STL PANELS (G90)

B ROOF NG CLASS B F RE RAT NG

SECT ON 7J SEALANT

1 SCOPE OF WORK

CONTRACTOR SHALL PROV DE ALL LABOR MATER AL AND SERV CES TO SEAL BU LD NGS

2 MATER ALS

VULKEM SEALANT POLYURETHANE MANUFACTURED BY MAMECO NTERNAT ONAL FOR ROOFS GEOCEL S L CON ZED CAULK GE DUPONT EAGLESEAL OR DAP FOR ALL OTHER APPL CAT ONS OR EQUAL

3 WORKMANSH P

SEALANT APPL ED TO DRY CLEAN SURFACES WHEREVER ND CATED ON DETA LS AND AS NEEDED TO MAKE BUILD NG WATERT GHT N ACCORDANCE W TH MANUFACTURER S SPEC F CAT ONS

SECTION CONCRETE

CONCRETE MORTAR AND RELATED MATER ALS TO CONFORM TO APPL CABLE PROV SIONS OF T TLE 24 EXCEPT AS MOD FED HERE N
2 RE NFORCEING BARS ASTM A6 5 OR ASTM A706 DEFORMED GRADE 40 B LLET STEEL
3 EXPANS ON JO NT F LLER ASTM D994
4 FORM MATER ALS S DE FORMS DOUGLAS F R CONSTRUCT ON GRADE OR BETTER OR METAL FORMS
5 PLAC NG REINFORCEMENT PLAC NG CONCRETE SUFACE F NISHES CURING AND REMOVAL OF FORMS SHALL BE N ACCORDANCE W TH APPL CABLE PROV S ONS OF T T E 24

NEW CODE UPDATE

CAL FORN A BU D NG CODE PART 2 TITLE 24 CCR
SEC 03B BU LD NG ACCESS B TY GENERAL
HE 200 CBC REQU RES HAT BU D NGS EXCEED NG 0 000 SQUARE FEET ON AN F OOR MUST HAVE AN ACCESS B E MEANS OF VERT CAL ACCESS V A RAMP E EVATOR OR L FT W TH N 200 FEET OF TRAVEL OF EACH STA R AND EACH STA R AND EACH ESCALA OR
AB E 5B SUGGES ED D MENS ONS FOR CH LDREN S USE
HE 200 CBC REQU RES A 27 M N MUM D MENS ON FOR LAVATOR S NK KNEE C EARANCE W CH S THE D S ANCE FROM THE F N SH F OOR O HE UNDERS DE OF HE LAVATOR /S NK HE 998 CBS NCORREC SPEC F ED A 29 MAX MUM D MENS ON FOR LAVATOR /S NK KNEE CLEARANCE
SECT ON 5B 7 3) ACCESS B E WA ER C OSET COMPARTMEN
HE 200 CBC REQU RES AN ACCESS BLE TO E STAL TO HAVE A M N MUM WD H OF 60 THE 998 CBSC SPEC F ED A M N MUM W DTH BASED ON PRESCR BED TO E F X URE C EARANCES TO THE STAL S DEWA LS AND GENERA LY RESU TED N A M N MUM S A W DTH OF 5
SECT ON 5B 6 2 4 WA ER CONTRO S
HE 200 CBC REQU RES HA HE FORCE O OPERA E AWA ER CONTROL VA VE) OR AN ACCESS B E SHOWER SHAL NO EXCEED 5 BS MAX MUM FORCE PU L HE 998 CBSC D D NO ADDRESS H S SSUE
Sec on 7B 5 S gns and den a on (a so e e o Se ons 003 2 8 003 2 8 2 003 2 8 4 003 2 8 5 003 8 6 003 2 8 6 003 3 3 3 003 3 0)
he 200 CBC makes se e a gene a des gn hanges and ca a ons o s gnage om he 998 CBCS p o sons
A g ound oo e doo sha ha e tac e ex s gnage
A s a s each oo sha ece e ac e s a e e s gnage n add on o speca ac e a he e d scha ge e e
Each e doo ha eads o a g ade e e e by menas o a s a way sha ha e a e e t s gnage
Each e o cess doo o a co do o ha way ha s equ ed a ha e a suo e s gn sha be den ed by ac e e s gnage
Sec on 29B 4 2 (3) A cess b e Pa k ng Requ ed
The 200 CBC equ es he wo ds NO PARK NG n 2 he gh wh e e e s o be pa n ed on he pa emen w h n a pa k ng space access a s es Van pa k ng access a s es sha be pa ed on he passenge s de o the h c e Ramps may no enc oa h nto an equ ed access a s e Pa k ng space a ess a ses sha no e ceed 2% s ope n any d e o
E s ng S es
A e s ng s es any amp wh ch e eeds a 2 o cess a s es o ac ess b e pa k ng spa es pe CBCS Se on 29B may equ ed emo a and edes gn pe he pa h o a e POT po sons o CBCS Se on 34B n o de o appo e he bu d ng pa emen
Sec on 33B 2 5 Cose E o o Ope a e Doo s
The 200 CBC equ es ha he e o o open an e e o doo sha no e ceed 5 pounds pu)
he 998 CBC a owed a ma mum pu e o o 8 5 p nds
Sect o 33B 2 5 Doo Cose
The 200 CBC equ es ha he sewep pe od o ac ess b e doo s sha be 3 se o ds ma m m based on a open doo pos on o 70 deg eees om osed) o a doo pos on o 3 om he a h
Sec ons 33B 2 4 5 & 33B 2 5 3 Recessed Doo s
The 200 CBC eq es ha doo s ecessed 8 o mo e sha ha e s ke edge ea an es a co dance w h F gu e B 33 a
Sec on 33B 4 2 6 2 Hand a O e a on
he 200 CBC spe es ha a eas one hand a sha be pa a e o he d e on o he s a un and pe pend cu a o he edge o he s a nos ng
Sec on 33B 2 4 5 Ramp W d h
The 200 CBC equ es ha s g edges ess han 80 abo e he n shed oo m s on a ounded o eased ad us o 0 25 m mum
Ca o na Bu d ng S a da ds Adm s a e Code Part e 24 CCR
Chap e 5 A es 2 3 & 4 Ca o na Bu d ng Code Part 2 e 24 CCR) Se ons 02A 3 C 7A 4 7 02B 27B 5 8 3 B 4 3B 8 3 33B 8 4 33B 8 5
De ec ab e Wa n ngs
he 200 CBCSAC equ es ha de e abe wa ngs sha be eva ua ed a d app o ed b DSA and ha ony DSA app oved p odu s sha be ns a ed Re e o he a a hed DSA B e n ndependen En y E a ua on and App o a o De e abe Wa n ngs and D e ona Su aces da ed O obe 3 2002
he p o ec pans o spec ca ons sha nd ate he eq eme t ha he manu a u e sha p o de a w e e yea p od wa an y n a o dan e w h he B e n

SECT ON 8B HOLLOW METAL DOORS AND FRAMES

1 SCOPE OF WORK

CONTRACTOR SHALL PROV DE ALL LABOR MATER ALS AND SERV CES TO NSTALL HOLLOW METAL DOORS AND FRAMES

2 MATER ALS

A DOORS TYPE L FULL FLUSH MANUFACTURED BY AMWELD MANUFACTUR NG COMPANY 8 GA 1 3/4 TH CK PER CS242 M N RE NFORCE FOR HARDWARE BOTH FACES FOR CLOSER SOUND DEADEN NTER OR

B FRAMES 6 GA COLD RO LED 2 FACES CS242 M N 3 ANCHORS PER JAMB + ADJUSTABLE FLOOR ANCHOR EACH JAMB RE NFORCE FOR HARDWARE PROV DE STR KE BOX PROVIDE SOUND DEADENING /8 UNDERCOAT NG OR NSULAT NG F LL

3 WORKMANSH P

ALL WORK FABR CATED N SHOP TO REQU RED PROF LES BY FORM NG AND WELD NG W TH AR SES AND EDGES STRA GHT SHARDP F T FABR CATED ACCURATELY W TH SQUARE CORNERS HA RL NE JO NTS AND SURFACES FREE FROM WARP WAVE BUCKLE OR OTHER DEFECTS AFTER FABR CAT ON DOORS AND FRAMES CLEANED THOUROUGHLY ALL WELDS GROUND SMOOTH AND G VEN PR ME COAT

SECT ON 8D F N SH HARDWARE

1 SCOPE OF WORK

CONTRACTOR SHALL SUPPLY AND NSTALL F N SH HARDWARE AS SPEC F ED AND AS REQUIRED

2 SCHEDULE FOR EXTER OR DOORS

SEE NOTE ON FLOOR PLAN

3 SPEC AL REQU REMENTS

A EX T DOORS SHALL BE OPENABLE FROM THE NTERIOR WITHOUT KEY OR SPEC AL KNOWLEDGE OR EFFORT

B CLOSER SHALL BE SET FOR A MAX MUM OPEN NG PRESSURE OF 8 5 LBS PRESSURE

SECT ON 9E PAINT NG

1 SCOPE OF WORK

CONTRACTOR SHALL PROV DE ALL LABOR MATER ALS AND SERV CES TO PA NT BU LD NG ALL EXPOSED SURFACES OF BU LD NG AND RAMPS SHALL BE PA NTED EXCEPT ALUM NUM W NDOW FRAMES THRESHOLDS AND ROOF NG

2 MATERIALS

A FOR EXTER OR WOOD

REF BRAND	DUNN EDWARDS	KELLY MOORE	SHERW N W LL AMS	S NCLA R
PR MER	42 9M	1240	Y24W20	289 N
F N SH	QD 60 XX	240 XXX	B54WZ102	GE2 NXX

B FOR NTER OR TR M

REF BRAND	DUNN EDWARDS	KELLY MOORE	SHERW N W LL AMS	S NCLA R
F N SH	W450 XX	650 XXX	A26W	40XX

C FOR METAL

REF BRAND	DUNN EDWARDS	KELLY MOORE	SHERW N W LL AMS	S NCLA R
PR MER	43 4	17 0	B50NZ6	15N
F N SH	0 XX	700 XXX	B54WZ 02	GE2 NXX

3 WORKMANSH P

ALL EXPOSED SURFACES SHALL BE PAINTED EXCEPT ALUMINUM W NDOW FRAMES AND THRESHOLDS MATER AL SHALL BE OF THE GRADE SPEC F ED OR EQUAL

A EXTER OR WOOD S D NG TR M AND SK RT NG FLAT OR SEM GLOSS LATEX APPLY ONE COAT OF PR ME AND AT LEAST ONE F N SH COAT PR ME COAT SHALL BE BRUSHED ON OR SPRAYED AND BACK BRUSHED NTO ALL GROOVES N THE S D NG F NECESSARY N THE OPIN ON OF THE NSPECTOR AN EXTRA COAT SHALL BE APPL ED TO ALL GROOVES SO THAT THE F N SH COAT W LL HAVE A UN FORM APPEARANCE ALLOW PR ME COAT TO DRY ACCORD NG TO MANUFACTURER S RECOMMENDAT ON PR ME AND F N SH COATS SHALL BE COMPAT BLE AND MANUFACTURED BY THE SAME COMPANY

B INTER OR TR M TR M NOT PRECOATED SHALL BE PA NTED W TH TWO COATS OF SEM GLOSS LATEX OVER PR MER

C INTER OR HARDWOOD CAB NETS TWO COATS LOW LUSTER POLYURETHANE FIN SH APPLY F RST COAT TH NNED W TH ONE QUART M NERAL SP R TS PER GALLON APPLY SECOND COAT AS RECOMMENDED BY MANUFACTURER

D METAL ALL METAL SURFACES SHALL BE PA NTED W TH TWO COATS OF ALKYD F N SH COAT OVER Z NC CHROMA E OR EQUAL RUST NH B T NG PR MER

E RAMP ONE COAT OF FERROX NON SK D SURFAC NG AS MANUFACTURED BY AMER CAN ABRAS VE METALS OR COMPARABLE ALL PA NTS OF THE TYPE ND CATED SHALL BE L STED ON THE STATE OF CAL FORN A QUAL F ED PRODUCTS L ST FOR MA NTENANCE PA NTS 80 0 9 G 98A DATED JULY 1989 OR EQIAL

F SUBM T ONE SET COLOR SAMPLES TO ARCH TECT FOR EACH PRODUCT TO ASS ST N SELECT ON

SECT ON 13F S TE ASSEMBLY

1 SCOPE OF WORK

CONTRACTOR SHALL PROV DE ALL LABOR MATERIALS AND SERV CES TO PREPARE THE BU LD NG ELEMENTS TRANSPORT THEM FROM THE PLANT TO THE S TE AND TO COMPLETE THE ASSEMBLY AT THE S TE THE COND T ON OF THE S TE SUCH AS DRA NAGE AND SO L BEAR NG CAPAC TY SHALL BE THE RESPONSIB L TY OF THE SCHOOL D STRICT UNLESS SPEC F CALLY CALLED FOR N THE CONTRACT STEPS RAMPS OR HANDRA LS SHALL BE THE RESPONS B L TY OF THE CONTRACTOR

2 ASSEMBLY OF ELEMENTS

A N A LOCAT ON ON THE S TE AS DETERM NED BY THE SCHOOL D STR CT (APPROVED BY DSA) THE CONTRACTOR SHALL PLACE WOOD LEVEL NG STR PS OR OTHER SU TABLE SUPPORTS AS DETA LED ON THE DRAW NGS

B THE ELEMENTS SHALL BE BROUGHT TO THE S TE ON WHEEL ASSEMBLY AND TRANSFERRED TO THE PREPARED S TE GREAT CARE SHALL BE TAKEN TO AVO D DAMAGE TO THE ELEMENTS BY RACK NG OR BUMP NG EACH OTHER

C CONNECT ON OF THE ELEMENTS TOGETHER SHALL BE DONE ACCORD NG TO NSTRUCT ON ON THE DRAW NGS FLASH NGS TR M AND OTHER LOOSE TEMS SHALL BE NSTALLED PER DETA LS ON THE DRAW NGS

NOTE

WALL F N SH MATERIAL
FLAME SPREAD MAX 200
SMOKE DENS TY MAX 450
BU LDING NSULAT ON
FLAME SPREAD MAX = 25
SMOKE DENS TY MAX 450
P PE NSULAT ON
FLAME SPREAD MAX 25
SMOKE DENS TY MAX – 450
DUCT NSULAT ON
FLAME SPREAD MAX – 25
SMOKE DENSITY MAX = 50

SECT ON 15A A R COND T ONING

1 SCOPE OF WORK (SEE SHEET M 1 FOR HVAC SPEC AND NOTES)

CONTRACTOR SHALL PROV DE ALL LABOR MATER ALS AND SERV CES TO NSTALL THE A R COND T ON NG SYSTEM AS SHOWN ON THE DRAW NGS AND SPEC F CAT ONS NCLUD NG A/C UN TS AND ACCESSORIES REMOTE THERMOSTAT GR LLS AND POWER W R NG COMPLETE TO LOAD CENTER CONTRACTOR SHALL NSTRUCT OWNER S OPERATORS ON OPERAT ON AND MA NTENANCE OF A/C SYSTEM

2 EQU PMENT

SEE NOTE ON FLOOR PLAN FOR S ZE AND TYPE

3 WORKMANSH P

UN TS SHALL BE NSTALLED COMPLETE AND OPERAT NG W TH ALL ACCESSOR ES N ACCORDANCE W TH THE MANUFACTURER S NSTRUCT ONS

SECT ON 16A ELECTR CAL

1 SCOPE OF WORK

CONTRACTOR SHALL PROV DE ALL LABOR MATERIALS AND SERVICES FOR ELECTR CAL NSTALLAT ON COMPLETE W TH ASSOC ATED EQU PMENT AND F XTURES N OPERAT NG COND T ON READY FOR USE THE WORK NCLUDES L GHT AND POWER SYSTEMS L GHT NG F XTURES COMPLETE W TH LAMPS CONNECT ONS AND D SCONNECTS TO A/C EQU PMENT

2 MATER ALS

ALL NEW COMPLY NG W TH REQU REMENTS OF CAL FORN A ELECTRIC CODE AND NAT ONAL F RE PROTECT ON ASSOC AT ON

A ELECTR C METALL C TUB NG COUPL NG AND FLEX CONDU T GALVAN ZED OR SHERARD ZED EXTER OR FLEX GALV STEEL W/ FACTORY APPL ED P V C JACKET

B PANELBOARDS FLUSH MOUNTED

C CONDUCTORS COPPER NSULATED FOR 600 VOLTS TYPE THHN FOR S ZES # 2 TO #6 TYPE THW FOR LARGER S ZES MIN MUM S ZE # 4

D RECEPTACLES AS NOTED + 8 A F F M N

E CLOCK RECEPTACLE AS NOTED

F SW TCHES AS NOTED +48 A F F MAX

G L GHT NG FIXTURES AS NOTED ON THE DRAW NGS

3 WORKMANSHIP

MATER ALS AND EQU PMENT NSTALLED N A SECURE NEAT WORKMANL KE MANNER N ACCORDANCE W TH CODE REQU REMENTS PANELBOARD CARDS F LLED OUT CONDU T AND CABLE NSTALLED N WALL AND CE L NG SPACES WORK P ERC NG WATERPROOFED AREAS FLASHED AND SEALED TO A WATERT GHT COND T ON BU LD NG CONDU T/W R NG FROM FACE OF BLDG TO S TE TERM NAT ON BY S TE CONTRACTOR(N C) (FLEX BLE CONDU T S BEND SEALT TE)

NSPECT ON

NSPECT ON OF PREFABR CATED BU LD NGS S DIV DED INTO TWO SEPARATE FUNCT ONS

N PLANT INSPECT ON
2 ON S TE NSPECT ON

THE CONTRACTOR SHALL ALLOW UP TO SEVEN (7) DAYS FROM THE DATE OF PLAN APPROVAL TO OBTA N A PLANT NSPECTOR APPROVED BY D S A

N PLANT NSPECT ON AND MATER AL TEST NG SHALL BE ACCOMPL SHED UNDER THE SUPERV SION OF THE D STR CT ARCH TECT THE CONTRACTOR SHALL NOT FY THE D STR CT ARCH TECT DSA AND THE DES GNATED NSPECTOR/INSPECT ON AGENCY AT LEAST 48 HOURS PR OR TO COMMENC NG WORK THE MANUFACTURER SHALL PROV DE THE NSPECTOR W TH FULL ACCESS TO ALL PLANT OPERAT ONS NVOLV NG WORK UNDER TH S CONTRACT AND SHALL ADV SE THE NSPECTOR N ADVANCE OF THE T ME AND PLACE WHEN OPERAT ONS THAT THE NSPECTOR WANTS TO OBSERVE TAKE PLACE BEFORE THE BU LD NG(S) ARE REMOVED FROM THE PLANT FOR DEL VERY TO THE STORAGE FAC L TY OR FROM THE STORAGE FAC LITY TO THE S TE THE NSPECTOR SHALL DETERM NE THAT THEY ARE ACCEPTABLE AND SSUE A WR TTEN RELEASE WHICH SHALL BE N THE FORM OF A VER F ED REPORT (FORM SSS 6) A COPY OF THE NSPECTOR S VER F ED REPORT SHALL ACCOMPANY EACH BU LD NG TO STORAGE OR TO THE S TE THE NSPECTOR SHALL PUT ONE COPY N EACH BU LD NG

COORD NAT ON OF WORK

T SHALL BE THE CONTRACTOR S RESPONS B L TY TO MAKE ALL NECESSARY ARRANGEMENTS W TH THE SCHOOL DISTR CT AUTHOR ZED REPRESENTAT VE FOR ACCESS TO GROUNDS AND REMOVAL OF EQU PMENT F NECESSARY

TH S CONTACT SHALL BE MADE AT LEAST 48 HOURS PR OR TO DEL VERY OF AY MODULE

ON S TE INSPECTION SHALL BE DONE BY THE S TE NSPECTOR ALL WORK WH CH THE MANUFACTURER OR H S SUBCONTRACTORS PERFORM AT THE S TE SHALL BE SUBJECT TO THE NSPECT ON OF THE S TE NSPECTOR THE MANUFACTURER W LL FURNISH THE S TE NSPECTOR W TH SUCH NFORMAT ON AS MAY BE NECESSARY TO KEEP H M FULLY NFORMED AS TO PROGRESS OF WORK AND DATES WHEN S TE WORK W LL OCCUR THE CONTRACTOR SHALL NOTIFY THE NSPECT ON AGENCY AT LEAST 48 HOURS PRIOR TO COMMENC NG WORK

THE CONTRACTOR SHALL VER FY THAT THE D STR CT S SITE S READY TO RECE VE THE CLASSROOM(S) PR OR TO THE DEL VERY OF ANY CLASSROOM(S) BY V S T NG EACH S TE (TH S MAY BE DONE BY THE NSPECTOR)

MATERIALS AND WORKMANSH P

ALL CONTRACTORS SHALL CERT FY THAT NO ASBESTOS CONTA N NG BUILD NG MATER ALS WH CH EXCEED STATE AND FEDERAL MANDATED SAFE ASBESTOS LEVELS HAVE BEEN USED N THE CONSTRUCT ON OF RELOCATABLE FAC L T ES

ALL WORKMEN SHALL BE SKILLED AND QUAL FIED FOR THE WORK WH CH THEY PERFORM ALL MATER ALS USED UNLESS OTHERW SE SPEC F ED SHALL BE NEW AND OF THE TYPES AND GRADES SPEC F ED THE CONTRACTOR SHALL F REQUESTED FURN SH EV DENCE SAT SFACTORY TO THE ARCH TECT THAT SUCH S THE CASE

CONTRACTOR S CREWS ASS GNED TO ANY WORK PERFORMED UNDER TH S CONTRACT SHALL NCLUDE ONE COMPETENT AND FULLY EXPER ENCED PERSON DES GNATED AS THE RESPONS BLE PERSON N CHARGE SUCH PERSON MUST BE DENT F ED BY NAME TO THE D STR CT N ADVANCE OF ANY WORK UPON REQUEST THE CONTRACTOR SHALL PROMPTLY FURN SH TO THE D STR CT NFORMAT ON RELAT NG TO TH S EMPLOYEE S EXPER ENCE

WORKMANSH P SHALL BE EQUAL OR BETTER N QUAL TY TO THAT REQU RED BY THE CONSTRUCT ON TRADES FOR A F N SHED PRODUCT A QUAL TY CONTROL SUPERV SOR DES GNATED BY THE MANUFACTURER SHALL REV EW ALL WORK N PROGRESS AND SHALL REV EW THE F N SHED BU LDING PRIOR TO F NAL INSPECTION TO ASSURE T S COMPLETE AND CORRECT THE QUAL TY CONTROL SUPERV SOR SHALL HAVE THE AUTHOR TY TO HAVE MATERIALS REPLACED AND WORK REDONE N ORDER TO CORRECT FAULTY MATER ALS OR WORKMANSH P

GENERAL DES GN REQU REMENTS

APPROX MATELY 2 X 40 MODULES DES GNED SO THAT TWO OR MORE MODULES MAY BE JO NED TOGETHER TO FORM A COMPLETE STRUCTURE TO MA NTA N A POS T VE AL GNMENT OF FLOORS WALLS AND ROOF AND TO PERM T S MPLE NON DESTRUCT VE DETACHMENT FOR FUTURE RELOCAT ON

EACH MODULE SHALL BE PERMANENTLY DENT F ED W TH AN MPR NTED (STAMPED NOT ENGRAVED) METAL DENT F CAT ON TAG 3 X /2 M N MUM S ZE W TH THE FOLLOWING NFORMAT ON

MANUFACTURER S BU LD NG NUMBER
2 DES GN W ND LOAD / EXPOSURE
3 DESIGN ROOF LIVE LOAD
4 DESIGN FLOOR L VE LOAD
5 D S A APPL CAT ON NUMBER

2 TAGS PER MODU E ONE ON EXTER OR AND ONE ON MODU E BEAM AT FRONT OF BU D NG ABOVE CE NG

EACH MODULE SHALL BE CAPABLE OF RES ST NG ALL VERT CAL AND LATERAL LOADS DUR NG TRANSPORTAT ON AND RELOCAT ON (NORMAL NDUSTRY PRACT CE FOR BRAC NG MODULES DUR NG TRANSPORTAT ON AND RELOCAT ONS IS ACCEPTABLE) WHEN MODULES ARE ASSEMBLED JO NTS SHALL BE SEALED WITH REMOVABLE CLOS NG STRIPS OR OTHER METHOD TO PRESENT A F N SHED APPEARANCE AND BE PERMANENTLY WATERPROOF

EACH 2 X 40 MODULE SHALL BE SUFF C ENTLY R G D TO BE JACKED UP AT THE FRONT AND BACK CORNERS FOR RELOCAT ON W THOUT DAMAGE OR THE MODULE SHALL HAVE LIFT LUGS AT FRONT AND BACK LOCATED AS REQU RED SO THAT THE MODULE MAY BE JACKED UP FOR RELOCAT ON N ONE P ECE WITHOUT ADD TIONAL SUPPORTS OF ANY TYPE EVIDENCE OF EXCESS VE BOW NG DUR NG THE NSTALLAT ON OF THE MODULES WHICH N THE OP N ON OF THE AGENCY ARCH TECT OR STRUCTURAL ENGINEER CAUSES EXCESS VE WORK NG AT ANY JO NT OR COMPROM SES THE STRUCTURAL NTEGR TY OF THE MODULE SHALL BE SUFF C ENT REASON FOR REJECT ON OF THE MODULE

F N SH AND BASE MATER ALS AT EACH MODULE SHALL TERM NATE AT INTER OR MODULE JO NTS IN A MANNER TO JO N FLUSH AND T GHT W TH SAME MATER AL N ADJACENT MODULE SO THE MODULE MAY BE RELOCATED W TH M N MUM CUTT NG AND PATCH NG

FASC A AND REQU RED OVERHANGS ARE NOT NCLUDED N THE CALCULAT ON OF THE SQUARE FOOTAGE THE BU LD NG OCCUP ES THE ENTRANCE WALL SHALL HAVE A 5 ROOF OVERHANG THE REAR WALL SHALL HAVE A 2 OVERHANG FULL LENGTH GUTTERS AND DOWNSPOUTS SHALL BE FURNISHED ON THE S DES OF EACH OVERHANG AND EACH ROOF EDGE WHERE DRA NAGE OCCURS THE NTER OR HE GHT FLOOR TO CE L NG SHALL BE 8 6 U O N THE MODULE SHALL BE CLEAR SPAN TYPE EXCEPT AS PROV DED FOR N THE B D SPECIF CAT ONS NOTH NG SHALL PROTRUDE MORE THAN BELOW THE CE L NG LEVEL

TEMS NOTED AS N C (NOT N CONTRACT) OR BY OTHERS S THE RESPONS B L TY OF THE SCHOOL D STR CT DEPEND NG ON THE AGGREEMENT W TH D STR CT

N THE EVENT OF CONFL CT BETWEEN THESE SPECIFICAT ONS AND THE D STR CT B D SPEC F CAT ONS THE D STR CT SPEC F CAT ONS SHALL PREVAIL

LICENSED ARCHITECT
ROBERT DIESEL
No C1 85
REN 3 05
STATE OF CALIFORNIA

IDENTIFICATION STAMP
DIV OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
INC.#
02 105115
AC FLS SS
DA 3-12-03
A.E

FILE NO.
DENT F CAT ON STAMP
DIV OF THE STATE ARCH TECT
OFF CE OF REGULAT ON SERV CES
INC #
02-105101
AC FLS SS
DATE 2/26/2003
F.B

BASED ON PC# 02 101848

72 X 40
RELOCATABLE
CLASSROOMS

American Modular Systems
787 Sprecke s Ave Manteca CA 95336
(209)825 1921 Fax (209 825 7018
ame canmodu a com

CUSTOMER
SACRAMENTO C TY UNIF ED SCHOOL D STR CT
FERN BACON AND E NSTE N

GENERAL NOTES

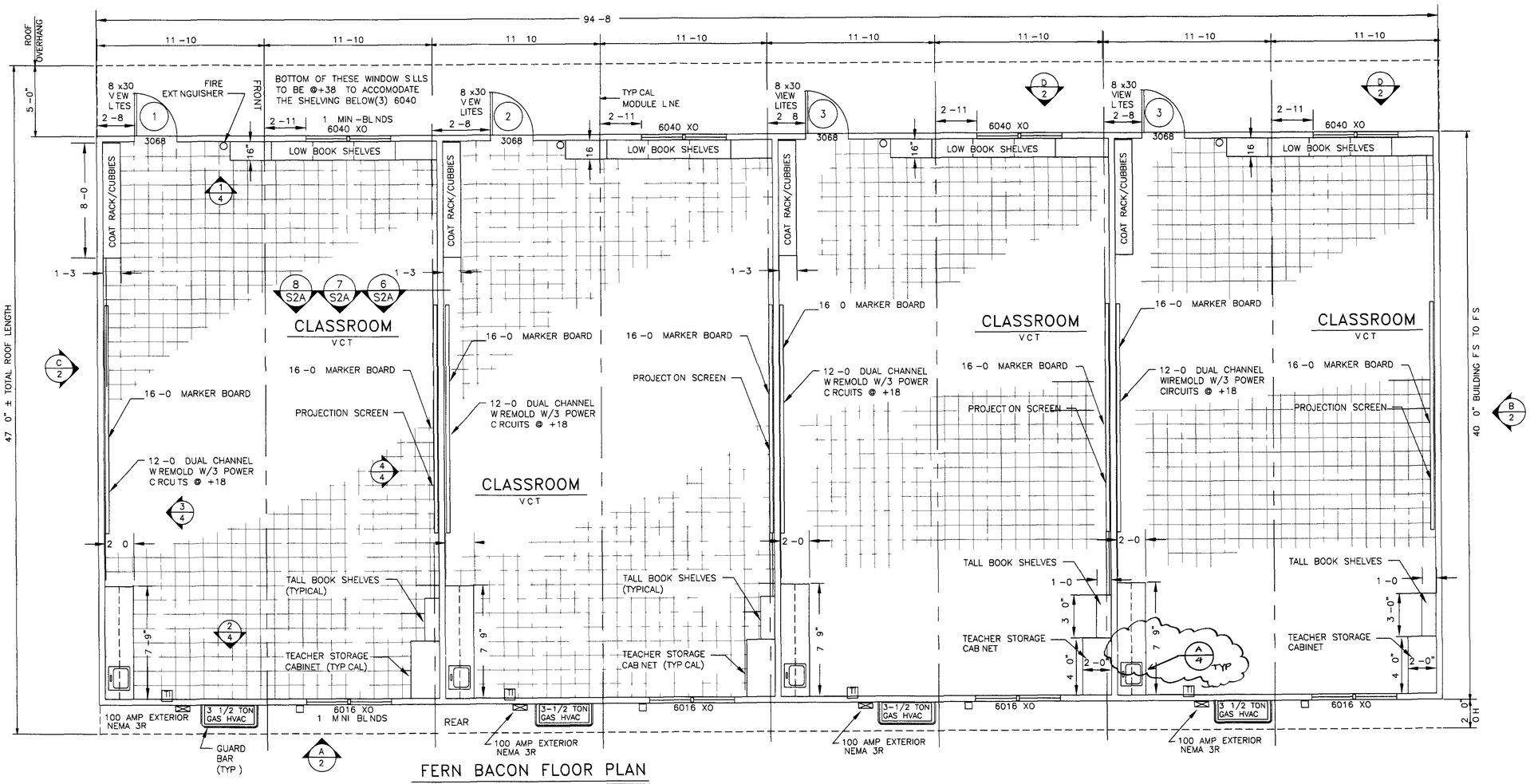
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REVISIONS

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PROJECT No

SHEET No
N-1



FERN BACON FLOOR PLAN

SCALE /4 = 0

NOTES
NTER OR
1 Foo Co pets Units sha be co peted as ndcoted on foo pan with d ect gue down type pe State of Ca fo nia Spec f cat on 7220 XXX 01 G oup 1 Type A Class 26 Co o w be se ected by A ch tect after award of b d The co pet density sha be 4600 m n mum P oy a n sha be b anded ny on No cross seams shall be a owed FILE SHALL HAVE A HEIGHT OF 1/2 CALLES
2 Base Res ent Cove Base Beat qua ty mou ded ubbe 1/8 th ck 4 h gh mou ded top set Cove P ov de p eformed base fo squa e exte na co ners and pref med end stops wh e base does not abut So d co o as manufactured by Johnson te Co F xco o equa Appy cove to comp ete perme t C assroom
3 nter o wa s sha be v ny cove ed tackboard(u o n) app ed n one cont nuous length f om floo to ce ng The tackboa d sha be ndustr a nsulat on board manufactu ed spec f co y as a substitute for v ny cove ed wa panels The boa d sha be asphalt free sha have en roned on coat ng and sha have a m n mum density of 18 bs pe ft The v ny coat ng sha be made of y qu n y v ny co ende ed base coor weighing a m n mum of 8 oz pe squa e yard The coat ng backing sha be sheet ng o non woven fab c The v ny coat ng sha be mechan ca y or m nated with the ong edges w apped to the tackboa d Tackboa d sha be app ed ove 1/2 sheet ock o plywood sheath ng The v ny wa cove ed pane sha have a Class f ame sp ead at ng The pane sha be approved f r c assroom use by The Ca fo nia State Fire Marshal Refe ence b and Vinyl cove ed tackboard as manufactu ed by Chatfe d Co k o compa ab Ca e sha be taken n mount ng the tackboa d so that the texture of al pane s w have the same o entat on and co o match
4 Ce ng Suspend T Ba System see sheet 3 fo deta s etc Mate a s and nsta at on per CCR 2501 A/S and R #47 4 nc us ve as opp cable to class rooms
FIRE EXTINGUISHER Each portab e c assroom sha be equ ped with pass ve type f e ext ngu shers with 2A:0BC UL rat ng To be mounted on the nte o wa of the bu d ng near the doo way(s) at a he ght of 4 feet to mount ng bracket Fire ext ngu shers sha be tota y cha ged and have a d a nd cat ng the state of charge

DOORS & WINDOWS
Exte o Doo s Meta Doors 3 0X6 8 ho ow meta doo construct on of 1 sheet of 18 ga stee assembled per CS242 m n and enforced with 20 ga m n cont nuous vert ca stiffene s spaced @ 6 0 C F spaces between stiffeners with m n e wood o othe mate a on (Reinforce both faces fo c osure) provide flush top on doo s Ha dwa e reinforcement sha be 10 ga m n fo hinges door frame sha be 16 ga pressed stee f ame ASTM A366 & C5242 Ha dwa e reinfo cement sha be 0 ga p ate Frames sha be designed with nteg a stop and t m P ov de (3) ancho s per jamb plus adjustable floo ancho

Exter or Windows P ovide anodized a um num frame 5/8 m n mum dua pane window units as shown on floo plans The 5/8 d mens on s the m n mum th ckness fo the dua g azed window pane consisting of two ghts of g ass and the a r space Gaz ng mate a sha be

Exte o Lite 3/16 m n mum tempered g ass o ann aled as 1 g ass of sea gray g ass reducing type with a ght t ansm ss on facto of 45% max mum

nte o Lite 1/8 m n mum c ea tempered

Min mum a r space sha e be /4

Space Bent o sea ed co ne a um num with des cant f

Sea e Buty pr mary sea and po ysu fide of s cone secondary sea

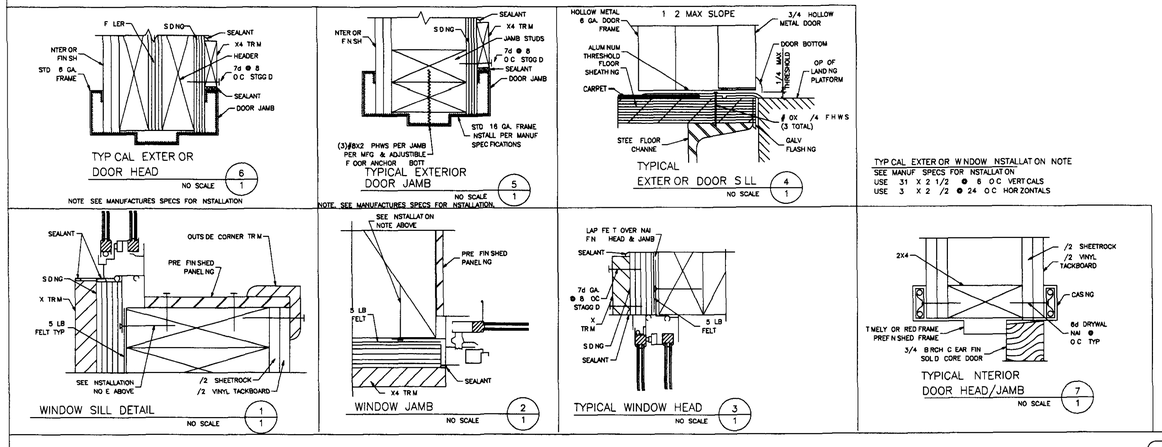
Certif cation Al g az ng to be certified n acco dance with ASTM E 773 E 774

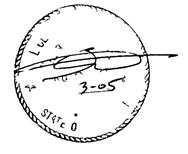
Header height sha be the same as the door Al ope ab e sash sha have a um num screens Windows sha not be mounted to the exte o plywood surface All windows sha meet the AAMA GS101-88 voluntary spec For alum num p me windows and s d ng glass (ANS) comme c a g de

HARDWARE
1 Exte o Door Sha have 24 X 30 tempered v ew tes
A) Hinges Hager 4 1/2X4 /2 butts BB1279 US26D 1 /2 pa r each doo with set scr w ba e and ba bearing design or approved equa
B) Lockset Class oom doors panic bars/pu hand e panic bar type Von Duprin 22L (pu on ext) o Corbin or Yale or equivalent ALUM finish
C) Closer Norton 8500DA or 8500BF series LCN 1460 Des gnies or equa
D) Weatherstripping Al exterior doors sha be weatherst pped with Pemko 299D Ultra WS007 at door jambs and head o equa
E) Th esho d Threshold sha be Pemko 271 AV 5 a um num with Pemko 216 AV Ultra TH042 door bottom
F) Doorstop Quanity #44 or equa
G) BBW 9516 LOCK PROTECTOR

Ba) nte o ockset Schage ever hande ockset as fo ows
Student to ets S OA passage atch
offices S70D Class oom ockset
Custod a S80A ockset
Pub c to ets S40A privacy atchset

MARKERBOARD SPECIFICATIONS
Ma kerboards sha be 5 m thick maximum facing sheet sui ab e to accept dry erase fe t markers The facing sheet sha be lamnated using hot melt adhesive to a medium density particleboard substrate with a m n mum density of 45#/c ft The pane sha have a fo backing The panels sha have extruded a um num moulding and cha ra l with a m n mum of 2 15/16 pro ection f om the face of the pane A fu length map a sha be p ovided with cork insert and end stops The map a and cha kra a e to ncorporate a channe to wrap around the pane Three (3) map hooks with c ps perpanne sha be provided One flag ha de 1/2" size sha be p ovided fo each class oom Each classroom sha be 2 ea 4x6 panels nsta ed side by side to make a 4x 6 pane centered on one of the ong walls Referenced b and Chatfe d Corke Co series 500 Attach d rectly to studs and backing W/#8x3 ovo head wood screw @ 32 o c horizonta y and @ 24 o c vertica y





CO #1
FILE NO. FB 1 NCF#1
DENT F CAT ON STAMP
D.V. OF THE STATE ARCHITECT
OFF CE OF REGULAT ON SERV CES
02-105291
AC. FLS BY
DATE 1/17/03

BASED ON PC# 02-101848

72 X 40
RELOCATABLE
CLASSROOMS

American Modular Systems

CUSTOMER
SACRAMENTO CITY SCHOOL DISTRICT
FERN BACON SCHOOL

FLOOR PLAN & NOTES

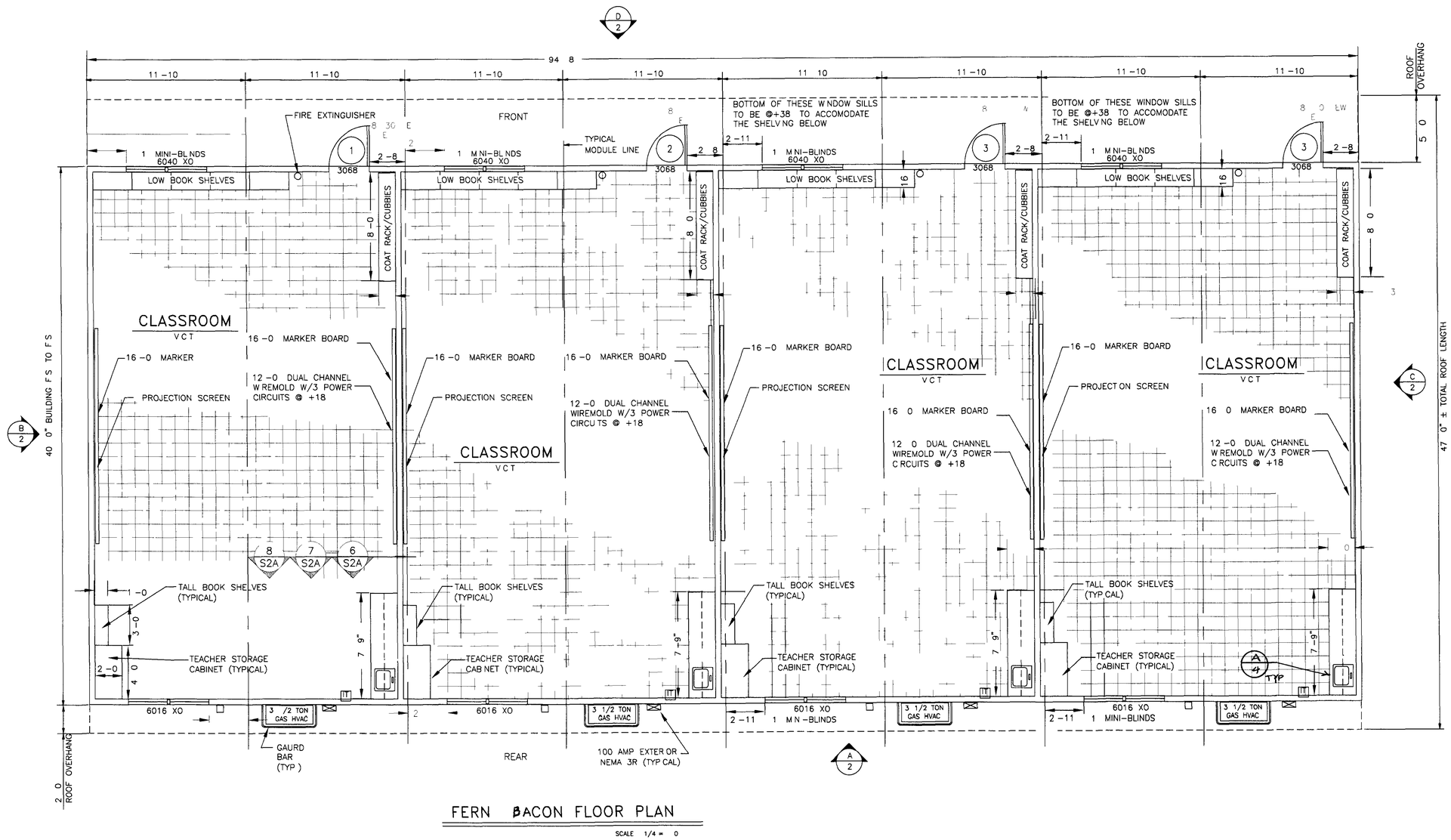
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SERIAL NO	

REVISIONS

NO	DATE	DESCRIPT ON	NO	DATE	DESCRIPTION

PROJECT No

SHEET No 1



FERN BACON FLOOR PLAN

SCALE 1/4 = 0

LICENSED ARCHITECT — REGISTERED — to 1 RENEW 3-05 — STATE OF CALIFORNIA

C.O #1

FILE NO. F.B INC #1

IDENTIFICATION STAMP OF THE STATE ARCHITECT OFFICE OF REGULATION SERVICES

02/10/03

AC FLS PH

DATE 1/7/2003

BASED ON PC# 02-101848

72 X 40
RELOCATABLE
CLASSROOMS

American Modular Systems

CUSTOMER
SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
FERN BACON

FLOOR PLAN & NOTES

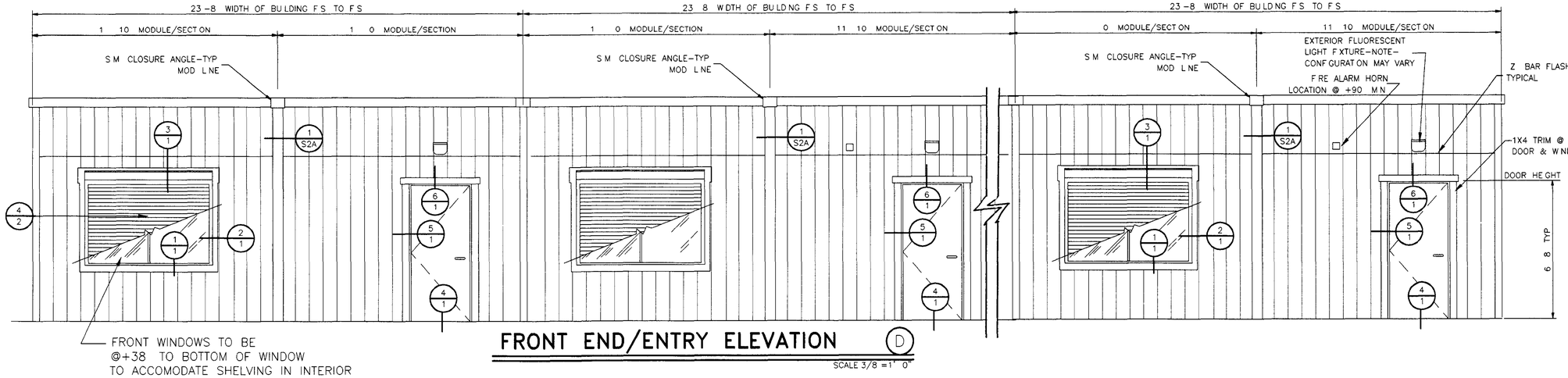
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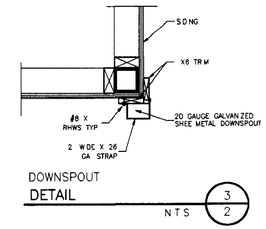
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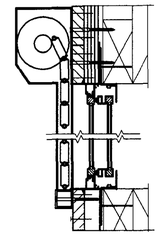


FRONT END/ENTRY ELEVATION (D)

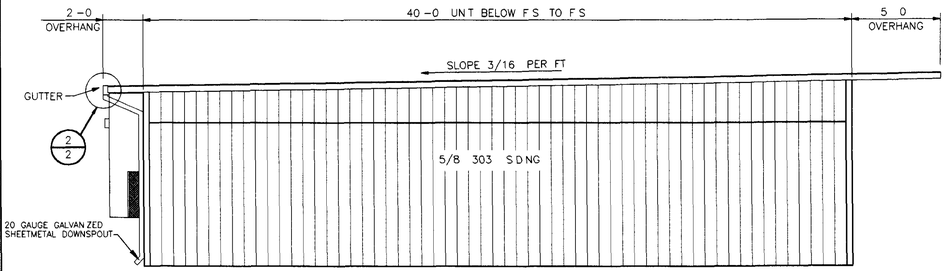
SCALE 3/8 =1' 0"



DOWNSPOUT DETAIL 3/2 NTS

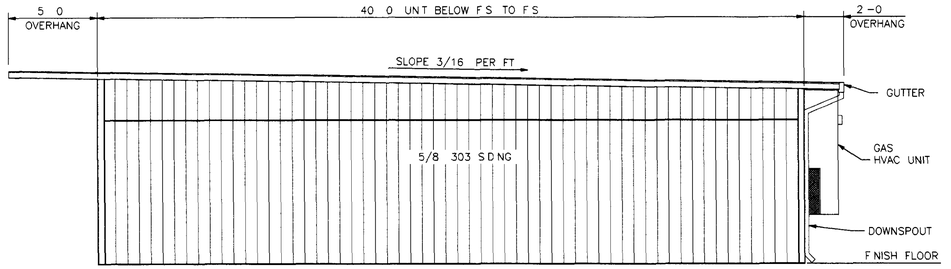


TYPICAL WINDOW SHUTTER 4/2 NO SCALE



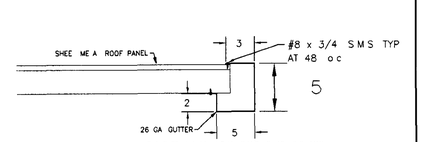
LEFT SIDE ELEVATION (B)

SCALE 1/4 =1 0

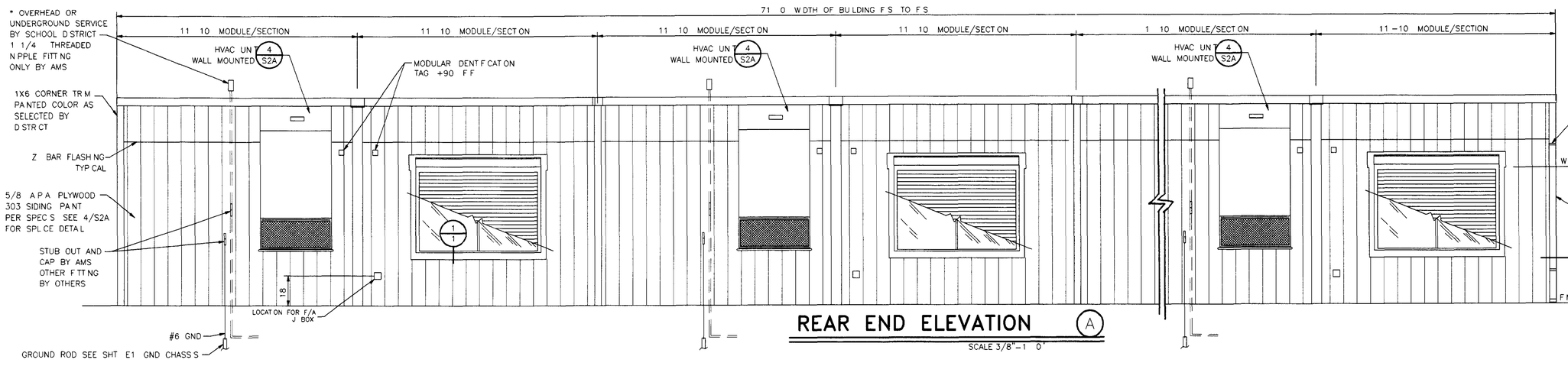


RIGHT SIDE ELEVATION (C)

SCALE 1/4 =1 -0



GUTTER AT OVERHANG DETAIL 2/2



REAR END ELEVATION (A)

SCALE 3/8"-1 0'

INC #1
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02 10 15
AC FLS
DA 7-12-03
AE

DOOR SIGNAGE

NOT A PART OF TH S CONTRACT (NOT PROV DED BY A M S)

NO E
WHERE PERMANENT DENT F CAT ON S PROV DED FOR ROOMS OR SPACES RA SED LETTERS SHAL BE PROV DED AND SHAL BE ACCOMPAN ED BY BRA LE N CONFORMANCE W TH HE FOLLOW NG CON RACTED GRADE 2 BRAILLE SHALL BE USED DO S SHA BE O NCH ON CENTER N EACH CEL W TH 2/ O NCH SPACE BETWEEN CE S DOTS SHA L BE RA SED A M N MUM 40 NCH ABOVE BACKGROUND S GNS SHA L BE NSTALLED ON WA ADJACENT TO LATCH SU S DE OF DOOR WHERE THERE S NO SPACE ON THE LA CH S DE S GNS SHALL BE PLACED ON THE NEARES AD ACEN WA L PERFERABLY ON THE R GH MOUNT NG HE GH SHA L BE 80 ABOVE THE F N SH FLOOR TO THE CENTER OF THE S GN

LICENSED ARCHITECT
ROBERT DIESEL
No C15485
REN 2-05
STATE OF CALIFORNIA

FILE NO. FB
DENT F CAT ON STAMP
D V OF HE STATE ARCH TEC
OFF CE OF REGULA ON SERV CES
02-0515
AC FLS
DATE 7/1/03

BASED ON PC# 02 0 848

72 X 40
RELOCATABLE
CLASSROOMS

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SACRAMENTO C TY UN F ED SCHOOL D STRICT
FERN BACON AND ALBERT E NSTE N

EXTERIOR ELEVATIONS

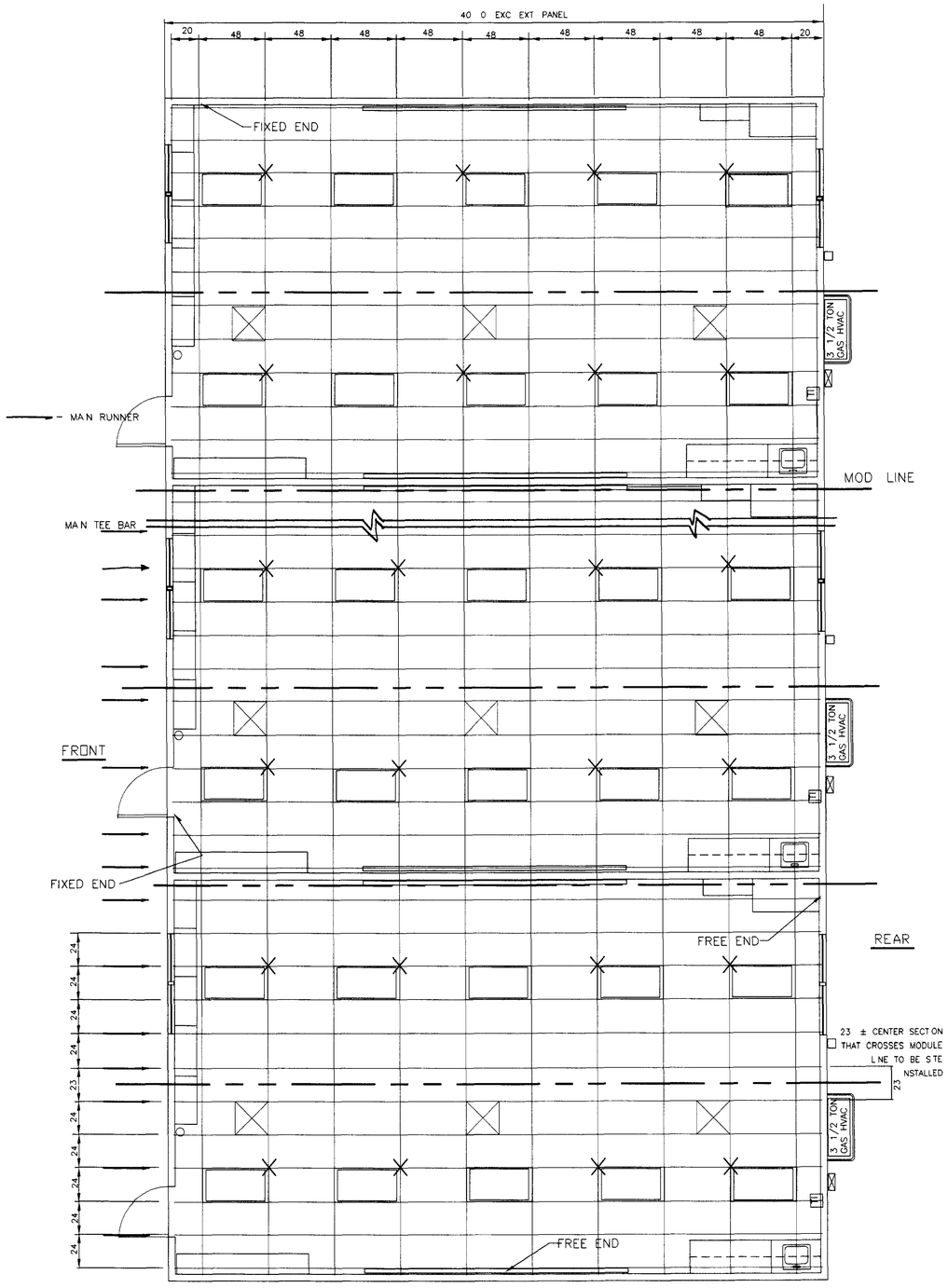
DATE 02 04 03
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REVISIONS

NO	DATE	DESCR PT ON	NO	DATE	DESCR PT ON

PROJECT No

SHEET No 2



CEILING TEE BAR GRID LAYOUT WITH LIGHT FIXTURES

SCALE 1/4 0

METAL SUSPENSION SYSTEMS FOR LAY IN PANEL CEILING

1 12 GA (M N) HANGER WIRES MAY BE USED FOR UP TO AND NCLUDING 4 0 x 4 0 GRID SPAC NG ALONG MA N RUNNER SPLICES WILL NOT BE PERMITTED IN ANY HANGER W RES UNLESS SPEC FICALLY APPROVED BY DSA

2 PROV DE 12 GA HANGER W RES WITHIN 8 OF THE ENDS OF ALL MA N AND CROSS RUNNERS OR AT 1/4 OF THE LENGTH OF THE END TEE WH CHEVER S LESS AT THE PER METER OF THE CE L NG AREA

3 PROV DE TRAPEZE OR OTHER SUPPLEMENTARY SUPPORT MEMBERS AT OBSTRUCT ONS TO MAINTA N HANGER SPACING PROVIDE ADD T ONAL HANGERS STRUTS OR BRACES AS REQUIRED AT ALL CE L NG BREAKS SOFF TS OR D SCONT NUOUS AREA HANGER W RES THAT ARE MORE THAN 1 N 6 OUT OF PLUMB ARE TO HAVE COUNTERBRACED W RES

4 CE LING GR D MEMBERS MAY BE ATTACHED TO NOT MORE THAN 2 ADJACENT WALLS CE LING GRID MEMBERS SHOULD BE AT LEAST 1/2 INCH FREE OF OTHER WALLS F WALLS RUN D AGONALLY TO CE L NG GRID SYSTEM RUNNERS ONE END OF MA N AND CROSS RUNNERS SHOULD BE FREE AND A M NIMUM OF 1/2 NCH CLEAR OF WALL

5 AT THE PER METER OF THE CE L NG AREA WHERE MA N OR CROSS RUNNERS ARE NOT CONNECTED TO THE ADJACENT WALL PROV DE INTERCONNECT ON BETWEEN THE RUNNERS AT THE FREE END TO PREVENT LATERAL SPREAD NG A METAL STRUT OR A 16 GA W RE WITH A POST VE MECHAN CAL CONNECTION TO THE RUNNERS MAY BE USED WHERE THE PERPENDICULAR DISTANCE FROM THE WALL TO THE F RST PARALLEL RUNNERS S 12 OR LESS THIS NTERLOCK S NOT REQU RED

6 PROV DE SETS OF 4–#12 GA SPLAYED BRACING W RES OR ENTED 90 DEGREES FROM EACH OTHER AT THE FOLLOW NG SPAC NG

(A) FOR SCHOOL BU LD NGS PLACE SETS OF SPLAY W RES AT A SPACING NOT MORE THAN 12 FEET BY 12 FEET ON CENTER

(B) PROV DE SPLAY WIRES AT LOCATIONS NOT MORE THAN 1/2 THE ABOVE SPAC NG FROM EACH PERIMETER WALL OR AT THE EDGE OF VERTICAL CEIL NG OFFSETS

THE SLOPE OF THESE W RES SHOULD NOT EXCEED 45 DEGREES FROM THE PLANE OF THE CE L NG AND SHOULD BE TAUT WITHOUT CAUSING THE CE L NG TO L FT SPL CES IN BRACING WIRES ARE NOT PERM TTED W THOUT SPECIAL DSA APPROVAL

7 FASTEN HANGER WIRES WITH NOT LESS THAN 3 T GHT TURNS FASTEN SPLAY W RES WITH 4 T GHT TURNS MAKE ALL TIGHT TURNS WITH N A D STANCE OF 1 1/2 INCHES HANGER OR BRAC NG W RE ANCHORS TO THE STRUCTURE SHOULD BE NSTALLED N SUCH A MANNER THAT THE AL GNMENT OF THE WIRE SHALL AL GN AS CLOSELY AS POSS BLE WITH THE D RECT ON OF THE W RE

8 SEPARATE ALL CEIL NG HANG NG AND BRAC NG WIRES AT LEAST 6 NCHES FROM ALL UNBRACED DUCTS P PES CONDUIT ETC T IS ACCEPTABLE TO ATTACH L GHT–WEIGHT TEMS SUCH AS S NGLE ELECTR CAL CONDU T NOT EXCEED NG 3/4 NOM NAL D AMETER TO HANGER W RES USING CONNECTORS ACCEPTABLE TO DSA

9 ATTACH ALL LIGHT F XTURES AND A R TERMINALS TO THE CE LING GR D RUNNERS TO RES ST A HORIZONTAL FORCE EQUAL TO THE WEIGHT OF THE FIXTURES

10 FLUSH OR RECESSED L GHT FIXTURES AND AIR TERM NALS OR SERVICES WEIGHING LESS THAN 56 POUNDS MAY BE SUPPORTED D RECTLY ON THE RUNNERS OF A HEAVY DUTY GRID SYSTEM BUT N ADD T ON THEY MUST HAVE A M N MUM OF 2–#12 GA SLACK SAFETY WIRES ATTACHED AT D AGONAL CORNERS AND ANCHORED TO THE STRUCTURE ABOVE

11 CLASS F CATION OF CE L NG GR D

CLASS F CAT ON OF CE LING GRID IS HEAVY DUTY CH CAGO METALL C PER ASTM C635

MANUFACTURER S CATALOG NUMBER – MAIN RUNNER HEAVY DUTY MA N TEE #270–01

MANUFACTURER S CATALOG NUMBER – CROSS RUNNER CHICAGO METALL C 1254–01 CROSS TEES

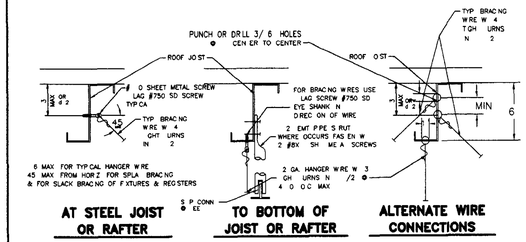
MANUFACTURER S CATALOG NUMBER OF DETAIL FOR RUNNER SPL CE N/A

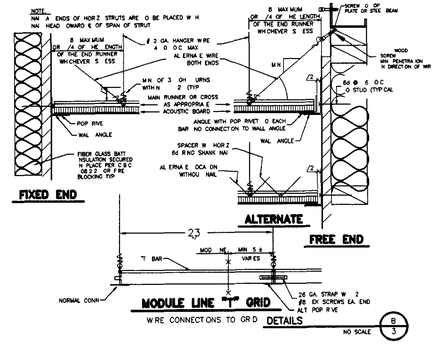
ACOUSTICAL PANELS SHALL BE 5/8 MINIMUM THICK M NERAL F BERBOARD OR V NYL–FACED F BERGLASS LAY N PANELS SQUARE EDGE ASTM FLAME SPREAD CLASS 1 24 X 48 MODULAR S ZE LIGHT REFLECT ON 75% M NIMUM NO SE REDUCT ON COEFF CIENT OF 0 65 M N MUM MAX MUM SMOKE DENS TY NOT TO EXCEED 450

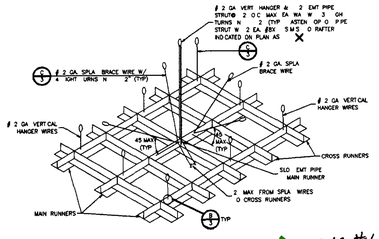
TABLE A HEAVY DUTY GRID COMPONENTS

MANUFACTURER	MA N TEE	H D 4 CROSS TEE	H D 2 CROSS TEE
DONN/USG	DX 26	DX–424	DX 216
ARMSTRONG	730	7341	7323
CH CAGO MET	200 01	1204 0	226 0

NOTE ALL GR D COMPONENTS SHALL BE BY SAME MANUFACTURER







NOTE SPLAYED BRAC NG W RES SHALL BE SPACED NOT MORE THAN 12 FT ON CENTER

ATTACHMENT FOR CE L NG GR D DETAIL

NO SCALE

A 3

INC #1 A E
IDENTIFICATION STAMP
DIV OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02 10 15
AC FLS
DATE 2-12-02

LICENSED ARCHITECT ROBERT DIESE No C 6705 REN 3-05 STATE OF CALIFORNIA

BASED ON PC# 02 0 848

FILE NO. FB
IDEN F CAT ON STAMP
DIV OF THE STATE ARCHITECT
OFFICE OF REGULA ON SERVICES
INCAL
02 15 01
AC FLS
DATE 1/16/02

72 X 40
RELOCATABLE
CLASSROOMS

American Modular Systems

787 Sp ecke s Ave Manteca CA 95336
(209)825 1921 Fax (209)825 7018
ame canmodu a com

CUSTOMER
SACRAMENTO CITY SCHOOL D STRICT
FERN BACON AND ALBERT E NSTE N

CEILING GRID, DETAILS AND NOTES

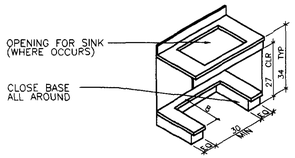
DATE	02 03 02
SCALE	NONE
DRAWN BY	M H
CHECKED BY	
CHECKED BY	
SER AL NO	

REVISIONS

NO	DATE	DESCRIPT ON	NO	DATE	DESCR PT ON
1			5		
2			6		
3			7		
4			8		

PROJECT No

SHEET No 3



NOTES

DOORS NOT SHOWN FOR CLARITY DOORS ARE TO BE PROVIDED

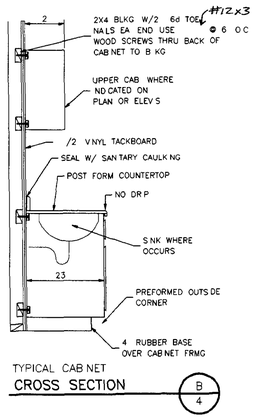
MODIFY BASE AS SHOWN FOR WHEELCHAIR ACCESS

ALL EXTERIOR SURFACES TO BE PLASTIC LAMINATE

DISABLED ACCESSIBLE CABINET

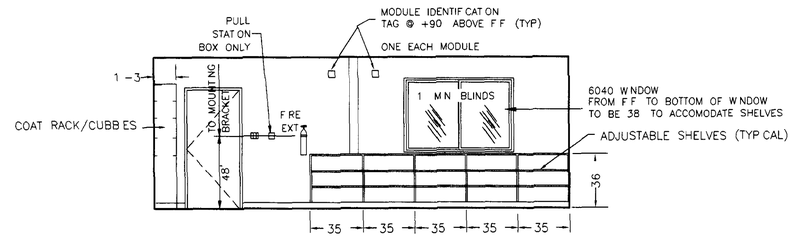
NTS

A/4



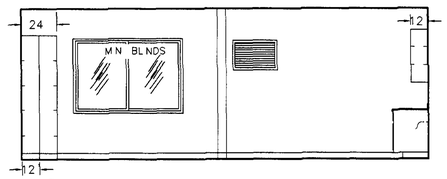
TYPICAL CABINET CROSS SECTION

B/4



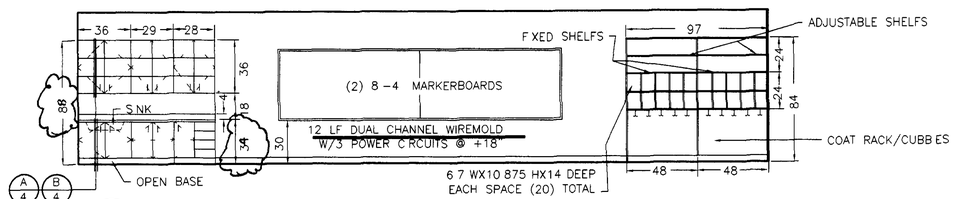
1/4 INTERIOR ELEVATION

1/4" = 1'-0"



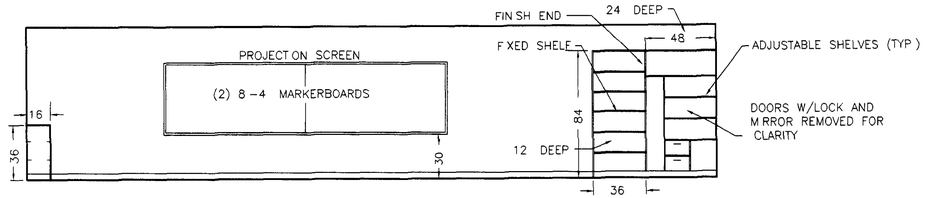
2/4 INTERIOR ELEVATION

1/4" = 1'-0"



3/4 INTERIOR ELEVATION

1/4" = 1'-0"



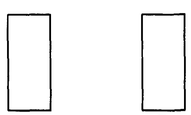
4/4 INTERIOR ELEVATION

1/4" = 1'-0"

DOOR SCHEDULE

DOOR NO	OPENING SIZE	DOOR TYPE	DOOR		FRAME MATL	DETAILS SHT			GLAZING	RATING	REMARKS
			THK	MATL		HEAD	JAMB	THRESHOLD			
3	3 0 X 6 8	A	3/4	HM	HM				N/A	N/A	

DOOR TYPES



A
EXTERIOR

B
INTERIOR
NOT USED

FINISH SCHEDULE

ROOM NO	ROOM NAME	FLOOR	BASE	WALLS				CEILING	MISC	CLG HT	REMARKS
				NORTH	EAST	SOUTH	WEST				
0	CLASSROOM	F	B	W	W	W	W	C	N/A	8 6	N A

FINISHES

FLOOR FINISHES
- F VINYL COMPOSITION TILE
- F2 CARPET NO.
- F3 SHEET VINY

BASE FINISHES
- B RUBBER COVE BASE

REMARKS
- SEE PLAN FOR LOCATION OF FLOOR FINISHES

WALL FINISHES
- W /28 VINYL WRAPPED SOUND BOARD OVER 2 G PSUM BD
- W2 8 MARLITE OVER 2 GYPSUM BOARD

CEILING FINISHES
- C SUSPENDED LAY IN ACOUSTIC TILE

MISCELLANEOUS FINISHES

INC #1 A.E.
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02 101115
AC FLS SS MH
DATE 1-12-03

LICENSED ARCHITECT
ROBERT DIP
No C1 5
REN 3-05
STATE OF CALIFORNIA

FILE NO. FB
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
INC #1
02-101101
AC FLS SS
DATE 2-1-03

BASED ON PC# 02 101848

72 X 40
RELOCATABLE
CLASSROOM

American Modular Systems

CUSTOMER
SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
ALBERT EINSTEIN AND FERN BACON

INTERIOR ELEVATIONS AND OPTIONS

DATE 02 04 03
SCALE NONE
DRAWN BY M.H.
CHECKED BY
CHECKED BY
SERIAL NO

REVISIONS

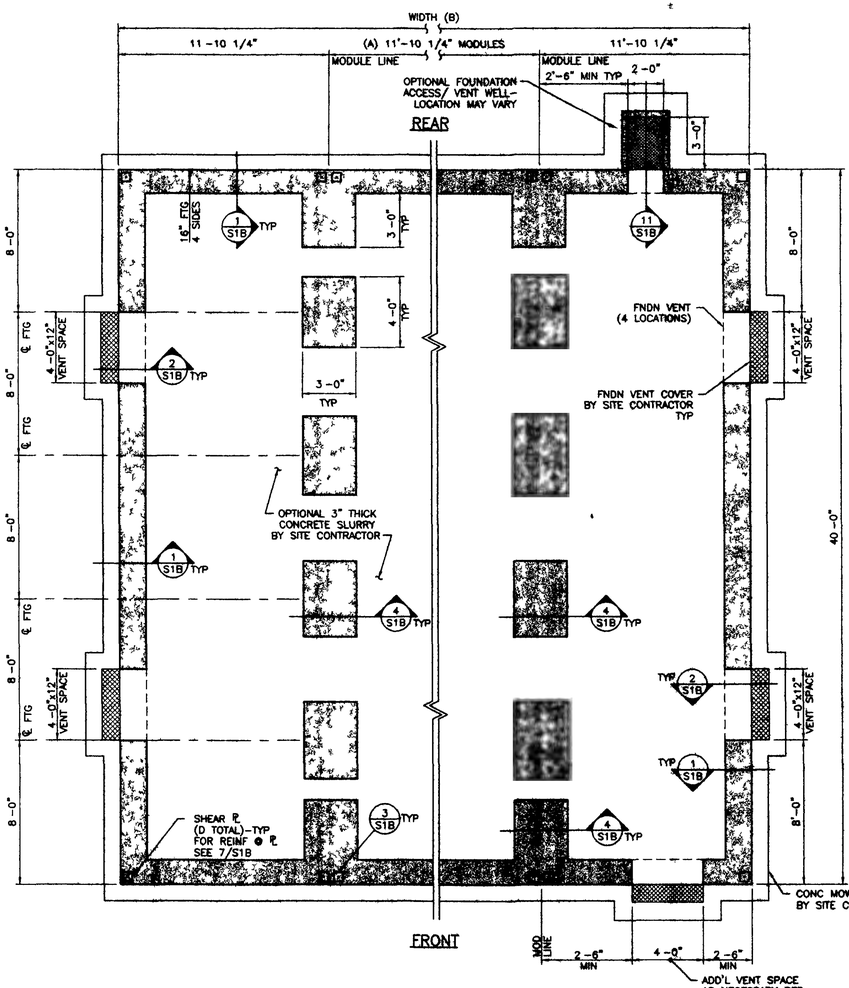
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PROJECT No

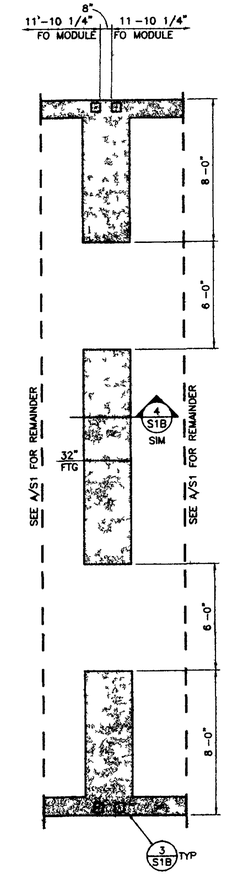
SHEET No 4

MODULE SCHEDULE

BLDG SIZE (FT)	TOTAL # OF 12' WIDE MODULES	"A" TOTAL # OF CENTER MODULES	"B" TOTAL BLDG WIDTH	TOTAL FLOOR AREA (FT^2)	"C" TOTAL # 4'x12' VENTS REQ'D	VENT AREA REQ'D (FT^2)	VENT AREA PROVIDED (FT^2)	"D" TOTAL # OF TYPICAL SHEAR ℄'s
~~60x40~~	~~5~~	~~3~~	~~59'-3 1/4"~~	~~2400~~	~~4~~	~~16.0~~	~~16.0~~	20
72x40	6	4	71'-1 1/2"	2880	5	19.2	20.0	24
~~84x40~~	~~7~~	~~5~~	~~83'-3 3/4"~~	~~3360~~	~~6~~	~~22.4~~	~~24.0~~	~~28~~
~~96x40~~	~~8~~	~~6~~	~~94'-10"~~	~~3840~~	~~7~~	~~25.6~~	~~28.0~~	~~32~~
~~108x40~~	~~9~~	~~7~~	~~106'-8 1/4"~~	~~4320~~	~~8~~	~~28.8~~	~~32.0~~	36
~~120x40~~	~~10~~	~~8~~	~~118'-6 1/2"~~	~~4800~~	~~8~~	~~32.0~~	~~32.0~~	~~40~~



A / S1 — 50 PSF LIVE LOAD W/ 20 PSF PARTITION LOAD
FOUNDATION PLAN
1/4" = 1'-0"



A1 / S1 — COMBINED
FOUNDATION PLAN
1/4" = 1'-0"

CONCRETE PROPORTIONS ARE PER METHOD A OF TITLE 24 PART 2 SECTION 1905A.2.3 AND TABLE 19A-A-8			
MAXIMUM SIZE	MINIMUM SACKS OF CEMENT PER YARD OF CONCRETE	MAXIMUM WATER CEMENT RATIO IN GALLONS PER 94 LBS SACK OF CEMENT	PERMISSIBLE ASSUMPTION TO MINIMUM ULTIMATE 28 DAY COMPRESSIVE STRENGTH IN LBS PER SQUARE INCH
1 1/2 INCHES	6.6	6.00	3000

NOTES:
1. DO NOT INSTALL BUILDING IN AREAS OF WATER FLOW LINES
2. CONCRETE STRENGTH 3000 PSI @ 28 DAYS
3. REINFORCING STEEL 40,000 PSI MINIMUM PER ASTM A615
4. MINIMUM SOIL BEARING CAPACITY 1000 PSF
5. DESIGN SOIL BEARING CAPACITY 1000 PSF

~~IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT OFFICE OF REGULATION SERVICES 02 10[illegible] AC FLS SS DATE 5/1-60-00~~ FB

~~INC #1 A E IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT OFFICE OF REGULATION SERVICES 02 10[illegible] AC FLS SS DATE 3-20-~~

~~FILE NO PC IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT OFFICE OF REGULATION SERVICES APPLICATION NO [illegible] AC FLS SS DATE JUN 2 2000~~

60'x40' TO 120'x40'
RELOCATABLE
CLASSROOM

American Modular Systems

REGISTERED PROFESSIONAL ENGINEER — Kenneth A. Luttrell, No. 1416, EXP 3-31-01, Structural Engineer, STATE OF CALIFORNIA

CUSTOMER	
FOUNDATION PLANS AND NOTES	

DATE	6/2/00
SCALE	AS NOTED
DRAWN BY	PWD
DESIGNED BY	MDB
CHECKED BY	KAL
SERIAL NO	

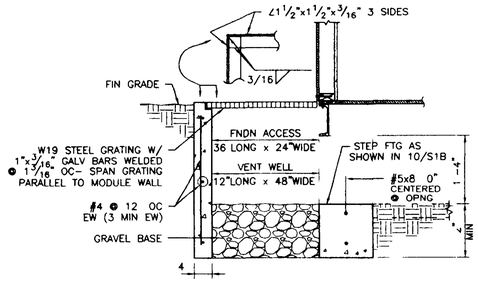
REVISIONS

NO	DATE	DESCRIPTION	NO	DATE	DESCRIPTION

PROJECT No 99183

SHEET No S1

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OPTIONAL FOUNDATION ACCESS/ VENT WELL

11 / S1B SECTION

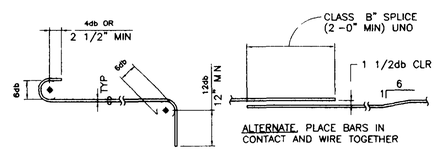
3/4 1 0"

ANCHOR TYPE	HILTI KWIK BOLT II ICBO # 4627	
MATERIAL	NEW CONCRETE f c 2000 PSI	
ANCHOR SIZE (IN)	½"℄	⅝"℄
MIN EMBED (IN)	3½	4"
* TENSION TEST (LB)	2800#	3490#
TORQUE TEST (FT LB)	50	50

* TENSION TEST 1 6 x ALLOWABLE TENSILE LOAD PER IR 19 1

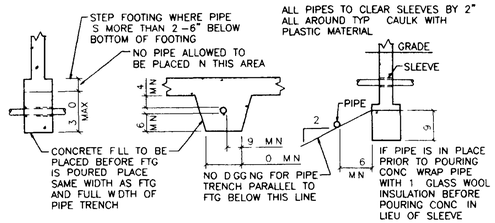
12 / S1B ANCHOR BOLT SCHEDULE DETAIL

NO SCALE



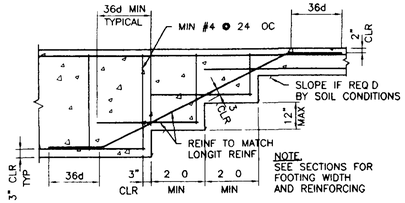
8 / S1B TYPICAL REINFORCING BENDS DETAIL

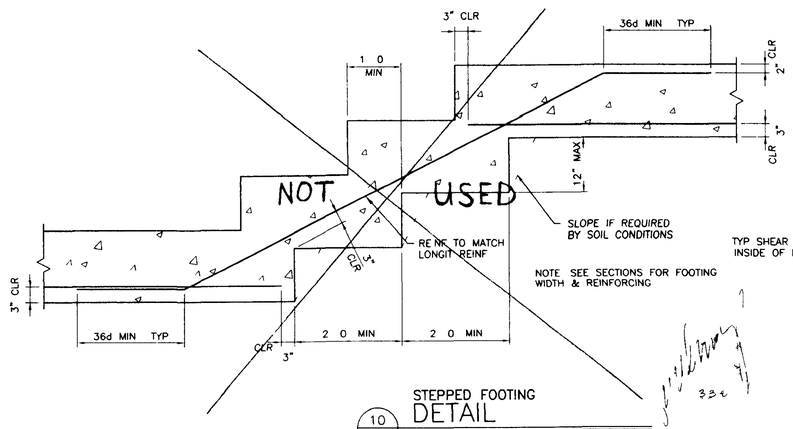
1 1 0"



9 / S1B PIPE SLEEVE DETAIL

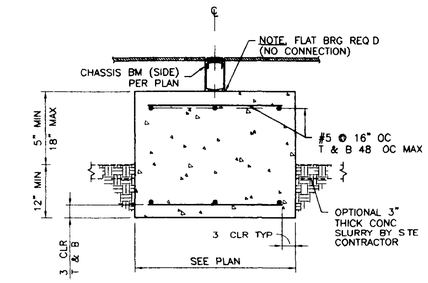
1/2" 1 0"





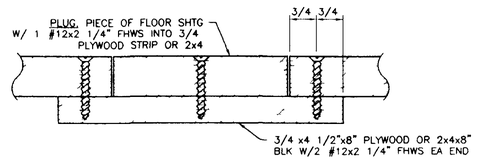
10 / S1B STEPPED FOOTING DETAIL

3/8 1 0



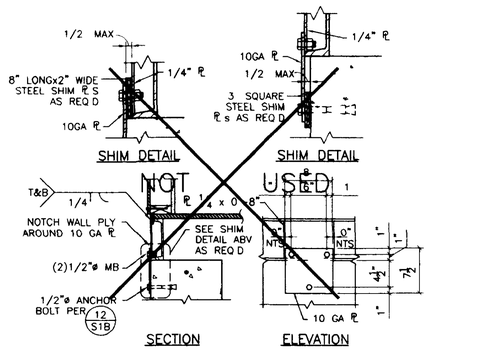
4 / S1B SECTION

3/4" - 1 0"



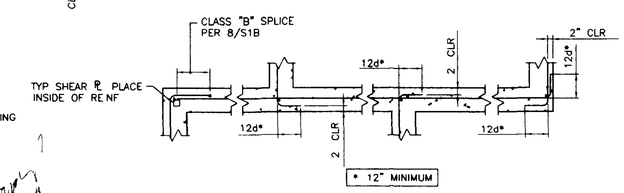
FILLER ACCESS HOLE DETAIL

5 / S1B NO SCALE



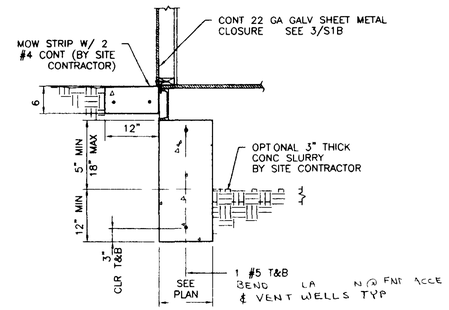
ALTERNATE SHEAR PLATE DETAIL

6 / S1B 1 1/2" - 1 0"



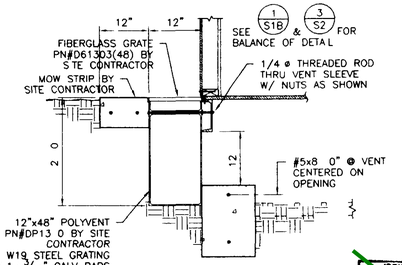
TYP WALL & FTG REINF SPLICES DETAIL

7 / S1B NO SCALE



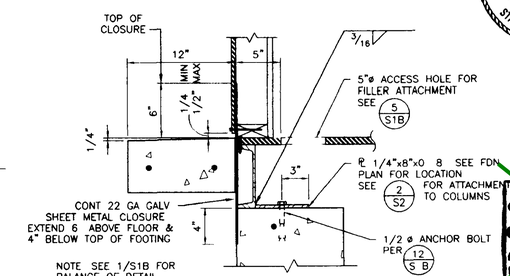
1 / S1B SECTION

3/4 1 0"



2 / S1B SECTION

3/4 1 0



3 / S1B SECTION

1 1/2 - 1 0

F.B.
IDENTIFICATION STAMP
DIV OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
INC #1
02 103101
AC FLS SS
DATE 2/26/02

LICENSED ARCHITECT
ROBERT BIEGEL
No C15385
REN 3-05
STATE OF CALIFORNIA

INC #1 A.E
IDENTIFICATION STAMP
DIV OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02 106115
AC FLS SS
DATE 3-12-03

FILE NO PC
DENT FICA ON STAMP
D V OF THE STATE ARCHITECT
OFF CE OF REGULAT N SERV CES
APPLICATION NO
FLS
AC
DATE JUN 2

60 x40 TO 120 x40
RELOCATABLE
CLASSROOM

American Modular Systems

REGISTERED PROFESSIONAL ENGINEER
Kenneth A Luttrell
No 1418
EXP 3-31-0
Structural Engineer
STATE OF CALIFORNIA

CUSTOMER	
FOUNDATION DETAILS	

DATE	6/2/00
SCALE	AS NOTED
DRAWN BY	PWD
DESIGNED BY	MDB
CHECKED BY	KAL
SERIAL NO	

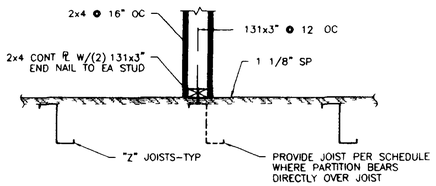
REVISIONS

NO	DATE	DESCR PTION	NO	DATE	DESCR PTION

PROJECT No 99183

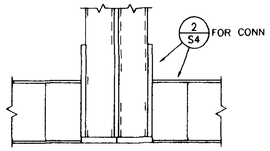
SHEET No S1B

M \99183\ACAD\STRU S B dwg 5 30 00 2 07 47 pm E

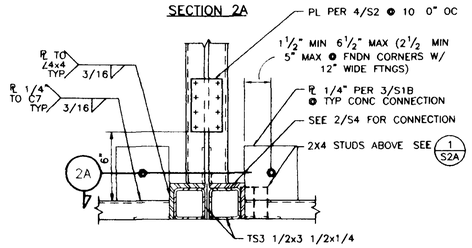


TYP INTERIOR NON-BEARING WALL BASE

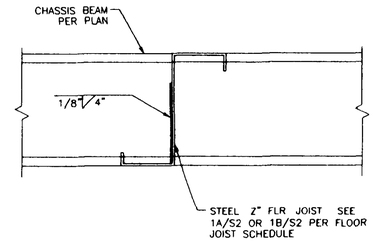
5/S2 DETAIL
1 " 1 0"



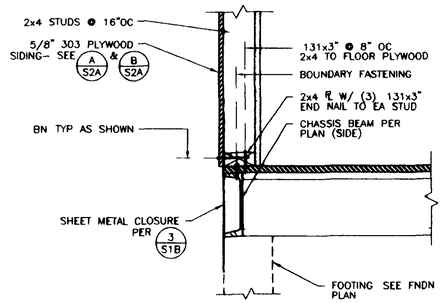
SECTION 2A



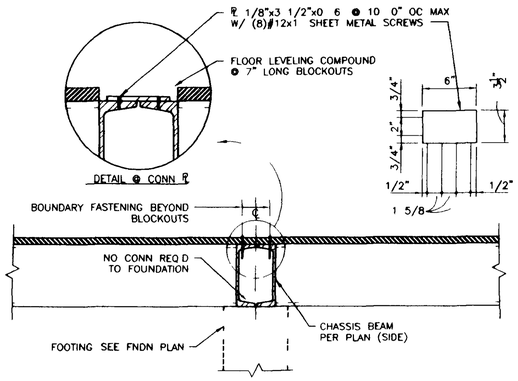
2/S2 PLAN DETAIL
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1/S2 DETAIL
NO SCALE

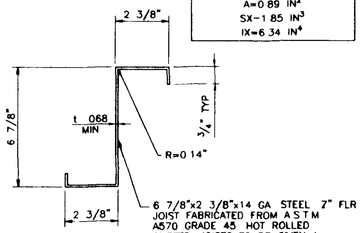


3/S2 PLAN DETAIL
NO SCALE



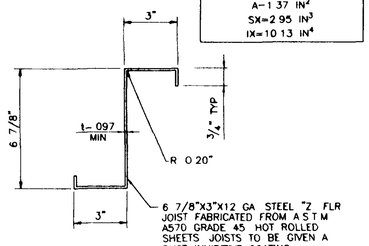
4/S2 DETAIL
1 1/2 1 0"

Z SECTION PROPERTIES
A=0 89 IN²
SX=1 85 IN³
IX=6 34 IN⁴

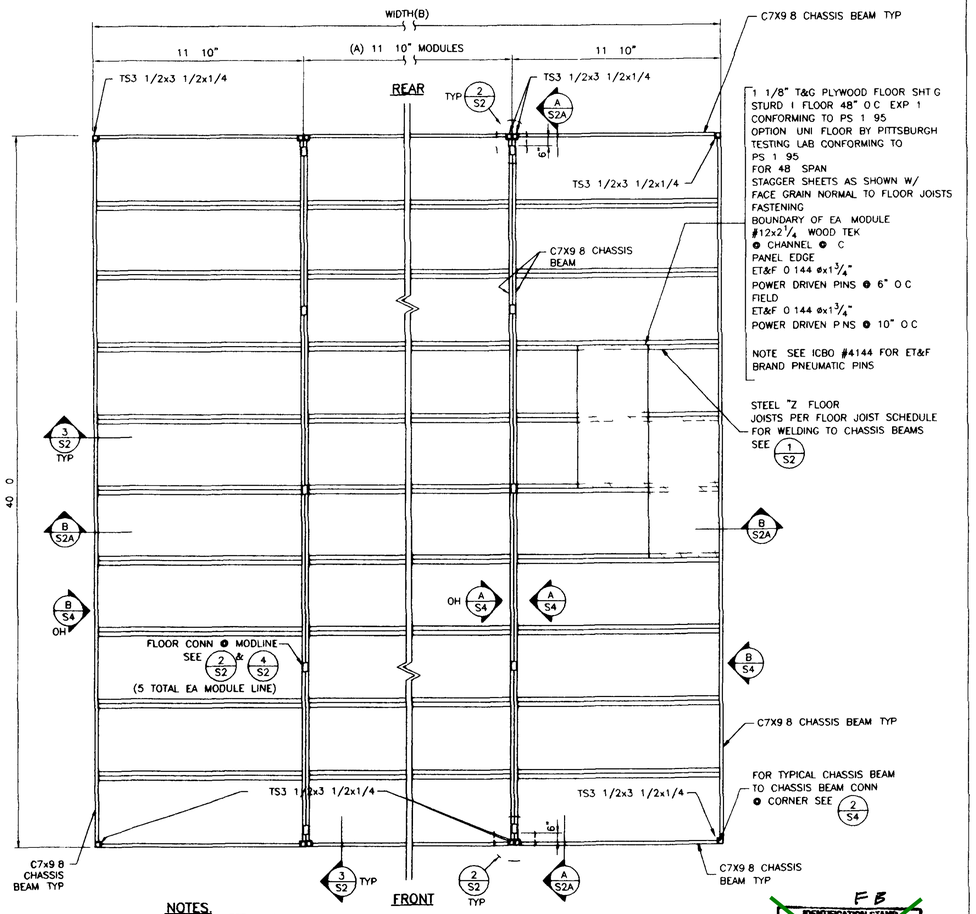


14 GA JOIST
1A/S2 DETAIL
NO SCALE

Z SECTION PROPERTIES
A=1 37 IN²
SX=2 95 IN³
IX=10 13 IN⁴



12 GA JOIST
1B/S2 DETAIL
NO SCALE



NOTES
1 SEE SHEET S4 FOR TYPICAL WALL FRAMING

A/S2 FLOOR FRAMING PLAN
1/4" 1 0

FLOOR JOIST SCHEDULE

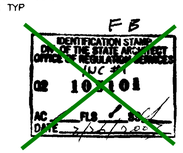
LIVE LOAD	SPACING	
	14 GA JOIST	12 GA JOIST
50+20 PSF	24 OC	24" OC
~~125 PSF~~	~~24" OC~~	~~24" OC~~

NOTES
1 FOR JOISTS SEE 1A/S2 AND 1B/S2
2 SPACING IS TO CENTER LINE OF TOP FLANGE
3 PROVIDE 12 GA JOIST WHERE PARTITION BEARS DIRECTLY OVER JOIST

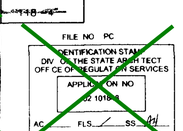
MODULE SCHEDULE

BLDG SIZE (FT)	TOTAL # OF 12 WIDE MODULES	"A" TOTAL # OF CENTER MODULES	"B" TOTAL BLDG WIDTH
60x40	5	3	59' 2"
72x40	6	4	71 0
~~84x40~~	~~7~~	~~5~~	~~82' 10"~~
~~96x40~~	~~8~~	~~6~~	~~94' 8"~~
~~108x40~~	~~9~~	~~7~~	~~106' 6"~~
~~120x40~~	~~10~~	~~8~~	~~118' 4"~~



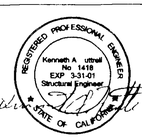






60 x40 TO 120 x40
RELOCATABLE
CLASSROOM

American Modular Systems



CUSTOMER

FLOOR FRAMING PLAN AND DETAILS

DATE	6/2/00
SCALE	AS NOTED
DRAWN BY	PWD
DESIGNED BY	MDB
CHECKED BY	KAL
SERIAL NO	

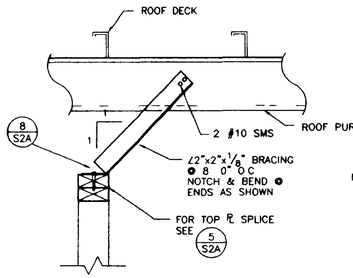
REVISIONS

NO	DATE	DESCRIPTION	NO	DATE	DESCRIPTION
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2			6		
3			7		
4			8		

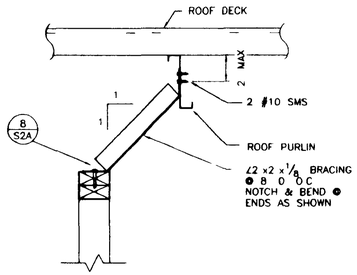
PROJECT No
99183

SHEET No
S2

99 83\A AD S K S dwg 5 J 33 3 pm ES

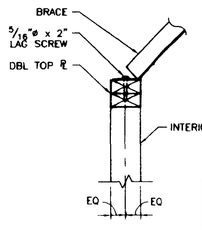


BRACE PARALLEL TO PURLINS

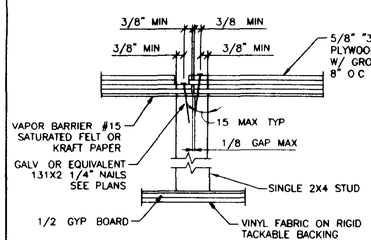


BRACE PERPENDICULAR TO PURLINS

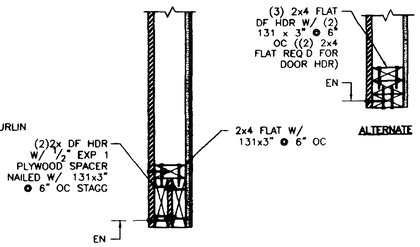
ALT WALL FRAMING
DETAIL
7/S2A
1 1/2" 1 0



WALL FRAMING
DETAIL
8/S2A
1 1/2" = 1 0"



TYPICAL SIDING JOINT
DETAIL
9/S2A
NO SCALE



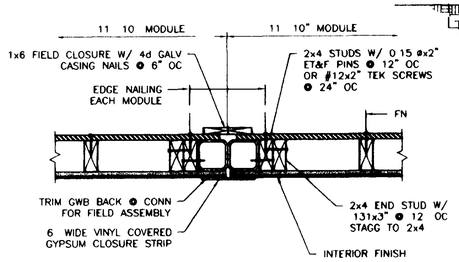
BRACE PARALLEL TO RAFTERS

NOTE
TOP ℄ MUST BE BRACED @ 7' 9" MAX BY EITHER AN INTERSECTING WALL OR WITH AN EMT BRACE TO THE RAFTERS

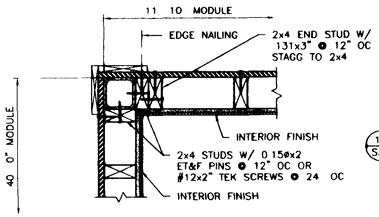
WALL FRAMING
DETAIL
6/S2A
1 1/2" = 1 -0"

BRACE PERPENDICULAR TO RAFTER

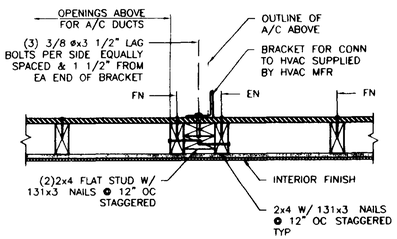
WALL FRAMING
DETAIL
4/S2A
1 1/2 - 1 0"



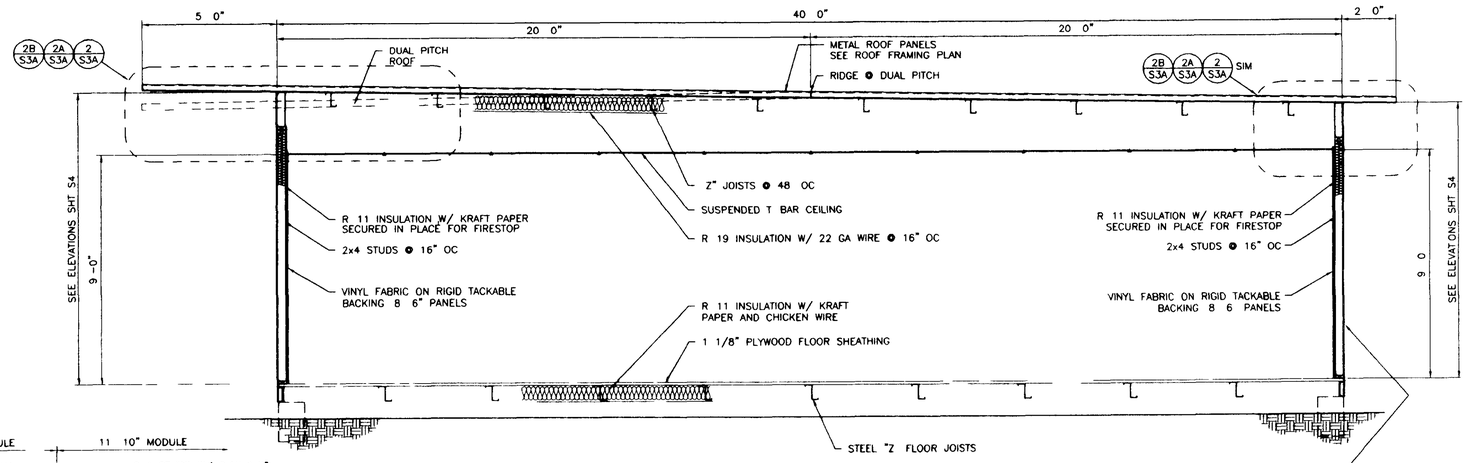
WALL FRAMING
PLAN DETAIL
1/S2A
1 1/2" = 1 -0



WALL FRAMING
PLAN DETAIL
2/S2A
1 1/2 1 0"



WALL FRAMING
PLAN DETAIL
3/S2A
1 1/2" = 1 0



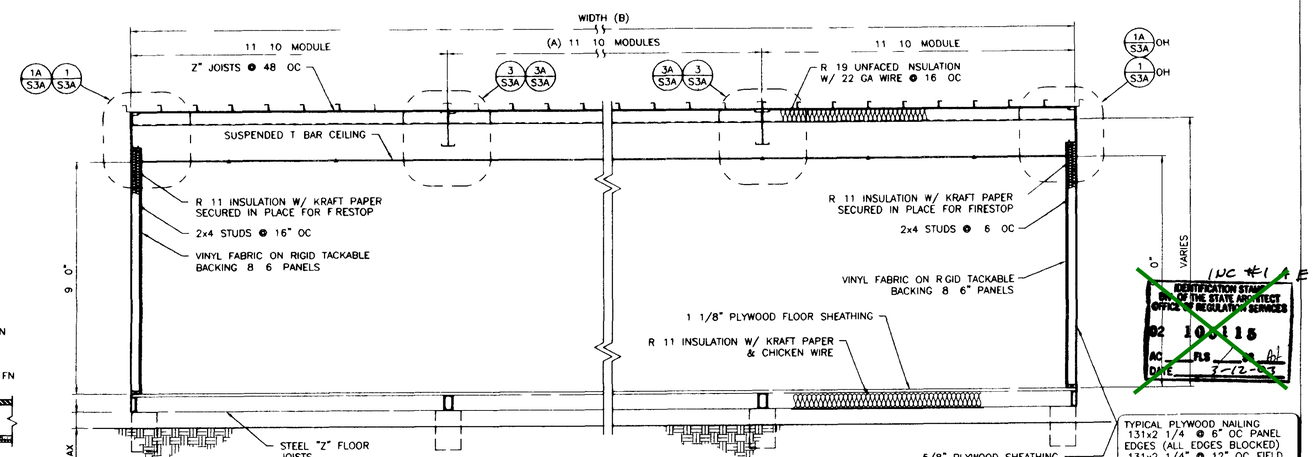
A S2A TYPICAL LONGITUDINAL SECTION
3/8 1 0"

5/8 PLYWOOD SHEATHING 303 CONFORMING TO PS1 95 VERT GROOVES @ 8 OC NAILS TO BE GALV
FOR JOINT DET SEE 9/S2A
ALT 5/16 HARDIBOARD W/ STUCCO LIKE FINISH

TYPICAL PLYWOOD NAILING 131x2 1/4" @ 6" OC PANEL EDGES (ALL EDGES BLOCKED) 131x2 1/4" @ 12" OC FIELD

MODULE SCHEDULE

BLDG SIZE (FT)	TOTAL # OF 12 WIDE MODULES	"A" TOTAL # OF CENTER MODULES	"B" TOTAL BLDG WIDTH
~~60x40~~	~~5~~	~~3~~	~~59 m2"~~
72x40	6	4	71 0"
~~84x40~~	~~7~~	~~5~~	~~83 10"~~
~~96x40~~	~~8~~	~~6~~	~~94"-8~~
~~108x40~~	~~9~~	~~7~~	~~106" 6"~~
~~120x40~~	~~10~~	~~8~~	~~118"-4"~~



B S2A TYPICAL TRANSVERSE SECTION
3/8" 1 0

TYPICAL PLYWOOD NAILING 131x2 1/4 @ 6" OC PANEL EDGES (ALL EDGES BLOCKED) 131x2 1/4" @ 12" OC FIELD

~~IDENTIFICATION STAMP DIVISION OF THE STATE ARCHITECT OFFICE OF REGULATION SERVICES APPLICATION NO 10115 AC FLS SS DATE 7-12-03~~

~~IDENTIFICATION STAMP DIVISION OF THE STATE ARCHITECT OFFICE OF REGULATION SERVICES APPLICATION NO 10148 AC FLS SS DATE JUN 2~~

~~IDENTIFICATION STAMP DIVISION OF THE STATE ARCHITECT OFFICE OF REGULATION SERVICES APPLICATION NO 10161 AC FLS SS DATE 7-12-03~~

~~LICENSED ARCHITECT PROJECT DESIGN No C15935 REN 6-30-03 STATE OF CALIFORNIA~~

60 x40 TO 120 x40
RELOCATABLE
CLASSROOM

American Modular Systems

REGISTERED PROFESSIONAL ENGINEER
Kenneth A Luttrell
No 1418
EXP 3-31-01
Structural Engineer
STATE OF CALIFORNIA

CUSTOMER

BUILDING SECTIONS AND WALL DETAILS

DATE	6/2/00
SCALE	AS NOTED
DRAWN BY	PWD
DESIGNED BY	MDB
CHECKED BY	KAL
SERIAL NO	

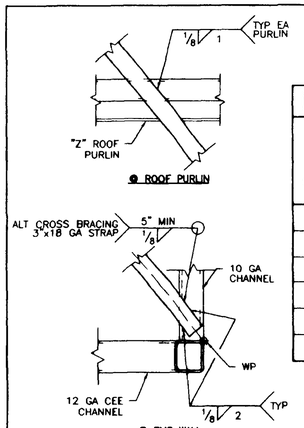
REVISIONS

NO	DATE	DESCRIPTION	NO	DATE	DESCRIPTION
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2			5		
3			6		

PROJECT No 99183

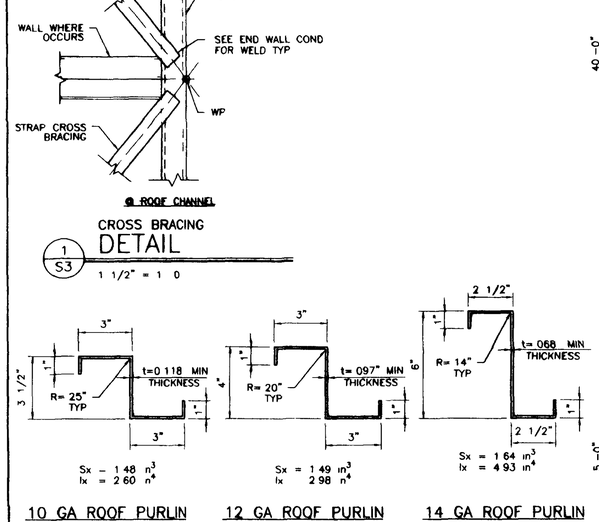
SHEET No S2A

\99 83\A AD STR S A dwg 5 Jul 00 3 25 46 pm EST



MODULE SCHEDULE

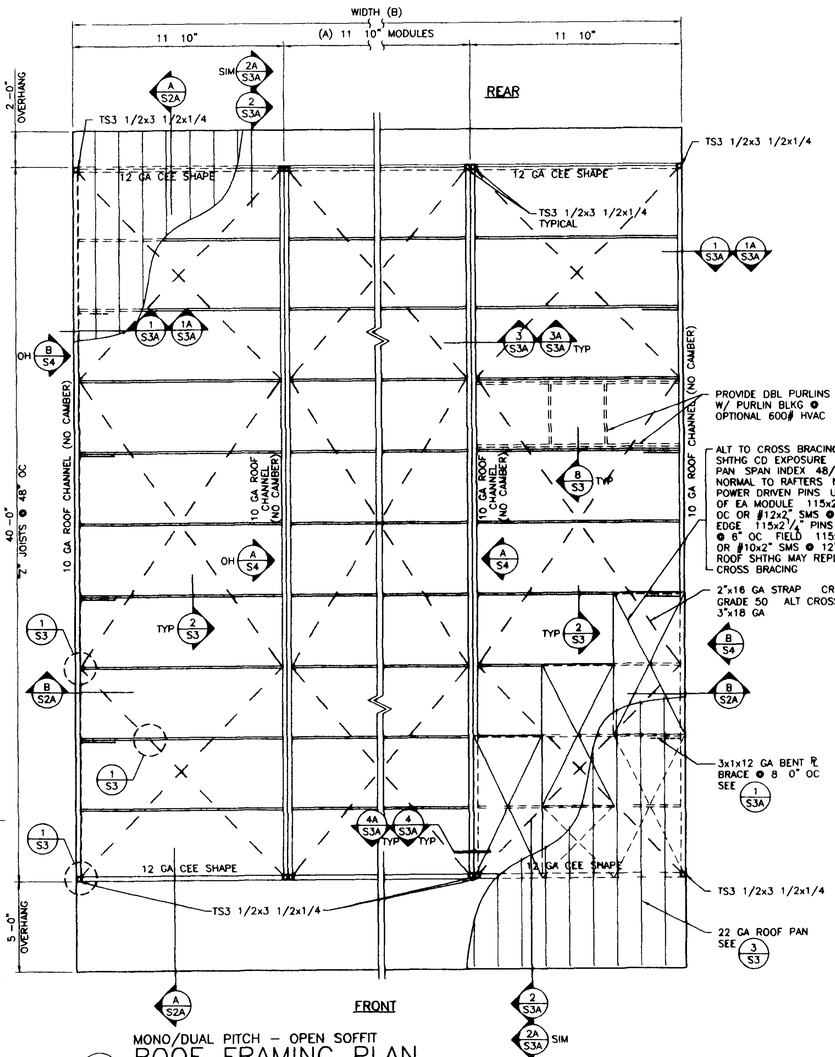
BLDG SIZE (FT)	TOTAL # OF 12 WIDE MODULES	"A" TOTAL # OF CENTER MODULES	"B" TOTAL BLDG WIDTH
~~60x40~~	~~5~~	~~3~~	~~59'-2"~~
72x40	6	4	71'-0"
~~84x40~~	~~7~~	~~5~~	~~82'-10"~~
~~96x40~~	~~8~~	~~6~~	~~94'-8"~~
~~108x40~~	~~9~~	~~7~~	~~106'-6"~~
~~120x40~~	~~10~~	~~8~~	~~118'-4"~~



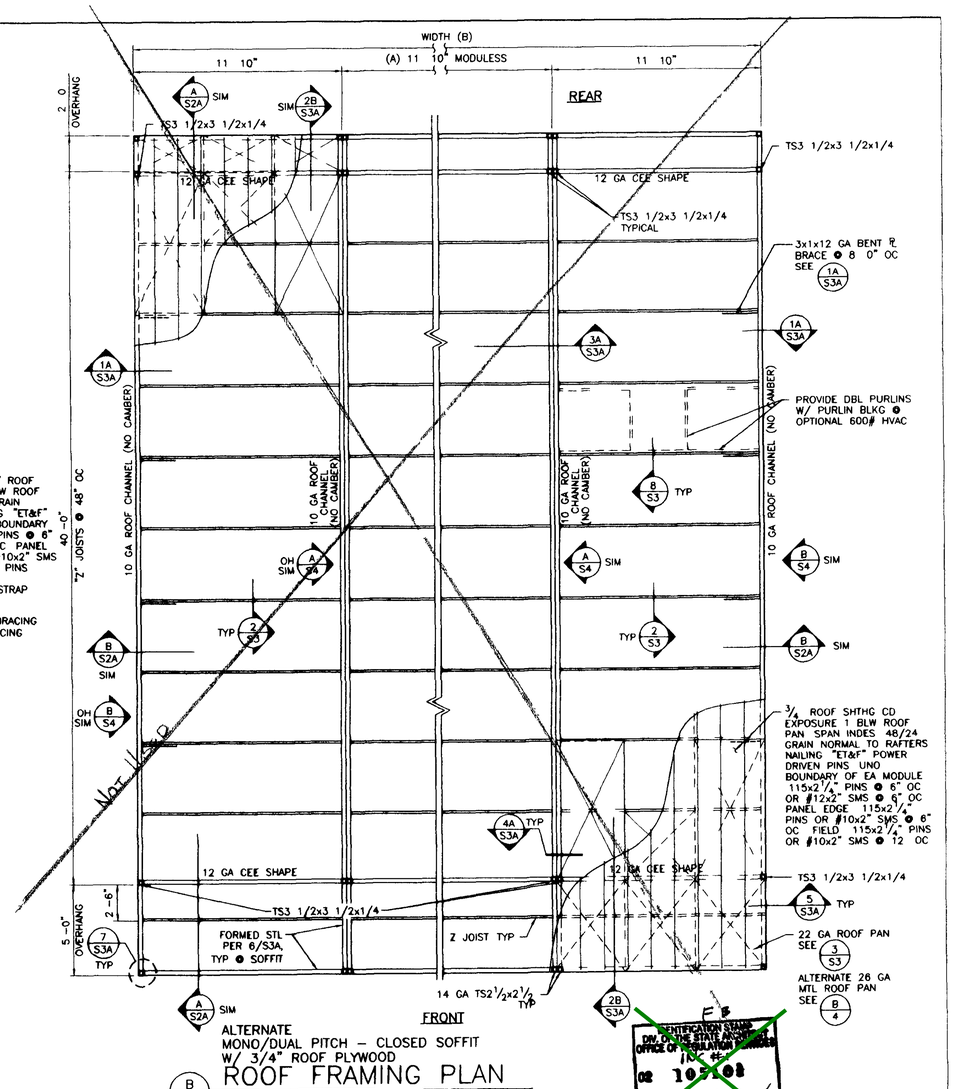
10 GA ROOF PURLIN | 12 GA ROOF PURLIN | 14 GA ROOF PURLIN

JOIST FABRICATED FROM ASTM A570 GRADE 36 HOT ROLLED SHEETS JOISTS TO BE GIVEN A RUST INHIBITIVE COATING

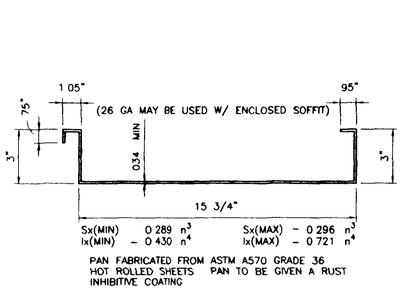
2 / S3 DETAIL 3" = 1 0"



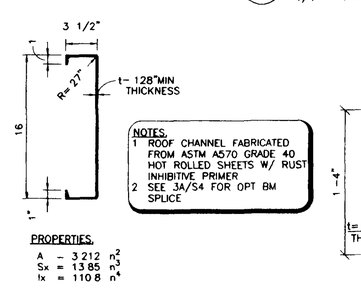
A / S3 MONO/DUAL PITCH – OPEN SOFFIT ROOF FRAMING PLAN 1/4 = 1 -0"



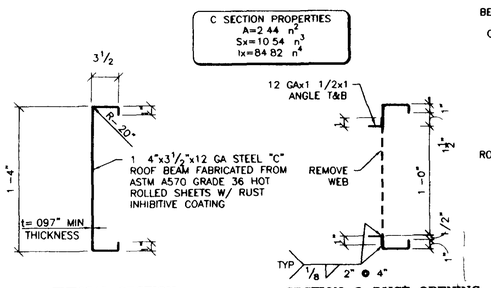
B / S3 ALTERNATE MONO/DUAL PITCH – CLOSED SOFFIT W/ 3/4" ROOF PLYWOOD ROOF FRAMING PLAN 1/4" = 1 -0"



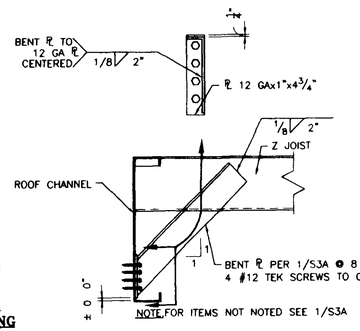
3 / S3 22 GA ROOF PAN DETAIL 3" 1 -0"



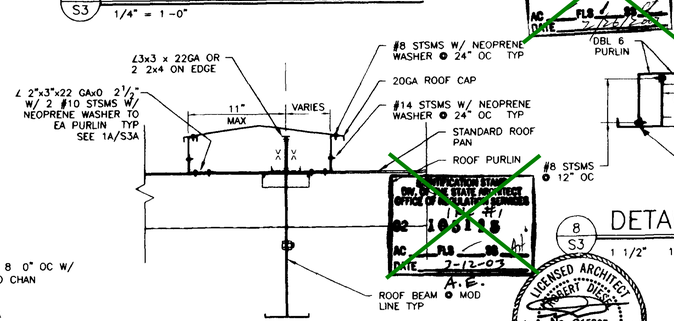
4 / S3 10 GA ROOF BM DETAIL 1 1/2" = 1 -0"



5 / S3 DETAIL S2A 1 1/2 – 1 -0"



6 / S3 DETAIL 1 1/2" = 1 0"



7 / S3 DETAIL 1 1/2 = 1 0"

8 / S3 DETAIL 1 1/2" 1 -0"

60x40 TO 120x40
RELOCATABLE
CLASSROOM

American Modular Systems

REGISTERED PROFESSIONAL ENGINEER Kenneth A. Luttrell No. 1418 EXP 3-31-01 Structural Engineer STATE OF CALIFORNIA

CUSTOMER

ROOF FRAMING PLANS AND DETAILS

DATE	6/2/00
SCALE	AS NOTED
DRAWN BY	PWD
DESIGNED BY	MDB
CHECKED BY	KAL
SERIAL NO	

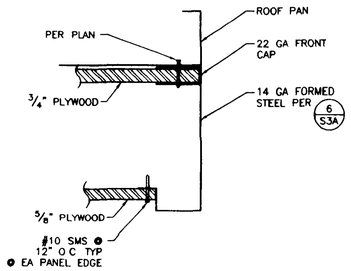
REVISIONS

NO	DATE	DESCRIPTION	NO	DATE	DESCRIPTION

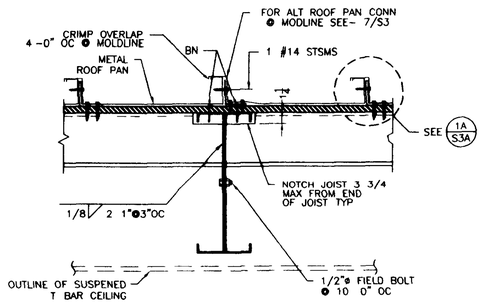
PROJECT No 99183

SHEET No S3

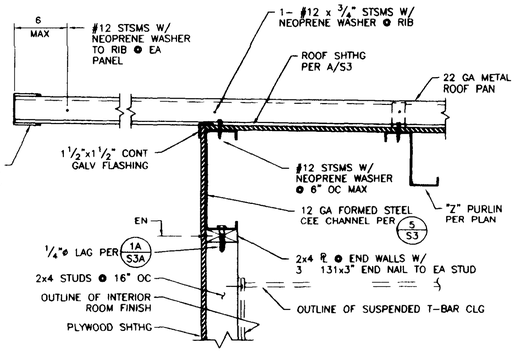
M \99 83\ALAD STK S3 dwg 6 30 00 3 40 29 pm ES



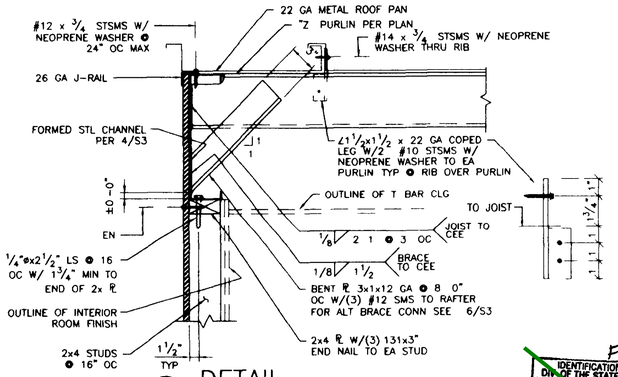
ALT ENCLOSED SOFFIT W/ PLYWOOD DECKING
5/S3A DETAIL
3" 1 0"



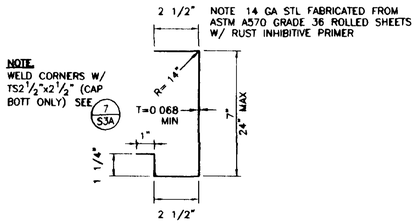
3A/S3A DETAIL
1 1/2" = 1 0



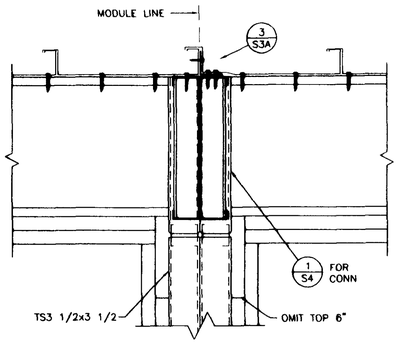
(2 -0" OVERHANG DETAIL SIM)
2A/S3A 5'-0" OVERHANG DETAIL
1 1/2" = 1 0"



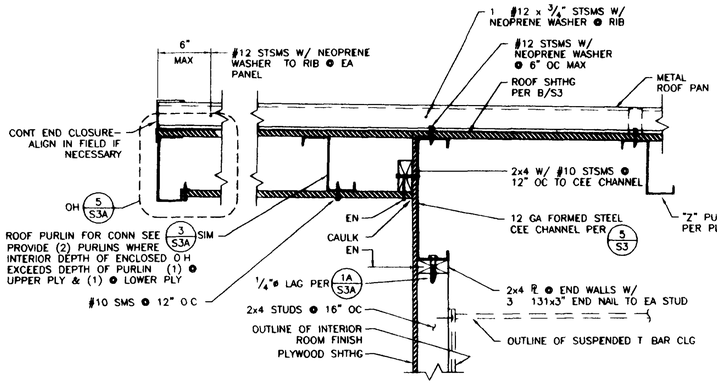
1/S3A DETAIL
1 1/2" = 1 0"



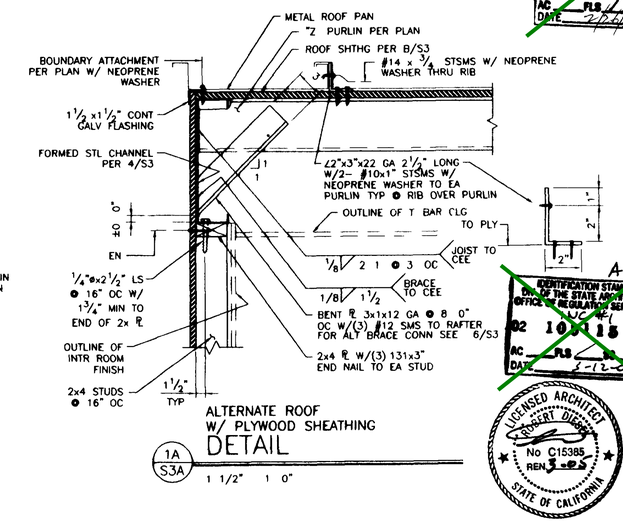
ALT ENCLOSED SOFFIT
6/S3A DETAIL
3" = 1 0"



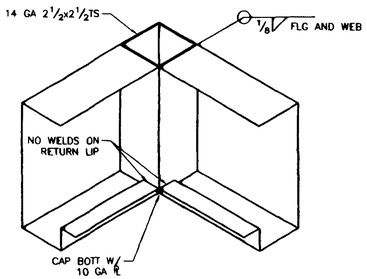
4/S3A DETAIL
1 1/2" = 1 0"



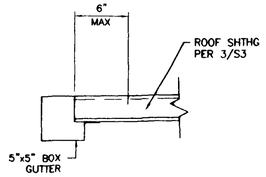
ALTERNATE ENCLOSED SOFFIT
(2 -0" OVERHANG DETAIL SIM)
2B/S3A 5'-0" OVERHANG DETAIL
1 1/2" = 1 0



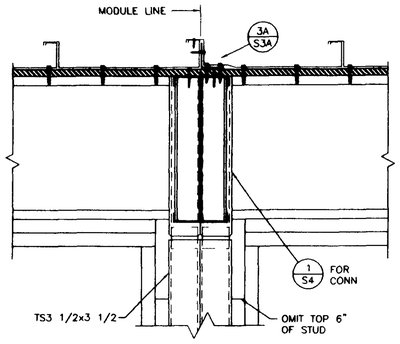
ALTERNATE ROOF
W/ PLYWOOD SHEATHING
1A/S3A DETAIL
1 1/2" 1 0"



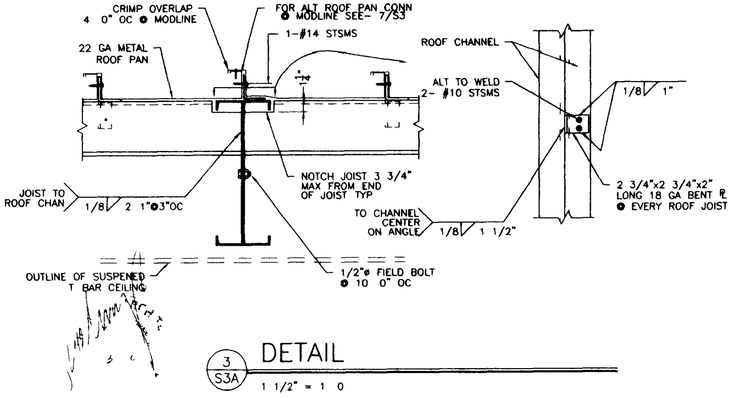
ALT ENCLOSED SOFFIT STL PROFILE
7/S3A DETAIL
NO SCALE



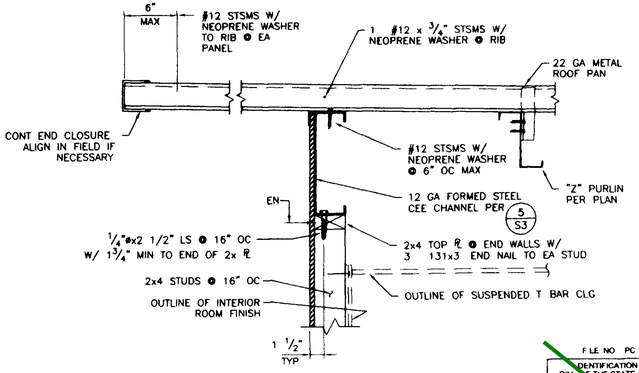
8/S3A DETAIL
NO SCALE



ALT W/ PLYWOOD DECKING
4A/S3A DETAIL
1 1/2" = 1 0"



3/S3A DETAIL
1 1/2" = 1 0



(2 -0" OVERHANG DETAIL SIM)
2/S3A 5'-0" OVERHANG DETAIL
1 1/2" - 1 0"

F.B.
IDENTIFICATION STAMP
DIV OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPLICATION NO
02 10108
AC FLS SS
DATE 2-25-03

A E
IDENTIFICATION STAMP
DIV OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPLICATION NO
02 10115
AC FLS SS
DATE 3-12-03

LICENSED ARCHITECT
ROBERT DIXON
No C15385
REN 3-03
STATE OF CALIFORNIA

F LE NO PC
IDENTIFICATION STAMP
DIV OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPLICATION NO
02 10108
AC FLS SS
DATE 2

60x40 TO 120x40
RELOCATABLE
CLASSROOM

American Modular Systems

REGISTERED PROFESSIONAL ENGINEER
Kenneth A. Neal
No. 4
EXP 3-31
Structural Engineer
STATE OF CALIFORNIA

CUSTOMER	
ROOF FRAMING DETAILS	

DATE	6/2/00
SCALE	AS NOTED
DRAWN BY	PWD
DESIGNED BY	MDB
CHECKED BY	KAL
SERIAL NO	

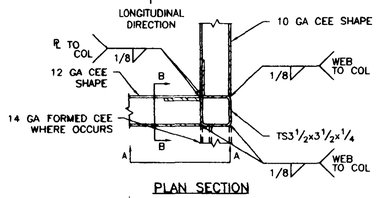
REVISIONS

NO	DATE	DESCRIPTION	NO	DATE	DESCRIPTION
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2			5		
3			6		

PROJECT No 99183

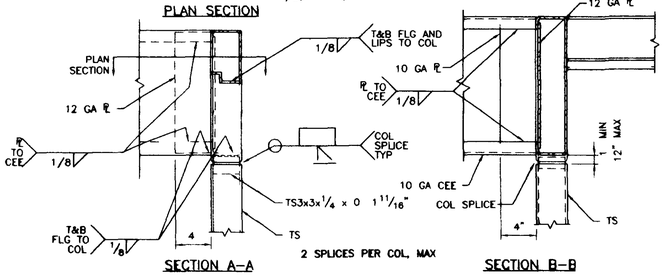
SHEET No S3A

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PLAN SECTION

THE WELDING PROCEDURE QUALIFICATION TEST RECORD AND WELDING PROCEDURE SPECIFICATION FOR THIS WELD SHALL BE PREPARED IN ACCORDANCE WITH AWSD 1-89 AND SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW AND SUBMITTAL TO THE DSA TYPICAL DETAILS 1/S4 AND 3A/S4



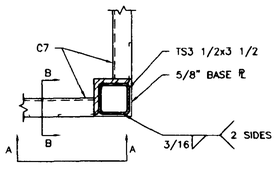
SECTION A-A

2 SPLICES PER COL, MAX

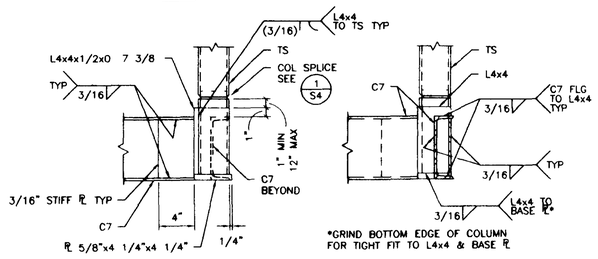
SECTION B-B

TOP CONNECTION DETAIL

1 / S4 — 1 1/2" = 1 0"



PLAN

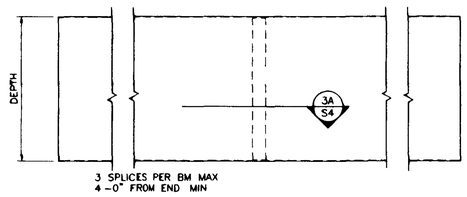


SECTION A-A

SECTION B-B

BOTTOM CONNECTION DETAIL

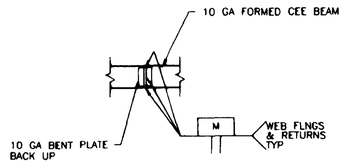
2 / S4 — 1 1/2" = 1 0"



3 SPLICES PER BM MAX
4 -0" FROM END MIN

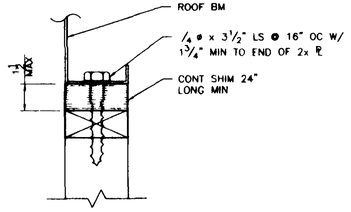
OPTIONAL BEAM SPLICE LOCATION DETAIL

3 / S4 — NO SCALE



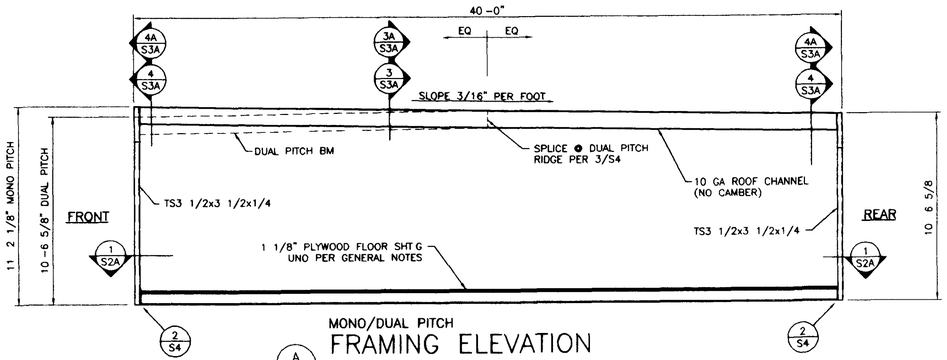
BEAM SPLICE DETAIL

3A / S4 — 1 1/2" = 1 0"



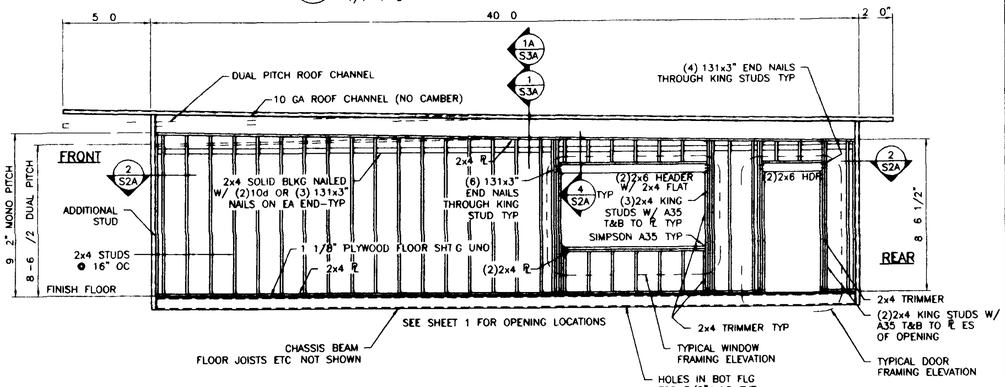
OPTIONAL SHIM ø SIDEWALL/ ENDWALL SIM DETAIL

4 / S4 — 1 1/2" = 1 -0"



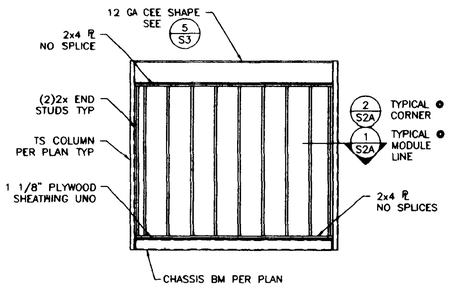
MONO/DUAL PITCH FRAMING ELEVATION

A / S4 — 1/4" 1 0"



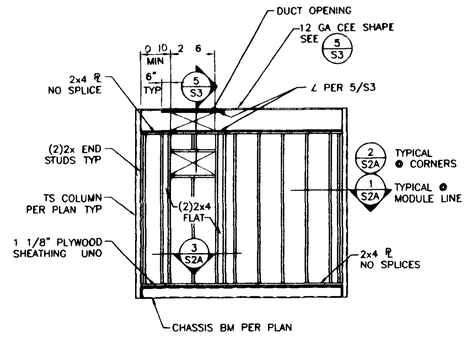
MONO/DUAL PITCH FRAMING ELEVATION

B / S4 — 1/4" = 1 -0"



SOLID END WALL ELEVATION

C / S4 — 1/4" = 1 0"

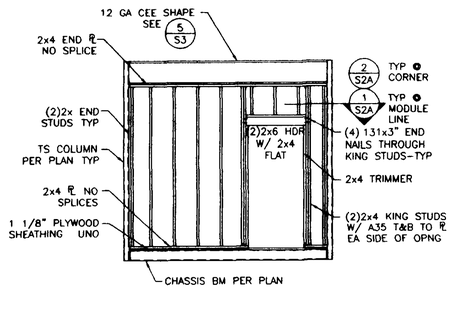


NOTE.
HVAC DUCT OPENING LOCATION MAY VARY ANYWHERE ALONG 12 GA CEE MEMBER EXCEPT AS SHOWN ABOVE

SEE SHEET 1 FOR OPENING LOCATION

HVAC END WALL ELEVATION

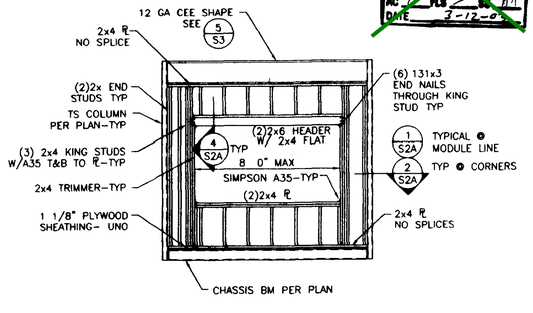
D / S4 — 1/4" = 1 0



SEE SHEET 1 FOR OPENING LOCATION

DOOR END WALL ELEVATION

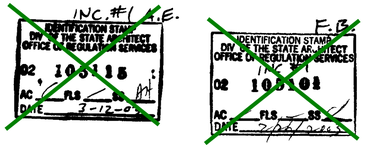
E / S4 — 1/4" = 1 -0"



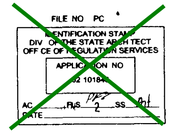
SEE SHEET 1 FOR OPENING LOCATION

WINDOW END WALL ELEVATION

F / S4 — 1/4" 1 0"







60 x 40 TO 120 x 40
RELOCATABLE
CLASSROOM

American Modular Systems



CUSTOMER	
FRAMING ELEVATIONS AND DETAILS	

DATE	6/2/00
SCALE	AS NOTED
DRAWN BY	PWD
DESIGNED BY	MDB
CHECKED BY	KAL
SERIAL NO	

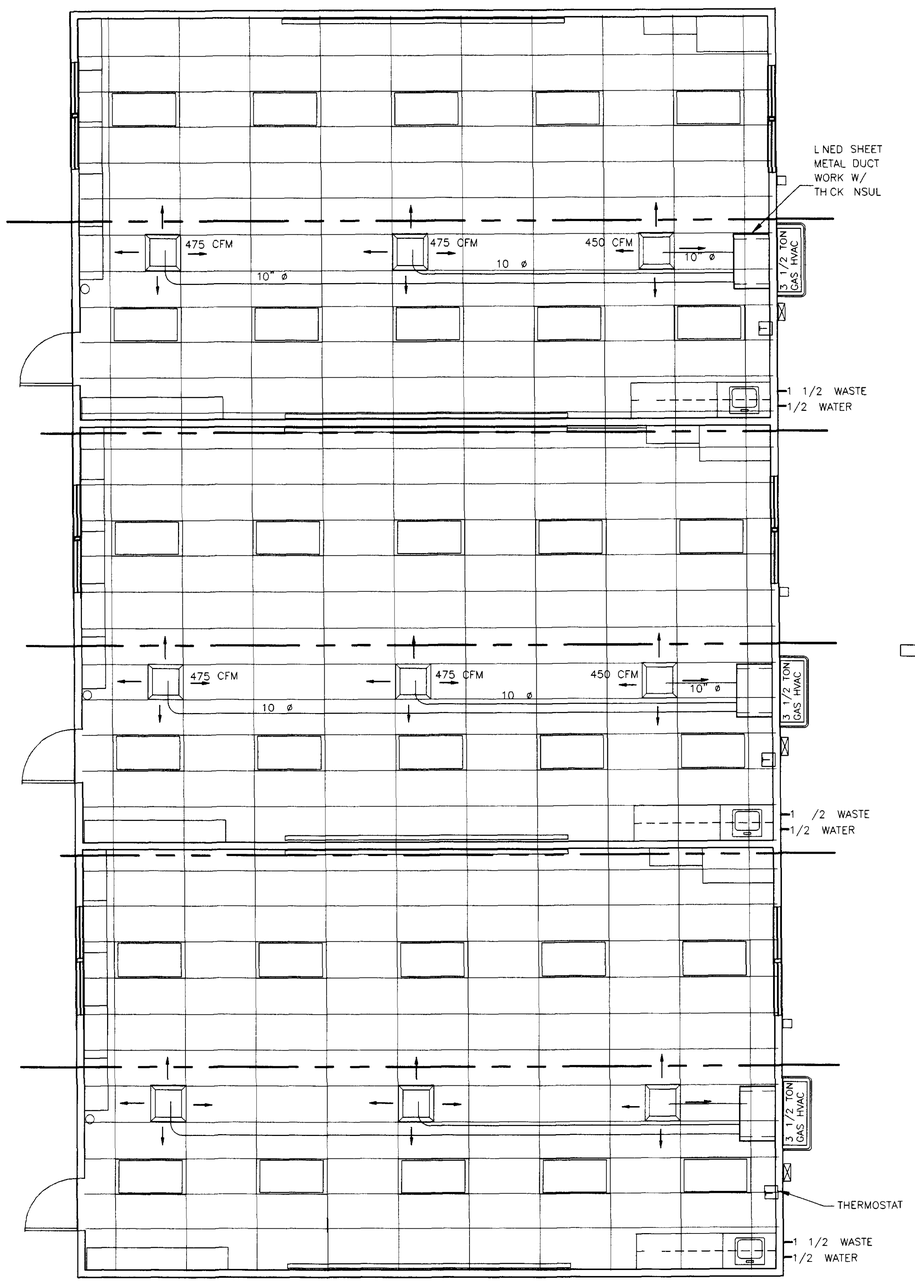
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2			5		
3			6		

PROJECT No 99183

SHEET No S4

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HEAT/SUPPLY AIR DUCT LAYOUT

SCALE 1/4 =1 0

BUILDING FIXTURES EQUIPMENT & APPLIANCE SPECIFICATIONS

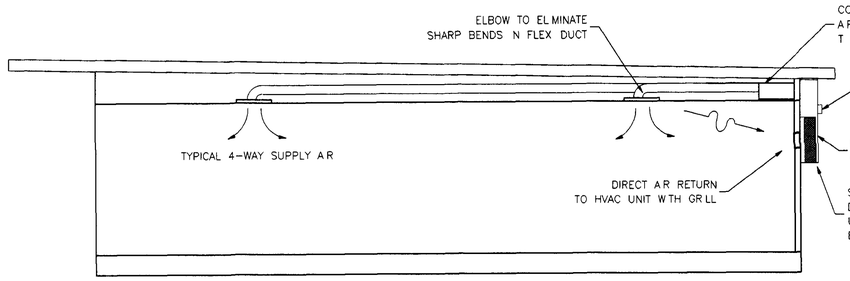
E Sewer And Water Stub Outs – shall be located within the allowable area as shown on floor plan and connections should be easily accessible for future location Stub out height should be coordinated by the manufacturer

F Piping – Water copper type L 95/5 solder Waste drain and vent ABS

H Classroom Sink–Republic c25X22 stainless steel with T&S 1142 faucet w/wrist blade handles and HAWS 5055 bubbler (6 1/2 max bowl depth)

HVAC CFM CHART

MODEL NUMBER	DISCRIPTION	MAX CFM
WH421–A	3 1/2 TON HEAT PUMP	1400
WH482–A	4 TON HEAT PUMP	1550
WH602–A	5 TON HEAT PUMP	1700



HEAT/SUPPLY AIR DUCT CROSS SECTION

SCALE 1/4 –1 0"

DUCT SUPPORT
Flex duct to be supported with 1–1/2 wide x 26 ga galv strap @ max 6–0 oc Attach to rafter W/2 #8 SMS @ each end
Supply air plenum to be supported with 1–1/2 wide x 26 ga galv straps min 2 per plenum
Supply air box and diffusers to be supported with (2) 12 ga hanger wires to box @ opposite corners
Supply air box and diffusers to be braced with (2) 12 ga slack wires to box @ opposite corners Attach supply air diffusers to ceiling grid to resist a atera load equal to the weight of the diffuser and supply air box W/2 #8 SMS

THESE DRAWINGS COMPLY
WITH THE ENERGY CONSERVATION REQUIREMENTS
OF TITLE 24 OF THE STATE OF CALIFORNIA

GENERAL NOTES
HEATING VENTILATING AND AIR CONDITIONING (HVAC)

1 Heat Pump Single package wall mounted air to air electric heat pump unit shall be rated in accordance with ARI Standard 240–77
Reference Brands WH42A–GAS HVAC

All units shall be 230/208 volt 1 phase system UL tested & approved or comparable and meet current energy standards

A) The system shall maintain an automatically controlled indoor classroom temperature of 78 degrees F When the outdoor dry bulb temperature varies between 100 degrees F in the summer
B) The system must maintain the above temperature when the damper is adjusted to use approximately one third fresh air

2 Ductwork
A) Construct all ductwork of galvanized sheet metal in accordance with UMC Ashrae Guide Equipment volume and Smacna Low Velocity Duct Construction manual latest editions All ductwork shall be insulated with 1 thick fiberglass duct wrap with vapor barrier Provide 1 duct attenuation at all ductwork within 2 –0 of HVAC unit

B) Non–metallic ductwork option In accessible concealed portions of duct system rigid 1 fiberglass or insulated flex–duct with vapor barrier may be substituted for sheet metal ductwork All ductwork within 2 of the HVAC unit and all interface connections shall be metal Ductwork and reinforcement shall be designed for 2 static pressure
Reference Brands Owens–Corning fiberglass ducttboard 1 thick and Micro–air TYPE 475
Non–metalic ductwork shall conform to NFPA 90–A and SMACNA Class 1 rating

3 Air duct insulation and linings shall comply with flame spread less than or equal to 25 smoke generation less than or equa to 50

4 Supply air diffusers shall be 675 CFM max 12 round 1 fiberglass or flexduct
ductwork specifically designed to provide air thermal cooling systems 24 x8 x1 Micro–
Aire type #475 Owens–Corning Knauf Certainteed or equal and 90– B UL #131 test class 1 rating with SMACNA

5 Registers and diffusers Provide three (Min) 4–way throw air diffusers as manufactured Carnes Titus Hart and Cooley Metalaire Shoemaker Barber–Coleman or Krueger commercial grade grills and registers

6 Air conditioning controls
Thermostat Provide electronic programmable thermostat Thermostat shall have the following functions (MOUNT @ +48 MAX OR 60 MAY W/ LOCKABLE COVER)
A) 5 and 2 weekday/weekend programming with 4 separate time/temperature setting for 24–hour period
B) Key board lockout switch
C) Programmable display
D) 2–hour override minimum
E) Status Indicated Leds
F) Battery back up
Provide locking clear thermostat cover with thermostat cover with access hole for program override White Rodgers IF92

7 Thermal insulation
A) Roof Insulation R 19 Unfaced
B) Walls Insulation R–11 Kraft Faced
C) Floors Insulation R–11 Kraft Faced
Flame spread and smoke development shall conform to California Building Code sec 707

8 Factory–made air ducts Factory–made air ducts shall be approved for the use intended or shall conform to the requirements of UMC Standard No 6–1 Each portion of a factory–made air duct system shall be identified by the manufacturer with a label or other suitable identification indicating compliance with UMC Standard No 6–1 and its class designation These ducts shall be listed and shall be installed in accordance with the terms of their listing and the requirements of UMC STD 6–1

INC #1 A E
IDENTIFICATION STAMP
DIV OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02 10515
AC FLS SS MH
DATE 7-12-03

LIC'ED ARCHITECT
RICHARD DAS
No C 30605
REN 3/05
STATE OF CALIFORNIA

NOTE
STUB OUT LOCATIONS FOR WATER WASTE AND GAS ARE DIAGRAMTICAL ONLY
EXACT LOCATIONS MAY VARY +/ SEVERAL FEET PLEASE CONTACT AMERICAN MODULAR SYSTEMS FOR EXACT LOCATIONS
POINT OF CONNECTION WILL BE AT THE FACE OF THE BUILDING

FILE NO F B
IDENTIFICATION STAMP
DIV OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
INC #1
02-105104
AC FLS SS
DATE 3rd/2003

BASED ON PCA 02-101848

72x40
RELOCATABLE
CLASSROOMS

American Modular Systems
787 Speckels Ave Manteca CA 95336
(209)825 1921 Fax (209)825 7018
americanmodulars.com

CUSTOMER
SACRAMENTO CITY SCHOOL DISTRICT
FERN BACON AND EINSTEIN

MECHANICAL PLAN & NOTES

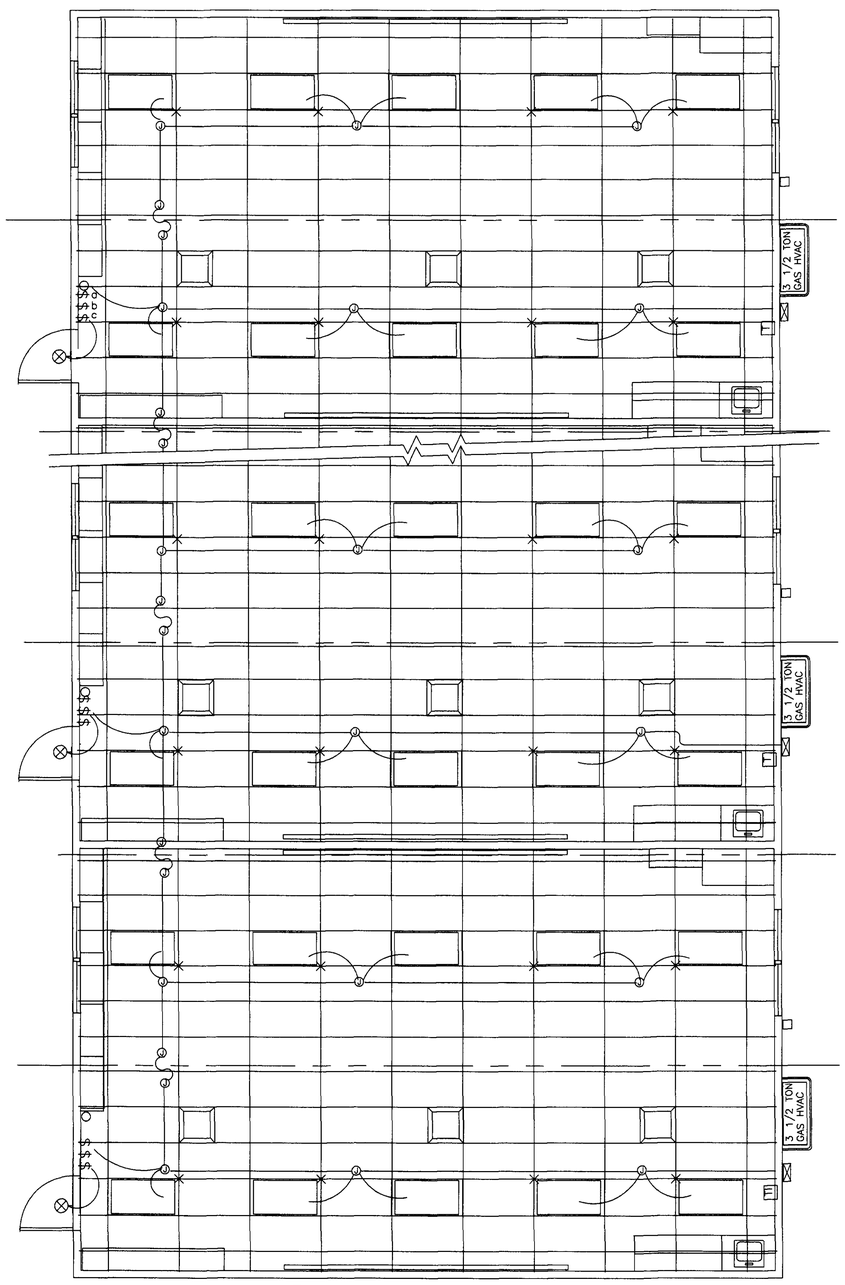
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REVISIONS

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PROJECT No

SHEET No
M1



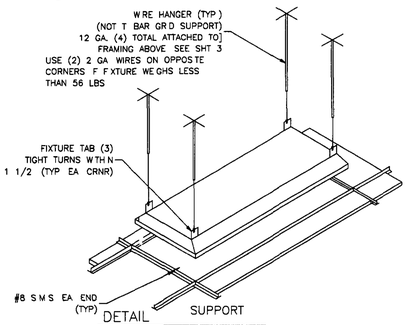
1 / E1 LIGHT FIXTURE PLAN
1/4 - 1 0

STANDARD ELECTRICAL SYMBOLS

- FLUORESCENT LIGHTING FIXTURE SURFACE MOUNTED
- FLUORESCENT LIGHTING FIXTURE RESCESSED
- FLUORESCENT LIGHTNG FIXTURE WALL MOUNTED (EXTERIOR)
- NCANDESCENT LIGHTNG FIXTURE WALL MOUNTED (NTERIOR)
- DUPLEX WALL CONVENIENCE OUTLETS +18
- SINGLE POLE LIGHT SWITHCES +48 HUBBELL PREMIUM BRYANT HEAVY DUTY OR LEVTON SPECIFICATIONS GRADE
- LECTRICAL CROSSOVER J BOXES ABOVE T BAR CEILING #1 4 X1 " #22 4 X2 "
- WALL CLOCK OUTLET WITH POWER OUTLET +84
- a SWITCH SUBSCRIPTS – a DEVICE CONTROLLED
- 15 AMP DUPLEX RECEPTACLE +18
- JUNCTON BOX SIZE AND TYPE AS REQUIRED
- PANELBOARD SEE SCHEDULE
- TERMINAL CABINET SIZE AND TYPE AS NOTED
- CONDUIT CONCEALED N CEILNG OR WALL
- CONDUIT CONCEALED BELOW FLOOR OR GRADE
- HOMERUN TO RESPECTVE PANEL TO TERMINAL
- NDICATES #14 (GREEN) GROUND WIRE OTHER SIZES AS NDICATED

NOTE: BRANCH CRCUIT WTHOUT FURTHER DESGNATION S A 2#14 WRE CRCUIT FOR MORE THAN 2#14 WIRES AS FOLLOWS 3#14 4#14 ETC FOR OTHER SIZES AS FOLLOWS 3# 0 4#6 ETC

- (A) FIXTURE DENTIFICATON LETTER NDICATES TYPE
- N E S ABBREV FOR NOT N ELECTRICAL SECTON OF THESE PLANS AND SPECS
- MT ABBREV FOR EMPTY CONDUIT WTH POLY PULL CORD
- FUSED DISCONNECT SWTCH SIZE AS REQURED PROVIDE FUSES AS RECOMMENDED BY EQUIPMENT SUPPLIER
- [W E F] WALL MOUNTED EXHAUST FAN N E S CONNECT AS REQURED
- 50 AMP 250 VOLT RANGE RECEPTACLE
- F FIRE ALARM STATON OUTLET ONLY 4 SQ BOX W/ SINGLE DEVICE RING AND COVER +48 CENTERLINE
- FIRE ALARM HORN OULET ONLY 4 SQ BOX W/ SINGLE DEVICE RING AND COVER +90 MIN AND NOT LESS THAN 6 BELOW FINSHED CEILNG
- FIRE ALARM VISUAL ALARM OUTLET ONLY 4 SQ BOX W/ SINGLE DEVICE RING AND COVER BOTTOM +80 AFF BUT NO GREATER THAN +96 F CEILNG MOUNTED PER NFPA72 TABLE 6 4 4 (b)
- SPEAKER OUTLET ONLY 4 SQ BOX W/ SINGLE DEVICE RING AND COVER +84
- INTERCOM TELEPHONE OUTLET ONLY 4 SQ BOX W/ SINGLE DEVICE RING AND COVER +48
- M FIRE ALARM MIN HORN OULET ONLY 4 SQ BOX W/ SINGLE DEVICE RING AND COVER +90 MIN AND NOT LESS THAN 6 BELOW FINSHED CEILNG
- SD SMOKE DETECTOR
- HD HEAT DETECTOR



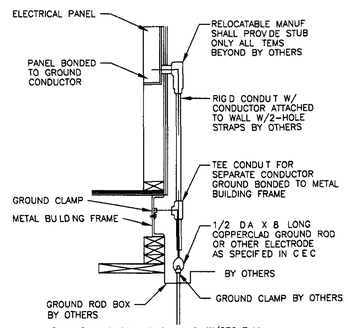
DETAIL SUPPORT

PROVIDE WIRE HANGERS AND EQ CLIPS AS REQUIRED BY CALIFORNIA SEISMIC REGULATONS CBC 2501 A 5 & R M 3

SYMBOL	DESCRIPTION	WATTS	MANUFACTURER
	2 X4 FLOURESCENT DROP IN FIXTURE ACRYLIC PRISMATIC LENS T 8 ENERGY SAVING BALLASTS (4)35 WATT TUBES WT 27 LBS	56 W	CRESCENT 24TF4400LA
	(1) HIGH PRESSURE SODIUM EXTERIOR LIGHT W/PHOTO CELL OVER EXTERIOR DOOR FLOURESCENT SURFACE MOUNTED EXTERIOR LIGHT WITH IMPACT RESISTANT ENCLOSURE 125 THICK CLEAR PRISMATIC ONE PIECE LENS W/ NEOPRENE GASKET & POSIGRIP STAINLESS STEEL SCREWS	(2) 7W TT 2700 K	KENALL 3714 OR LITHONIA 202 2/7PL LP
	INCANDESCENT WALL MOUNTED	150W	PROGRESS P3011x30

SEE TYPICAL CLASSROOM LAYOUT FOR LOCATIONS OF ALL DEVICES FIXTURE MOUNTING SHALL COMPLY WITH CALIFORNIA SEISMIC REGULATONS

LICENSED ARCHITECT ROBERT DAC MO T W RE 3-05 STATE OF CALIFORNIA



Size of conductors shall comply W/CEC Table
Bond separate conductors from ground rod to electrical panel & metal building frame
In addition to the detail shown above bond the electrical ground to metal water pipe embedded at least 10 into the soil if available
Electrical bond modules together W/#8 CU @ mad ine By manufacturer Check resistance to ground if resistance exceeds 25 OHMS insta additional grounding rods as required Grounding detail per I R M 3
INSPECTOR TO WITNESS GROUNDING TEST

A / E1 BUILDING GROUND DETAIL
NTS

VOLTS 120/240 SINGLE PHASE			PANEL A										FEED EXTERIOR LB						
MAIN 100 AMP MAIN BKR			LOCATION EXTERIOR										MOUNTING EXTERIOR						
LOAD	WATTS		BRK		C	A		B		C	BRK		WATTS		LOAD				
	A	B	AMP	P	R						R	P	AMP	A	B				
LIGHTS, FLUORESCENT	960		15	1	1	•					2	2	60	4476		A/C HVAC UNIT			
LIGHTS, FLUORESCENT		960	15	1	3			•			4	2	60		4476				
EXTERIOR LIGHT & CLOCK	100		15	1	5	•					6					SPACE			
DUPLEX RECEPT.		720	15	1	7			•			8								
DUPLEX RECEPT	720		15		9	•					10								
SPACE					11			•			12								
					13	•					14								
					15			•			16								
PHASE WATTAGE	1880	1680			17	•					18			4476	4476	PHASE WATTAGE			
TOTAL WATTS A LEG 6556			TOTAL WATTS A+B=2743													TOTAL WATTS B LEG 6156			
TOTAL WATTS 15455			65		AMPS			120/240V			SINGLE PHASE							100AMP BUS	
FEEDERS TO BE RUN BY THE DISTRICT EITHER UNDERGROUND OR OVERHEAD SEE SITE ELEC PLAN																			

3 / E1 ELECTRICAL DISTRIBUTON PLAN
1/4" 1 0

NOTE
STUB OUT LOCATONS FOR ELECTRICAL PANEL FIRE ALARM AND DATA BOXES LOCATIONS SHOWN ARE DIAGRAMITICAL ONLY EXACT LOCATIONS MAY VARY +/– SEVERAL FEET PLEASE CONTACT AMERICAN MODULAR SYSTEMS FOR EXACT LOCATIONS

cc #1
FILE NO. FB INC #1
DENTIFICATON STAMP DIV OF THE STATE ARCHITECT OFFICE OF REGULATON SERVICES
02/10/2101
AC. FLS
STATE

BASED ON PC# 02-101848

96 X 40
RELOCATABLE
CLASSROOMS

American Modular Systems
787 Speckels Ave Manteca CA 95336
(209)825 1921 Fax (209)825 7018
amecanmodular com

CUSTOMER
SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
FERN BACON SCHOOL

ELECTRICAL PLAN & NOTES

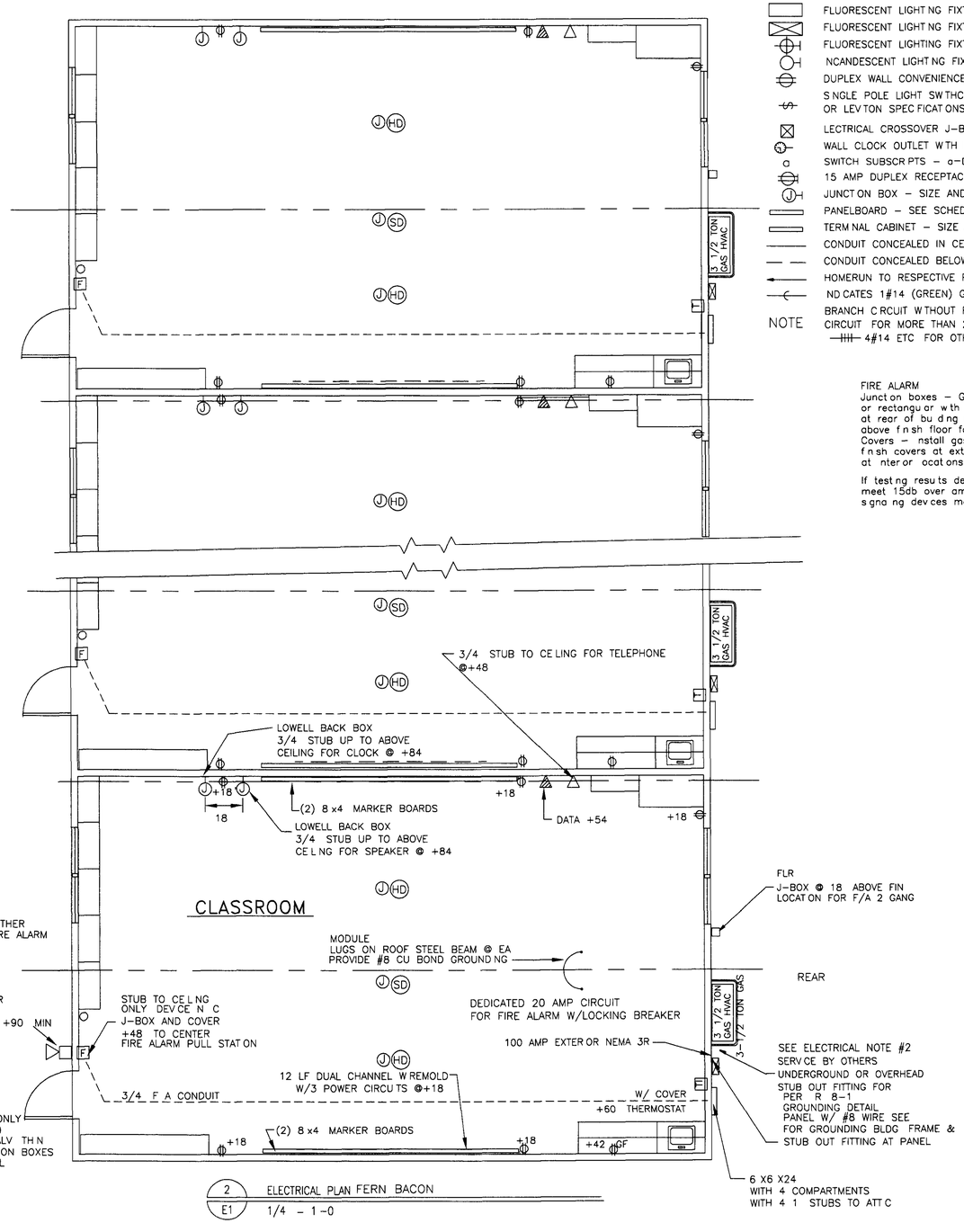
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SERIAL NO

REVISIONS

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PROJECT No

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2 / E1 ELECTRICAL PLAN FERN BACON

1/4 - 1-0

STANDARD ELECTRICAL SYMBOLS

- FLUORESCENT LIGHTING FIXTURE – SURFACE MOUNTED
- FLUORESCENT LIGHTING FIXTURE – RESCESSED
- FLUORESCENT LIGHTING FIXTURE – WALL MOUNTED (EXTERIOR)
- INCANDESCENT LIGHTING FIXTURE – WALL MOUNTED (INTERIOR)
- DUPLEX WALL CONVENIENCE OUTLETS +18
- SINGLE POLE LIGHT SWITCHES +48 HUBBELL PREMIUM BRYANT HEAVY DUTY OR LEVITON SPECIFICATIONS GRADE
- ELECTRICAL CROSSOVER J-BOXES ABOVE T-BAR CEILING #1 4 X1 #22 4 X2
- WALL CLOCK OUTLET WITH POWER OUTLET +84
- SWITCH SUBSCRIPTS – o-DEVICE CONTROLLED
- 15 AMP DUPLEX RECEPTACLE +18
- JUNCTION BOX – SIZE AND TYPE AS REQUIRED
- PANELBOARD – SEE SCHEDULE
- TERMINAL CABINET – SIZE AND TYPE AS NOTED
- CONDUIT CONCEALED IN CEILING OR WALL
- CONDUIT CONCEALED BELOW FLOOR OR GRADE
- HOMERUN TO RESPECTIVE PANEL TO TERMINAL

NOTE

INDICATES 1#14 (GREEN) GROUNDWIRE OTHER SIZES AS INDICATED
BRANCH CIRCUIT WITHOUT FURTHER DESIGNATION IS A 2#14 WIRE
CIRCUIT FOR MORE THAN 2#14 WIRES AS FOLLOWS —III— 3#14 —IIII— 4#14 ETC FOR OTHER SIZES AS FOLLOWS —III₀— 3#10 —IIII₆— 4#6 ETC

- (A) FIXTURE IDENTIFICATION – LETTER INDICATES TYPE
- NES ABBREV FOR NOT IN ELECTRICAL SECTION OF THESE PLANS AND SPECS
- MT ABBREV FOR EMPTY CONDUIT WITH POLY PULL CORD
- FUSED DISCONNECT SWITCH SIZE AS REQUIRED PROVIDE FUSES AS RECOMMENDED BY EQUIPMENT SUPPLIER
- [WEF] WALL MOUNTED EXHAUST FAN NIES CONNECT AS REQURED
- 50 AMP 250 VOLT RANGE RECEPTACLE
- (F) FIRE ALARM STATION – OUTLET ONLY 4 SQ BOX W/ SINGLE DEVICE RING AND COVER +48 CENTERLINE
- FIRE ALARM HORN – OULET ONLY – 4 SQ BOX W/ SINGLE DEVICE RING AND COVER +90 MIN AND NOT LESS THAN 6 BELOW FINISHED CEILING
- FIRE ALARM VISUAL ALARM– OUTLET ONLY – 4 SQ BOX W/ SINGLE DEVICE RING AND COVER BOTTOM +80 AFF BUT NO GREATER THAN +96 F CEILING MOUNTED PER NFPA72 TABLE 6-4.4.1(b)
- SPEAKER– OUTLET ONLY – 4 SQ BOX W/ SINGLE DEVICE RING AND COVER +84
- INTERCOM TELEPHONE– OUTLET ONLY 4 SQ BOX W/ SINGLE DEVICE RING AND COVER +48
- (M) FIRE ALARM MINI HORN – OULET ONLY – 4 SQ BOX W/ SINGLE DEVICE RING AND COVER +90 MIN AND NOT LESS THAN 6 BELOW FINISHED CEILING
- (SD) SMOKE DETECTOR
- (HD) HEAT DETECTOR

FIRE ALARM
Junction boxes – Galvanized sheet metal square or rectangular with blank covers Locate one box at rear of building near main electrical panel at +18– above finish floor for future connection
Covers – install gasketed metal waterproof finish covers at exterior locations Install finish covers at interior locations

If testing results determine fire alarm audibility does not meet 15db over ambient noise levels additional fire alarm signaling devices may be required by the enforcing agency

The HVAC unit feeder circuit – panel circuit breaker feeder wire unit disconnect and fuses (where used) – is to be coordinated with the name plate data at the time ofmanufacture HVAC units having KVA ratings larger than that indicated on this panel schedule will not be allowed to be installed on this building If 60 degrees C wire is to be used in this installation calculations demonstrating ampacity be provided on the drawing

FIRE ALARM SYSTEM

1 THE FIRE ALARM SYSTEM SHALL CONFORM TO THE CALIFORNIA ELECTRICAL CODE ARTICLE 760 &CA FIRE CODE ART 10
2 INSTALLATION OF THE FIRE ALARM SYSTEM SHALL NOT BE STARTED UNTIL DETAILED PLANS AND SPECIFICATIONS INCLUDING CALIFORNIA STATE FIRE MARSHAL LISTING NUMBERS FOR EACH COMPONENT OF THE SYSTEM HAVE BEEN APPROVED BY THE DIVISION OF THE STATE ARCHITECT
3 UPON COMPLETION OF THE INSTALLATION OF THE FIRE ALARM SYSTEM A SATISFACTORY TEST OF THE ENTIRE SYSTEM SHALL BE MADE IN THE PRESENCE OF THE ENFORCING AGENCY
DEDICATED 20 AMP CIRCUIT FOR FIRE ALARM W/LOCKING BREAKER

GENERAL NOTES

1 GROUNDING ELECTRODE CONDUCTOR SIZED PER CEC 250 94 & 95
2 ALLOW FOR 12 MOVEMENT IN ANY DIRECTION IF PAD FOUNDATION IS USED
3 PROVIDE BONDS TO BLDG STEEL & PANEL (#8 CU)
4 PANEL TO LISTED FOR USE AS SERVICE EQUIPMENT

FIXTURE NOTES

1 ALL FLUORESCENT LIGHT FIXTURES SHALL HAVE ENERGY SAVING LAMPS AND BALLASTS
2 LUMINATES/BALLASTS SHALL BE CERTIFIED PER CALIFORNIA BUILDING CODE TITLE 24
3 FLUORESCENT LIGHT FIXTURE TYPE A SHALL BE CONTROLLED TO PROVIDE TWO LEVELS OF LIGHTING SWITCH (SA) SHALL CONTROL THE TWO OUTER LAMPS AND SWITCH (SB) SHALL CONTROL THE TWO INNER LAMPS

ELECTRICAL

1 Electrical service drop and connections supplied by others
2 Manufacturer to provide stub–out from back of electrical panel through the exterior wall for receiving ether underground or overhead service & fitting for grounding cable
3 Electrical panel board shall be recess mounted inside the building Sized to accommodate all connected loads including spaces as shown Overcurrent protective devices in the panel boards have adequate short circuit interrupting capacity All buses including bus shall be copper or aluminum
4 2x4 Flourescent fixtures shall be steel frame lens shall be hinged and locked in place by two locking devices The lens diffusers shall be KHS inc #KSH–12 Carolite inc #C 12 or Plaskolite Inc #PL21A Minimum lens thickness shall be 125 inch
5 Fourescent ballast shall be T–8 energy saver while maintaining full light output class P' equipped with thermal protectors guaranteed against failure for (2) years and be replaced from inside the fixture
6 Clock – 12 dial clock on clock outlet
   A) Clock shall be General Electric model 2912 129V 60 cycle
   B) Clock outlet shall be Bryant #2828 or equal with seperable hanging clip & appd recept

NOTE
STUB OUT LOCATIONS FOR ELECTRICAL PANEL FIRE ALARM AND DATA BOXES LOCATIONS SHOWN ARE DIAGRAMTICAL ONLY EXACT LOCATIONS MAY VARY +/- SEVERAL FEET PLEASE CONTACT AMERICAN MODULAR SYSTEMS FOR EXACT LOCATIONS

LICENSED ARCHITECT ROBERT DIAZ No. C 23405 RENEWAL 8-31-05 STATE OF CALIFORNIA

Cc #1
FILE NO. FB INC #1
DEPARTMENT OF THE STATE ARCHITECT OFFICE OF REGULATION SERVICES
02-108101
ACCESS FLS
DATE 7/2/03

BASED ON PC# 02-101848

96 X 40
RELOCATABLE
CLASSROOMS

American Modular Systems
787 Sprecker s Ave Manteca CA 95336
(209)825 1921 Fax (209)825 7018
amercanmodular com

CUSTOMER
SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
FERN BACON SCHOOL

ELECTRICAL PLAN & NOTES

DATE 05/2 /2003
SCALE NONE
DRAWN BY MH /RS
CHECKED BY
CHECKED BY
SERIAL NO

REVISIONS					
NO	DATE	DESCRIPTION	NO	DATE	DESCRIPTION

PROJECT No

SHEET No E2

EXHIBIT C – Escrow Agreement

ESCROW AGREEMENT FOR SECURITY DEPOSITS IN LIEU OF RETENTION

This Escrow Agreement is made and entered into by and between _____ whose address is _____ hereinafter called "Owner," whose address is _____ hereinafter called "Contractor" and whose address is _____ hereinafter called "Escrow Agent."

For the consideration hereinafter set forth, the Owner, Contractor, and Escrow Agent agree as follows:

(1) Pursuant to Section 22300 of the Public Contract Code of the State of California, Contractor has the option to deposit securities with Escrow Agent as a substitute for retention earnings required to be withheld by Owner pursuant to the Construction Contract entered into between the Owner and Contractor for _____ in the amount of _____ dated _____ (hereinafter referred to as the "Contract"). Alternatively, on written request of the Contractor, the Owner shall make payments of the retention earnings directly to the Escrow Agent. When the Contractor deposits the securities as a substitute for Contract earnings, the Escrow Agent shall notify the Owner within 10 days of the deposit. The market value of the securities at the time of the substitution shall be at least equal to the cash amount then required to be withheld as retention under the terms of the Contract between the Owner and Contractor. Securities shall be held in the name of _____, and shall designate the Contractor as the beneficial owner.

(2) **Option 1:** The Owner shall make progress payments to the Contractor for those funds which otherwise would be withheld from progress payments pursuant to the Contract provisions, provided that the Escrow Agent holds securities in the form and amount specified above.

(3) **Option 2:** When the Owner makes payment of retentions earned directly to the Escrow Agent, the Escrow Agent shall hold them for the benefit of the Contractor until the time that the escrow created under this contract is terminated. The Contractor may direct the investment of the payments into securities. All terms and conditions of this agreement and the rights and responsibilities of the parties shall be equally applicable and binding when the Owner pays the Escrow Agent directly.

(4) Contractor shall be responsible for paying all fees for the expenses incurred by Escrow Agent in administering the Escrow Account and all expenses of the Owner. The Owner's expense are $100 administrative fee charged per draw (for Option 2 only; see paragraph (11).

(5) The interest earned on the securities or the money market account held in escrow and all interest earned on that interest shall be for the sole account of Contractor and shall be subject to withdrawal by Contractor at any time and from time to time without notice to the Owner.

(6) Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to Escrow Agent accompanied by written authorization from the Owner to the Escrow Agent that Owner consents to the withdrawal of the amount sought to be withdrawn by Contractor.

(7) The Owner shall have a right to draw upon the securities in the event of default by the Contractor. Upon seven days' written notice to the Escrow Agent from the owner of the default, the Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by the Owner.

(8) Upon receipt of written notification from the Owner certifying that the Contract is final and complete, and that the Contractor has complied with all requirements and procedures applicable to the Contract, Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all moneys and securities on deposit and payments of fees and charges.

(9) Escrow Agent shall rely on the written notifications from the Owner and the Contractor pursuant to Sections (5) to (8), inclusive, of this Agreement and the Owner and Contractor shall hold Escrow Agent harmless from Escrow Agent's release and disbursement of the securities and interest as set forth above.

(10) The names of the persons who are authorized to give written notice or to receive written notice on behalf of the Owner and on behalf of Contractor in connection with the foregoing, and exemplars of their respective signatures are as follows:

(11) OPTIONS FOR ESCROW PAYMENTS:
Option No. 1:_____ Total Amount of Retention
Option No. 2:_____ Owner to make payment based on amount of retention

On behalf of Owner:	On behalf of Contractor:
_____	_____
Title	Title
_____	_____
Name	Name
_____	_____
Signature	Signature
_____	_____
Address	Address

On behalf of Escrow Agent:

_____
Title

_____
Name

_____
Signature

_____
Address

At the time the Escrow Account is opened, the Owner and Contractor shall deliver to the Escrow Agent a fully executed counterpart of this Agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement by their proper officers on the date first set forth above.

On behalf of Owner:	On behalf of Contractor:
_____	_____
Title	Title
_____	_____
Name	Name
_____	_____
Signature	Signature

EXHIBIT D – DSA 103-1
Structural Test and Inspection Requirements

TO BE ADDED VIA AMENDMENT

EXHIBIT E – Hazardous Materials Manual

NOT USED

EXHIBIT F – Construction Forms Manual

Attached Separately (Book 2 of 2)

EXHIBIT G – Project Labor Agreement

PROJECT LABOR AGREEMENT

for the

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

PREAMBLE

This Project Labor Agreement ("Agreement") is entered into by and between the Sacramento City Unified School District ("District"), together with contractors and/or subcontractors, who shall become signatory to this Agreement by signing the "Agreement To Be Bound" (Attachment A), and the Sacramento-Sierra Building & Construction Trades Council ("Council") and the local Unions that have executed this Agreement.

RECITALS

WHEREAS, the purpose of this Agreement is to promote efficiency of construction operations during the construction of the District's projects subject to this Agreement, through the use of skilled labor resulting in quality construction outcomes, and to provide for the peaceful settlement of labor disputes and grievances without work disruptions or delays, thereby promoting the District's interest and the public's interest in assuring the timely and cost-effective completion of the District's construction projects; and

WHEREAS, the purpose of this Agreement is to also mutually acknowledge and support the District's Core Value statement and Equity, Access, and Social Justice Guiding Principle; and

WHEREAS, the District's Core Value statement states, *we recognize that our system is inequitable by design and we vigilantly work to confront and interrupt inequities that exist to level the playing field and provide opportunities for everyone to learn, grow, and reach their greatness*; and

WHEREAS, the District's Equity, Access, and Social Justice Guiding Principle ("Guiding Principle") states that *all students are given an equal opportunity to graduate with the greatest number of postsecondary choices from the widest array of options*; and

WHEREAS, the District places high priority upon comprehensive educational programs, training, work-based learning, and workforce development programs for District students and staff in order to best achieve the District's Guiding Principle and to provide meaningful and sustainable careers in the building and construction industry; and

WHEREAS, the successful and efficient completion of the District's construction projects is of the utmost importance to the District and its educational programs and mission; and

WHEREAS, large numbers of workers of various skills will be required in the performance of the construction work, including those to be represented by the Unions affiliated with the Council; and

WHEREAS, the use of skilled labor on construction work increases the safety of construction projects as well as the quality of completed work; and

WHEREAS, the Council and Unions commit to use of skilled and trained workforce requirements described in sections 17250.25 and 17407.5 of the Education Code and sections 2600 through 2602 of the Public Contract Code on applicable Projects covered by this Agreement; and

WHEREAS, it is recognized that District construction projects require multiple contractors and bargaining units on the job site at the same time over an extended period of time, and that the potential for work disruption is substantial in the absence of a binding commitment to maintain continuity of work; and

WHEREAS, the Employers and the Unions desire to mutually establish and stabilize wages, hours and working conditions for the workers employed on the construction projects subject to this Agreement in order to promote a satisfactory, continuous and harmonious relationship among the parties to this Agreement; and

WHEREAS, the District desires to provide construction training and employment opportunities for students of and residents within the District through local hire, apprentice and pre-apprentice programs; and

WHEREAS, the parties signatory to this Agreement pledge their full good faith and trust to work towards mutually satisfactory and successful completion of all District construction projects subject to the Agreement; and

WHEREAS, the Sacramento City Unified School District has previously adopted Resolution No. 2774 regarding the use of Project Labor Agreements on District projects.

NOW, THEREFORE, the parties, in consideration of the mutual promises and covenants herein contained, do mutually agree as follows:

ARTICLE 1

DEFINITIONS

1.1 "Agreement" means this Project Labor Agreement.

1.2 "Agreement to be Bound" means the agreement (attached hereto and incorporated herein as Attachment A) required to be executed by any Employer(s) working on the Project as a precondition to performing Covered Work on the Project.

1.3 "Council" means the Sacramento-Sierra Building and Construction Trades Council, which is the local jurisdictional division of the State Building and Construction Trades Council of California, with affiliated trades unions within its geographical jurisdiction of Sacramento, Yolo, Placer, El Dorado, Amador, Nevada, and Sierra Counties.

1.4 "Completion" means the point at which there is Final Acceptance by the District of a Construction Contract. For purposes of this definition of "Completion," "Final Acceptance" shall mean that point in time at which the District has determined upon final inspection that the work on a Construction Contract has been completed in all respects and all required contract documents, including repairs, warranty work, modifications or punch list work as required under a Construction Contract or when a Contractor performs work under a change order for a Construction Contract, contract drawings, warranties, certificates, manuals and data have been submitted and training completed in accordance with the contract documents and the District has executed a written acceptance of the work.

1.5 "Construction Contract" means, except as to section 2.5 (exclusions from Covered Work) public works or improvement contracts approved by the District, including design-bid, design-build, lease-leaseback, or other contracts under which construction work is performed, that are necessary to complete the Project.

1.6 "District" means the Sacramento Unified School District and the administrative employees under its Superintendent, including any in house Project Manager designated by the District for the Project.

1.7 "Contractor(s)" means any person, firm, corporation, or other entity, or any combination thereof, including joint ventures, and any of its contractors or subcontractors of any tier, or any successor or assigns of such persons or entities, that has entered into a contract with the District, or with any other person or entity contracting for work on the Project on behalf of the District (whether by design-bid, design-build, lease-leaseback or other means), with respect to the construction of any part of the Project under contract terms and conditions approved by the District.

1.8 "Local Area" shall be defined as the area within the boundaries of the District, the City of Sacramento, Sacramento County, and the nine counties in section 1.8.4. Residents of the Local Area shall be first referred for the Project, including journey-level workers and apprentices covered by this Agreement, in the following order of priority:

1.8.1 Priority 1: Residents residing within the boundaries of the District.

1.8.2 Priority 2: Residents of the City of Sacramento.

1.8.3 Priority 3: Residents of Sacramento County.

1.8.4 Priority 4: Residents of the Counties of Yolo, Placer, El Dorado, Amador, Sutter, Yuba, Nevada, Sierra, and San Joaquin.

1.9 "Master Agreement" means the multi-employer collective bargaining agreement of each of the Unions that covers the geographic area of the Project, copies of which shall be provided to the District upon request.

1.10 "Project" means all District construction projects where either the engineer’s estimate of the total cost of the project, or the actual cumulative bid amounts submitted by the contractor(s)

awarded the Construction Contracts for the Project, exceeds five hundred thousand dollars ($500,000). All Construction Contracts required to complete an integrated District construction project shall be considered in determining the threshold value. The District and the Council may mutually agree in writing to add additional projects to the scope of Projects to be covered by this Agreement. The term “Project” applies to each and all projects as defined in this section, whether used in the singular or plural herein. Routine maintenance of District properties is not covered by the scope of this Agreement.

1.11 "Project Manager" means a person, including a District employee, firm or other entity designated by the District to manage, coordinate or administer the construction work on a Project subject to this Agreement.

1.12 "Union" or "Unions" means the Sacramento-Sierra Building and Construction Trades Council and the local Unions that are signatory to this Agreement, acting on their own behalf and on behalf of their respective affiliates and member organizations whose names are subscribed hereto and who have through their officers executed this Agreement. The Council and the local Unions are collectively referred to herein as the "Unions."

ARTICLE 2

SCOPE OF AGREEMENT

2.1 Parties. This Agreement shall apply and is limited to all Contractor(s), the District and the Unions that are signatory to this Agreement.

2.2. Applicability. For purposes of this Agreement, Construction Contracts shall be considered completed as set forth in Section 1.4, including when the District directs a Contractor to engage in repairs, warranty work, modifications or punch list work as required under a Construction Contract or when a Contractor performs work under a change order for a Construction Contract. This Agreement shall govern all Construction Contracts awarded on the District Projects that are subject to this Agreement. Except for exclusions from the Covered Work described in section 2.5, for purposes of this Agreement, a Construction Contract shall be considered completed as described in Section 1.4, except when the District's authorized representative directs a Contractor to engage in repairs, warranty work, modifications, or punch list work as required under a Construction Contract or when a Contractor performs work under a change order for a Construction Contract.

2.3 Covered Work. This Agreement covers, without limitation all on-site preparation, surveying, construction, alteration, demolition, installation, improvement, remediation, retrofit, painting, or repair of buildings, structures and other works and related activities for the Project that is within the craft jurisdiction of one of the Unions and which is directly or indirectly part of the Project, including, without limitation to the following examples, geotechnical and exploratory drilling, temporary HVAC, landscaping and temporary fencing, pipelines (including those in linear corridors built to serve the Project), pumps, pump stations, start-up, and modular furniture installation, On-site work includes work done for the

Project in temporary yards, dedicated sites, or areas adjacent to the Project, and at any on-site or off-site batch plant constructed solely to supply materials to the Project. This scope of work includes all soils and materials testing and inspection where such testing and inspection is a classification covered by an applicable Master Agreement or in which a prevailing wage determination has been published.

2.3.1 This Agreement applies to any start-up, calibration, commissioning, performance testing, repair, maintenance, and operational revisions to systems and/or subsystems for the Project performed after Completion, unless performed by District employees.

2.3.2 This Agreement covers all on-site fabrication work over which the District, Contractor(s)/Employer(s) or subcontractor(s) possess the right of control (including work done for the Project in any temporary yard or area established for the Project). Additionally, this Agreement covers any off-site work, including fabrication necessary for the Project defined herein, that is covered by a current Schedule A Agreement or local addenda to a National Agreement of the applicable Union(s) that is in effect as of the execution date of this Agreement.

2.3.3 It is expressly agreed and understood by the Parties that the District shall have the right to purchase material and equipment from any source and the craftsperson covered under this Agreement will handle and install such material and equipment. There shall be no limitation or restriction upon the choice of material or upon the full use and installation of equipment, machinery, materials, tools or other labor-saving devices other than as set forth herein. The lawful fabrication provisions of the appropriate national or local agreements shall be applicable.

2.3.4 The furnishing of supplies, equipment or materials which are stockpiled for later use shall not be covered by this Agreement. However, construction trucking work, such as the hauling and delivery of ready-mix, asphalt, aggregate, sand, or other fill or similar material which is incorporated into the construction process as well as the off-hauling of debris and excess fill, material and/or mud, shall be covered by the terms and conditions of this Agreement to the fullest extent allowed by prevailing wage law and determinations of the California Department of Industrial Relations. Contractor(s)/Employer(s), including brokers, of persons providing construction trucking work shall provide certified payroll records to the District within ten (10) days of written request or as required by bid specifications.

2.3.5 The on-site installation or application of all items shall be performed by the craft having jurisdiction over such work; provided, however, it is recognized that installation of specialty items which may be furnished by the District or a Contractor shall be performed by construction persons employed under this Agreement who may be directed by other personnel in a supervisory role; provided, however, in limited circumstances requiring special knowledge of the particular item(s), may be performed by construction persons of the manufacturer where necessary to protect a manufacturer's warranty, provided the Contractor/Employer using the manufacturer can demonstrate by an enumeration of specific tasks that the work cannot be performed by craft workers under this Agreement. All work of a specialty nature to

be performed by the employees of an equipment manufacturer necessary to protect the warranty on such equipment shall be identified and discussed at the Preconstruction Conference provided in Article V of this Agreement.

2.3.6 Work covered by this Agreement within the following craft jurisdictions shall be performed under the terms of their National Agreements as follows: the National Agreement of Elevator Constructors, the National Transient Lodge (NTL) Articles of Agreement, the National Stack/Chimney Agreement, the National Cooling Tower Agreement, and any instrument calibration work and loop checking shall be performed under the terms of the UA/IBEW Joint National Agreement for Instrument and Control Systems Technicians, with the exception that Articles IV, XV and XVI of this Agreement shall apply to such work.

2.4 The following shall be excluded from Covered Work:

2.4.1 Work of non-manual employees, including, but not limited to, superintendents, supervisors above the level of general foreman (except those covered by any applicable Master Agreement), staff engineers, building inspectors, timekeepers, clerks, office workers, including messengers, guards, safety personnel, emergency medical and first aid technicians, and other professional, engineering, administrative, executive and management employees;

2.4.2 Equipment and machinery owned or controlled and operated by the District;

2.4.3 Any work performed on or near or leading to or on to the site of work covered by this Agreement and undertaken by state, county, city or other governmental bodies, or their contractor, or by public utilities or their contractors;

2.4.4 Off-site maintenance of leased equipment and on-site supervision of such work;

2.4.5 Work performed by employees of a manufacturer or vendor on the manufacturer's or vendor's equipment if necessary to satisfy the guarantee or warranty on such equipment and where performance of the work is expressly stated in the manufacturer's or vendor's written warranty or guarantee to be a condition for the warranty or guarantee for such products. For any work performed pursuant to this provision, the Contractor shall provide copies of the written warranty requirement to the District, Project Manager, the Council and the affected local Union prior to the commencement of work by the manufacturer or vendor. This exclusion does not apply to any on site construction work subcontracted by such manufacturer or vendor.

2.4.6 District procurement or use of modular buildings;

2.4.7 Off-site maintenance of leased equipment and on-site supervision of such work;

2.4.8 Laboratory or specialty testing or inspection not covered by an applicable Master Agreement;

2.4.9 Non-construction support services contracted by the District or any Contractor in connection with this Project;

2.4.10 All Maintenance work contracted by the District;

2.4.11 All work by employees of the District.

ARTICLE 3

SUBCONTRACTING

3.1 Each Contractor agrees that it will contract for the assignment, awarding or subcontracting of Covered Work, or authorize another party to assign, award or subcontract Covered Work, only to a person, firm, corporation, or other entity that, at the time the contract is executed, has become a party to this Agreement by executing Attachment A, the Agreement to be Bound.

3.2 Each Contractor agrees that it will contract or subcontract the performance of Covered Work only to a person, firm, corporation, or other entity that is or becomes a party to this Agreement. Any Contractor performing Covered Work on the Project shall, as a condition to working on the Project, perform all work under the terms of this Agreement and the applicable Master Agreement. Before being authorized to perform any Covered Work, Contractors shall become a party to this Agreement by signing Attachment A, the Agreement to be Bound. Every Contractor shall notify the Council in writing within five (5) business days after it has contracted to assign, award, or subcontract Covered Work, or to authorize another party to assign, award or subcontract Covered Work in accordance with Section 3.1 or this Section 3.2 and shall at the same time provide to the Council a copy of the executed Agreement to be Bound. The District shall also provide copies to the Council of all executed Agreements to be Bound that it receives within fifteen (15) days of receipt.

3.3 Contractors and all subcontractors of whatever tier who have been awarded contracts for work covered by this Agreement commit to comply with the skilled and trained workforce requirements provided in California Education Code sections 17250.25 and 17407.5 and California Public Contract Code sections 2600 et seq. on applicable Projects.

3.4 Nothing in this Agreement shall in any manner whatsoever limit the rights of the District or any Contractor to subcontract Covered Work or to select its contractors or subcontractors; provided, however, that all Contractors, at all tiers, assigning, awarding, contracting, or performing Covered Work, or authorizing another to assign, award, contract or perform Covered Work, shall be required to comply with the provisions of this Agreement. Each Contractor shall notify each of its contractors and subcontractors of the provisions of this Agreement and require as a condition precedent to the assigning, awarding, or subcontracting of any Covered Work, or allowing any subcontracted Covered Work to be performed, that all such contractors and subcontractors at all tiers become signatory to this Agreement. Any Contractor that fails to provide the Council with the Agreement to be

Bound executed by its contractor or subcontractor shall be liable for any failure of that contractor or subcontractor, or any contractor or subcontractor at a lower tier, to comply with the provisions of this Agreement, including any contributions to any trust funds that the contractor or subcontractor, or any subcontractor to that subcontractor, fails to make. Nothing in this Agreement shall be construed to interfere with or supersede the usual and customary legal remedies available to the Unions and/or employee benefit Trust Funds to collect delinquent Trust Fund contributions from Contractors on the Project.

3.5 Nothing in this Agreement shall limit the District's right to combine, consolidate, or cancel contracts for Project construction, or to comply with public agency contracting laws.

ARTICLE 4

WAGES AND BENEFITS

4.1 All employees covered by this Agreement (including foremen and general foremen if they are covered by the Master Agreement) shall be classified and paid wages and other compensation, including but not limited to travel, subsistence, and shift premium pay, and contributions made on their behalf to multi-employer trust funds, all in accordance with the then current multi-employer Master Agreement of the applicable Union and in compliance with the applicable prevailing wage rate determination established pursuant to the California Labor Code by the Department of Industrial Relations.

4.2 During the period of construction on this Project, the Contractors agree to recognize and put into effect such increases in wages and recognized fringe benefits as shall be negotiated between the various Unions and the historically recognized local bargaining parties on the effective date as set forth in the applicable Master Agreement. The Unions shall notify the Contractors in writing of the specific increases in wages and recognized fringe benefits and the date on which they become effective.

ARTICLE 5

NO STRIKES - NO LOCKOUTS

5.1 During the term of this Agreement, there shall be no strikes, sympathy strikes, picketing, work stoppages, picket-related hand billing, slowdowns, interference with the work or other disruptive activity for any reason by the Union or by any employee, and there shall be no lockout by any Contractor. Failure of any Union or employee to cross any picket line established at the Contractor's Project site is a violation of this Article.

5.2 The Union shall not sanction, aid or abet, encourage, or continue any work stoppage, strike, picketing or other disruptive activity at the Project site and shall undertake all reasonable means to prevent or to terminate any such activity. No employee shall engage in activities which violate this Article. Any employee who participates in or encourages any activities which interfere with the normal operation of the Project shall be subject to

disciplinary action, including discharge, and, if justifiably discharged for the above reasons, shall not be eligible for rehire on the same project for a period of not less than ninety (90) days.

5.3 The Union(s) agrees that if any union or any other persons, whether parties to this Agreement or otherwise, engage in any picketing or work stoppages, the signatory Unions shall consider such work stoppage or picketing to be illegal and refuse to honor such picket line or work stoppage.

5.4 In the event of any work stoppage, strike, sympathy strike, picketing interference with the work or other disruptive activity in violation of this Article, the Contractor may suspend all or any portion of the Project work affected by such activity at the Contractor's discretion and without penalty, and the District may replace any Contractor whose employees have not reported to work with any other contactor or subcontractor.

5.5 In addition to any other action at law or equity, any party may elect to have the matter decided by a neutral arbitrator in accordance with the following procedure when a breach of this Article is alleged, after the Union(s) or Contractor(s) has been notified of the fact.

5.5.1 A party invoking this procedure shall notify Robert Hirsch, as the permanent arbitrator, or Barry Winograd, as the alternate arbitrator under this procedure. In the event that the permanent arbitrator is unavailable at any time, the alternate will be contacted. If neither is available, then the American Arbitration Association shall select an alternative arbitrator within 24 hours of notice. Notice to the Arbitrator shall be by the most expeditious means available, with notice by fax or electronic means or any other effective written means to the party alleged to be in violation and the involved International Union President and/or local Union.

5.5.2 Upon receipt of said notice, the District Superintendent, or their designee, shall contact the designated Arbitrator identified above who will attempt to convene a hearing within twenty-four (24) hours if it is contended that the violation still exists.

5.53 The Arbitrator shall notify the parties by fax or electronic means or any other effective written means of the place and time he has chosen for this hearing. Said hearing shall be completed in one session. A failure of any party or parties to attend said hearing shall not delay the hearing of evidence or issuance of an Award by the Arbitrator.

5.5.4 The sole issue at the hearing shall be whether or not a violation of this Article has in fact occurred. The Award which shall be final, and binding shall be issued in writing within three (3) hours after the close of the hearing and may be issued without an opinion. If any party desires an opinion, one shall be issued within fifteen (15) days, but its issuance shall not delay compliance with, or enforcement of, the Award. The Arbitrator may order cessation of the violation of this Article by the Union or Contractor, and such Award shall be served on all parties by hand or registered mail upon issuance. Should a party found in violation of this Article

fail to comply with an Arbitrator's award to cease the violation, the party in violation shall pay to the affected party as liquidated damages the sum of ten thousand dollars ($10,000) for the first shift for which it failed to comply, or portion thereof, and ten thousand dollars ($10,000) for each subsequent shift for which it failed to comply, until such violation is ceased. The Arbitrator shall retain jurisdiction to resolve any disputes regarding the liquidated damages claimed under this Section.

5.5.5 Such Award may be enforced by any court of competent jurisdiction upon the filing of this Agreement and all other relevant documents referred to hereinabove in the following manner. The fax or electronic notice of the filing of such enforcement proceedings shall be given to the other party. In the proceeding to obtain a temporary order enforcing the Arbitrator's Award as issued under Section 5.5.4 of this Article, all parties waive the right to a hearing and agree that such proceedings may be ex parte. Such agreement does not waive any party's right to participate in a hearing for a final order of enforcement. The Court's order or orders enforcing the Arbitrator's Award shall be served on all parties by hand or by delivery to their last known address or by certified mail.

5.5.6 Any rights created by statute or law governing arbitration proceedings inconsistent with the above procedure or which interfere with compliance therewith are hereby waived by the parties to whom they accrue.

5.5.7 The fees and expenses of the Arbitrator shall be borne by the party or parties found in violation, or in the event no violation is found, such fees and expenses shall be borne by the moving party.

5.6 The procedures contained in Section 5.5 shall be applicable to alleged violations of this Article. Disputes alleging violation of any other provision of this Agreement, including any underlying disputes alleged to be in justification, explanation, or mitigation of any violation of this Article, shall be resolved under the grievance procedures of Article 9.

5.7 In the case of nonpayment of wages or trust fund contributions on the Project, the Union shall give the District and the Contractor(s) three (3) business days' notice when nonpayment of trust fund contributions has occurred and one (1) business days’ notice when nonpayment of wages has occurred or when paychecks being tendered to a financial institution normally recognized to honor such paychecks will not honor such paycheck as a result of insufficient funds, of the intent to withhold labor from the Contractor(s)' or their subcontractor’s workforce, during which time the Contractor shall have the opportunity to correct the default. In this instance, a Union's withholding of labor (but not picketing) from a Contractor who has failed to pay its fringe benefit contributions or failed to meet its weekly payroll shall not be considered a violation of this Article. In the event the Union or any of its members withhold their services from such contractor or subcontractor, District shall have the right to replace such contractor or subcontractor with any other contractor or subcontractor who executes the Agreement to be Bound.

5.8 It will not be a violation of this Agreement when the Contractor considers it necessary to shut down to avoid the possible loss of human life because of an emergency situation that could endanger the life and safety of an employee. In such cases, employees will be compensated only for the actual time worked. In the case of a situation described above whereby the Contractor requests employees to wait in a designated area available for work, the employees will be compensated for the waiting time.

5.9 If a Master Agreement expires before the Contractor completes the performance of work under the Construction Contract and the Union or Contractor gives notice of demands for a new or modified Master Agreement, the Union agrees that it will not strike on work covered under this Agreement and the Union and the Contractor agree that the expired Master Agreement shall continue in full force and effect for work covered under this Agreement until a new or modified Master Agreement is reached. If the new or modified Master Agreement provides that any terms of the Master Agreement shall be retroactive, the Contractor agrees to comply with any retroactive terms of the new or modified Master Agreement which are applicable to employees who were employed on the projects during the interim, with retroactive payment due within seven (7) days of the effective date of the modified Master Agreement subject to section 4.3.

ARTICLE 6

WORK ASSIGNMENTS AND JURISDICTIONAL DISPUTES

6.1 The assignment of Covered Work will be solely the responsibility of the Contractor performing the work involved; and such work assignments will be in accordance with the Plan for the Settlement of the Jurisdictional Disputes in the Construction Industry (the "Plan") or any successor Plan.

6.2 All jurisdictional disputes on this Project between or among the building and construction trades Unions and the Contractors parties to this Agreement, shall be settled and adjusted according to the present Plan established by the Building and Construction Trades Department or any other plan or method of procedure that may be adopted in the future by the Building and Construction Trades Department. Decisions rendered shall be final, binding, and conclusive on the Contractors and Unions parties to this Agreement.

6.3 If a dispute arising under this Article involves the Northern California Carpenters Regional Council or any of its subordinate bodies, an Arbitrator shall be chosen by the procedures specified in Article V, Section 5, of the Plan from a list composed of John Kagel, Thomas Angelo, Robert Hirsch, and Thomas Pagan, and the Arbitrator's hearing on the dispute shall be held at the offices of the California State Building and Construction Trades Council in Sacramento, California within fourteen (14) days of the selection of the Arbitrator. All other procedures shall be as specified in the Plan.

6.4 All jurisdictional disputes shall be resolved without the occurrence of any strike, work stoppage, or slow-down of any nature and the Contractor's assignment shall be adhered to until the dispute is resolved. Individual employees violating this section shall be subject to immediate discharge.

ARTICLE 7

JOINT LABOR/MANAGEMENT MEETINGS

7.1 Joint Labor/Management Meetings. During the period of any work performed under this Agreement, the Project Manager, or District designee, may schedule monthly Joint Labor/Management Meetings that include the Project Manager, or the District's designee, the Contractors and the Unions. The purpose of these meetings is to promote harmonious labor/management relations, ensure adequate communications and advance the proficiency and efficiency of the employees and the Contractors on the Project. These meetings may include a discussion of safety, craft resource requirements, scheduling and productivity of work performed at the Project. The Union representative shall keep minutes of any such meetings and the minutes shall be subject to approval at any subsequent meeting. Any such meetings may be in person, virtually or by conference call. It shall be mandatory for a representative of the Unions to participate in such meetings.

7.2 A Pre-Job Conference shall be scheduled by the District prior to the commencement of work to establish the scope of work in each Contractor's contract. When a contract has been let to a Contractor covered by this Agreement, a job conference and/or markup meeting shall be scheduled by the District upon request of any Union, Contractor or the District.

ARTICLE 8

MANAGEMENT RIGHTS

8.1 The Contractor(s) retains full and exclusive authority for the management of their work forces for all work performed under this Agreement. This authority includes, but is not limited to the right to:

A. Plan, direct and control the operation of all the work.

B. Decide the number and types of employees required to perform the work safely and efficiently. The lawful staffing provisions of the applicable Master Agreement shall be recognized.

C. Hire, promote and layoff employees as deemed appropriate to meet work requirements and/or skills required.

D. Require all employees to observe the District and Contractor Project Rules, Security and Safety Regulations, consistent with the provisions of this Agreement. These Project Rules and Regulations shall be reviewed and mutually agreed upon at the Pre-Job meeting and supplied to all employees and/or posted on the jobsite.

E. Discharge, suspension or discipline will be handled under the applicable craft agreement.

F. Assign and schedule work at its sole discretion and determine when overtime will be worked. There shall be no refusal by a craft to perform work assigned, including overtime work. However, individual craftspeople shall not be required to work overtime unless specifically dispatched for overtime work. Any cases of a craft's refusal to work overtime shall be subject to the grievance procedure.

G. Utilize any work methods, procedures or techniques and select and use any type or kind of materials, apparatus or equipment regardless of source, manufacturer or designator (in accordance with Article 2).

H. The foregoing listing of management rights shall not be deemed to exclude other functions not specifically set forth herein. The Contractors, therefore, retain all legal rights not specifically enumerated in this Agreement.

8.2 All workers employed or otherwise used on a Project shall comply with the District's Drug and Alcohol-Free Workplace Policy (BP 4020) and Employee Drug Testing Policy (BP 41 12.41, 4212.41, 4312.41) and applicable regulations as amended from time to time. If not otherwise specified, the drug testing protocol shall be in compliance with 49 Code of Federal Regulations (CFR) section 382.105 (Testing procedures) which incorporates 49 CFR Part 40.

ARTICLE 9

GRIEVANCE PROCEDURE

9.1 It is mutually agreed that any question arising out of and during the term of this Agreement involving its interpretation and application (other than matters subject to Section 5.5 and Union jurisdictional disputes subject to Article 6) shall be considered a grievance. Questions between or among parties signatory to a Master Agreement arising out of or involving the interpretation of a Master Agreement shall be resolved under the grievance procedure provided in that Master Agreement.

9.2 The District and other Contractors, as well as the Unions, may bring forth grievances under this Article.

9.3 A grievance shall be considered null and void if not brought to the attention of the effect party by the grievant within five (5) working days after the incident that initiated the alleged grievance occurred or was discovered, whichever is later. The term "working days" as used in this Article shall exclude Saturdays, Sundays, or holidays regardless of whether any work is actually performed on such days.

9.4 Grievances shall be settled according to the following procedure, except those grievances that do not involve an individual grievant, which shall be discussed by the District, and the Council and then, if not resolved within five (5) working days of written notice unless extended by mutual consent, commence at Step 4:

Step 1

The Steward and the grievant shall attempt to resolve the grievance with the craft supervisor within five (5) working days after the Grievance has been brought to the attention of the Contractor.

Step 2

In the event the matter remains unresolved in Step 1 above after five (5) working days, within five (5) working days thereafter, the alleged grievance may be referred in writing to the Business Manager(s) of the Union(s) affected and the site construction manager or Labor Relations representative of the Contractor(s) for discussion and resolution. A copy of the written grievance shall also be mailed, faxed or emailed to the District.

Step 3

In the event the matter remains unresolved in Step 2 above within five (5) working days, within five (5) working days thereafter, the grievance may be referred in writing to the Business Manager(s) of the affected Union(s) involved and the Manager of Labor Relations of the Contractor(s) or the Manager's designated representative and the District for discussion and resolution.

Step 4

If the grievance is not settled in Step 3 within five (5) working days, within five (5) days thereafter, either party may request the dispute be submitted to neutral arbitration or the time may be extended by mutual consent of both parties. The request for arbitration and/or the request for an extension of time must be in writing with a copy to the District. Should the parties be unable to mutually agree on the selection of a neutral Arbitrator, selection for that given arbitration shall be made by seeking a list of seven (7) labor arbitrators with construction experience from the Federal Mediation and Conciliation Service and alternately striking names from the list of names on the list until the parties agree on an Arbitrator or until one name remains. The first party to strike a name from the list shall alternate between the party bringing forth the grievance and the party defending the grievance. District shall keep a record of the sequence and shall notify the parties to the grievance as to which party has the right to strike a name first.

9.5 The Arbitrator shall conduct a hearing at which the parties to the grievance shall be entitled to present testimonial and documentary evidence. Hearings will be transcribed by a certified court reporter. The parties shall be entitled to file written briefs after the close of the hearing and receipt of the transcript.

9.6 Upon expiration of the time for the parties to file briefs, the Arbitrator shall issue a written decision that will be served on all parties and on the District. The Arbitrator shall have the authority to utilize any equitable or legal remedy to prevent and/or cure any breach or threatened breach of this Agreement. The Arbitrator's decision shall be final and binding as to all parties signatory to this Agreement.

9.7 The cost of the Arbitrator and the court reporter, and any cost to pay for facilities for the hearing, shall be borne equally by the parties to the grievance. All other costs and expenses in connection with the grievance hearing shall be borne by the party who incurs them.

9.8 The Arbitrator's decision shall be confined to the issue(s) posed by the grievance, and the Arbitrator shall not have the authority to modify, amend, alter, add to or subtract from any provision of this Agreement.

9.9 Any party to a grievance may invite the District to participate in resolution of a grievance. The District may, at its own initiative, participate in Steps 1 through 3 of the grievance procedure.

9.10 In determining whether the time limits of Steps 2 through 4 of the grievance procedure have been met, a written referral or request shall be considered timely if it is personally delivered, sent by overnight mail or faxed within the five (5) working day period. Any of the time periods set forth in this Article may be extended in writing by mutual consent of the parties to the grievance, and any written referral or request shall be considered timely if it is personally delivered, sent by overnight mail or faxed during the extended time period.

ARTICLE 10

EMPLOYEE REPRESENTATION AND REFERRAL

10.1 The Employers recognize the Unions as the sole bargaining representatives of all craft employees performing Covered Work under this Agreement. Authorized representatives of the Unions shall have reasonable access to the Project whenever work covered by this Agreement is being, has been, or will be performed on the Project. All authorized representatives of the Unions must comply with the required check-in procedure prior to visiting the work area.

10.2 Employees are not required to become or remain union members as a condition of performing Covered Work under this Agreement. Employers shall make and transmit all deductions for union dues, fees, and assessments that have been authorized by employees in writing in accordance with the applicable Master Agreement. Nothing in this Section 10.2 is intended to supersede the requirements of applicable Master Agreements as to those Employers otherwise signatory to such Master Agreements and as to the employees of those Employers who are performing Covered Work.

10.3 In filling craft job requirements, Employers performing Covered Work shall utilize and be bound by the registration facilities and referral systems established or authorized by the Unions ("Job Referral System"). Such Job Referral System shall be operated in a non-discriminatory manner and in full compliance with all federal, state, and local laws and regulations, including those which require equal employment opportunities and non-discrimination. The Employers shall have the right to reject any applicant referred by the Unions in accordance with this Article 10.

10.4 The Employers shall have the unqualified right to select and hire directly all supervisors above general foreman it considers necessary and desirable, without such persons being referred by the Unions.

10.5 In the event that referral facilities maintained by the Union are unable to fill the requisition of an Employer for employees within a forty-eight (48) hour period (Saturdays, Sundays and Holidays excluded) after such requisition is made by the Employer, the Employer shall

be free to obtain such workers from any source. An Employer who hires any personnel to perform Covered Work on the Project pursuant to this Section shall immediately provide the appropriate Union with the name and address of such employee(s) and shall immediately refer such employee(s) to the appropriate Union to satisfy the requirements of this Article 10.10.6 Unions will exert their utmost efforts to recruit sufficient numbers of skilled and trained craft persons to fulfill the requirements of the Contractor/Employer(s). On Projects governed by Education Code sections 17250.25 and 17407.5, the Unions shall consider a Contractor's request to transfer skilled and trained employees to work on Projects in a manner consistent with the Union's referral procedures.

10.7 Subject to the limitation of applicable law and the hiring hall procedures of the Unions, the Parties to this Agreement mutually support the development of increased numbers of skilled construction workers from District graduates and the residents of the City of Sacramento specifically and from the residents of Sacramento County generally, to meet the needs of the Projects and the requirements of the industry generally. To facilitate this goal, the Unions agree to encourage the referral and utilization of qualified District graduates and the City of Sacramento and Sacramento County residents as journeypersons and apprentices on the Projects.

ARTICLE 11

REFERRAL-LOCAL COMMUNITY WORKFORCE PROVISIONS

11.1 Contractors performing Covered Work on the Project shall, in filling craft job vacancies, utilize and be bound by the registration facilities and referral systems established or authorized by the Unions signatory to this Agreement. The Union will exert and document their best efforts to recruit and identify residents of the Local Area, in a manner that is consistent with the District's Core Value and Guiding Principle, and those individuals shall be referred for Project work first, to the extent allowed by law, and consistent with the Union's hiring hall provisions, and as long as they possess the requisite skills and qualifications, including journeymen and apprentices covered by this Agreement.

11.2 The Job Referral System shall be operated in a non-discriminatory manner and in full compliance with all federal, state, and local laws and regulations, including those which require equal employment opportunities and non-discrimination. The Contractor(s) shall have the right to reject any applicant referred by the Union(s), in accordance with the applicable Master Agreement. The Unions shall be the primary source of all craft labor employed on the Project, however, a Contractor with a core workforce may request by name, and the local Union shall honor, referral of such Contractor's regular and experienced personnel ("Core Employees") who have applied to the applicable Union to perform Covered Work on the Project. For purposes of this Agreement, a Core Employee is a person who meets all the following:

(l) Possesses any license required by state or federal law for the Project work to be performed;

(2) Worked a total of at least one thousand (l ,000) hours in the construction craft during the prior two (2) years;

(3) Has been on the Contractor's active payroll for at least ninety (90) out of the one hundred and twenty (120) calendar days prior to the contract award; and

(4) Has the ability to perform safely the basic functions of the applicable trade.

11.3 The Union will refer to such Contractor one journeyman employee from the hiring hall out-of-work list for the affected trade or craft and will then refer one of the Contractor's Core Employees as a journeyman, until such Contractor has hired six (6) Core Employees, whichever occurs first. Thereafter, all additional employees in the affected trade or craft shall be hired exclusively from the hiring hall out-of-work list(s). For the duration of the Contractor's work on the Project, the ratio shall be maintained. When such Contractor's workforce is reduced, employees shall be reduced in the same one for one ratio of Core Employees to hiring hall referrals as was applied in the initial hiring. Contractors that are signatory to a Master Agreement with Union(s) signatory hereto must comply with the hiring hall provisions contained in the applicable Master Agreement, and nothing in the referral provisions of this Agreement shall be construed to supersede the local hiring hall provisions of the Master Agreement(s) as they apply to such Contractors.

11.4 In the event the referral facilities maintained by the Unions do not refer the employees as requested by the Contractor within a forty-eight (48) hour period after such requisition is made by the Contractor (Saturdays, Sundays and holidays excepted), the Contractor may employ applicants from any source. Contractors shall immediately notify and provide the appropriate Union(s) with the name and address of such gate-hires, who shall be bound by the provisions of this Article.

It is in the interest of the parties to this Agreement to facilitate employment of District and Local Area residents, including parents, guardians or other care givers of students attending the District's schools, and to use resources in the Local Area in construction of a Project. The "Local Area" shall be defined as the area within the boundaries of the District, the City of Sacramento, Sacramento County, and the nine counties outlined in section 1.8.4, in priority order outlined in section 1.8. To the extent allowed by law, and consistent with the Union's hiring hall provisions, and as long as they possess the requisite skills and qualifications, residents of the Local Area shall be first referred for Project work, including journeymen and apprentices covered by this Agreement. It is the goal of the parties that not less than fifty (50) percent of all hours worked on the Project, on a craft-by-craft basis, be worked by residents of the Local Area (including fifty (50) percent of the total hours worked by any Core Employees). The Union shall provide a list of individuals referred for Project work and their applicable zip code of residence to the District, upon request. Contractors will be required to submit certified weekly payroll records to the District along with monthly workforce utilization reports documenting the Contractor's compliance with the requirements described in this Article. At a minimum, the monthly reports must include data on Local Area resident work hour utilization on the Project. An annual report shall be submitted to the Board on the number of workers employed, or contracted for,

within the Local Area. Provisions of this article shall be an item for discussion at each Pre-Job Conference outlined in Article.

ARTICLE 12

MUTUAL COMMITMENT TO SUPPORTING EDUCATIONAL AND CAREER DEVELOPMENT OPPORTUNITIES FOR DISTRICT STUDENTS

12.1 The Parties agree that this Agreement is also intended to formalize partnerships between the Unions and the District to support the educational and career development of the District's students, and to help develop the next generation of skilled construction workers. The Parties agree to support District Construction and Design Academies or Pathways within the District ("Academy" or "Pathway") in order to carry out the training and employment objectives of this Agreement, including providing District students with the opportunities and skills necessary to enter post-secondary study and to pursue lifelong training within the broader context of the building trades industry, and to develop and reinforce academic course standards in order to maximize career opportunities and technical competency. The Parties agree to the following actions in order to implement this mutual commitment.

12.2 Contractors shall employ apprentices in the respective drafts to perform such work as is within their capabilities and which is customarily performed by the craft in which they are indentured. The Parties agree that apprentices may comprise up to twenty (20) percent of each craft's workforce at any time, unless the state approved apprenticeship standards or regulations or the applicable Master Agreement establish a lower maximum percentage.

12.3 The Union shall provide speakers at District Academies, at no cost to the District, through the Multi-Craft Core Curriculum (MC3) program and at other mutually agreed upon school functions and events.

12.4 In order to facilitate the goals of the Academy, the District and Council agree to create an Advisory Board for the Luther Burbank High School Construction and Design Academy, American Legion High School's Residential and Commercial Construction Academy (collectively "High Schools"), Rosemont High School Engineering , Construction and Design, and participate in the District-level Pathway Advisory Board, which will conduct meetings as determined by the District during the school year to develop the goals of the Academy; plan for the presentation and content of training lectures to facilitate employable skills in the construction trades; develop a summer schedule for training; organize and develop summer internship positions; assist in planning curriculum scope and sequencing; design cocurricular activities; identify sources for educational and financial support; and otherwise initiate steps to carry out the goals of the Academy.

12.4.1 The High School Advisory Boards shall consist of the appropriate membership as outlined by current regulations and requirements placed upon the District. The Advisory Board, in coordination with the District's Career Services representative, shall develop and implement a plan for annual assessment of the goals and

objectives to maximize the employability of students and District graduates, including summer internship opportunities. A quorum for the Advisory Board meeting shall be at least one member representing the building trades JATCs; one member representing the Council; and one member representing the District.

12.4.2 The Academy Advisory Board will collaborate with post-graduate training programs, such as the Northern California Construction Training and American River College's Stripe Program, in order to assist graduates in obtaining an internship into a JATC.

12.4.3 The training and employment program of the interns shall be developed by the Academy Advisory Board such that graduating interns shall possess the skills, training, and educational background to help the graduate achieve priority on the lists of the building trades to the degree allowed under each JATC's application process including those programs that allow direct entry. It is recognized that the Apprenticeship Programs operate according to existing Standards approved by the California Department of Industrial Relations, Division of Apprenticeship Standards, and the standards set forth in the collective bargaining agreements for each building trades union and that any such priority shall be in accordance with such Standards and agreements.

12.5 The Parties agree to meet and identify additional mutually agreed upon specific actions to meet these goals, including, but not limited to, consideration of: (1) measures to facilitate teacher training in Multi-Craft Core Curriculum (MC3); (2) measures to provide student employment opportunities through externships, internships and/or post-graduation apprenticeship placement; (3) measures to provide hands-on training opportunities for students; (4) measures to facilitate identification of funding sources to provide recent women, minoritized and low-income District graduates scholarships or assistance in the purchase of tools and other equipment needed for apprenticeship programs; (5) support to identify and find funding for a Pre-Apprentice / Internship / Apprenticeship Coordinator to assist District Academies. These additional commitments shall be set forth in a Memorandum of Understanding (MOU) to this Agreement ("Union Educational and Career Development Support MOU"). Parties agree to meeting twice before August 1, 2022, and throughout the month of August to identify the mutually agreeable terms of the MOU and shall finalize the MOU no later than September 1, 2022.

12.6 The Union shall provide the District with an annual report by June 30 of each year on the implementation of the provisions set forth in this Article and in the Union Educational and Career Development Support MOU. The report shall provide any information requested by the District to assist the District in reporting work-based learning indicator on the State of California's College and Career Dashboard.

ARTICLE 13

NON-DISCRIMINATION

13.1 The Unions and Contractors shall not discriminate against any employee or applicant for employment because of race, creed, color, sex, sexual orientation, political affiliation, national origin, age, religion, Vietnam veteran or Vietnam Era status, disability as identified in the Americans with Disabilities Act, membership in a labor organization in hiring and dispatching workers for the Project, or any other basis recognized by law. The parties to this Agreement understand and agree that nothing in this Agreement shall supersede or take precedence over any District Board of Education policy or requirement including, but not limited to, the construction contract and general conditions for the Project.

13.2 All qualified (as determined by the District and applicable law) contractors and subcontractors may bid and be awarded work on a Project without regard to whether they are otherwise parties to collective bargaining agreements provided they comply with the provisions of this Agreement.

ARTICLE 14

HOURS OF WORK SHIFTS AND HOLIDAYS

14.1 The standard workday shall be in accordance with the applicable Master

Agreements. Common start times may be established by the Contractor during the standard workday established by the applicable Master Agreements. The standard work week shall be five (5) consecutive days of work commencing on Monday. Nothing herein shall be construed as guaranteeing any employee eight (8) hours of work per day or forty (40) hours of work per week.

14.2 Common shifts may be established when considered necessary by the Contractor. The Contractor shall provide at least one week notice to the Council prior to any change in shift time. Any shifts established shall continue for the established work week.

14.3 Recognized holidays shall be in accordance with the applicable Master Agreements. Under no circumstances shall any work be performed on Labor Day except in cases of emergency involving life or property. In the event a holiday falls on Saturday, the previous day, Friday, shall be observed as such holiday. In the event a holiday falls on Sunday, the following day, Monday, shall be observed as such holiday. There shall be no paid holidays. If employees are required to work on a holiday, they shall receive the appropriate rate, but in no case shall such overtime rate be more than double the straight time rate.

ARTICLE 15

GENERAL PROVISIONS

15.1 If any article or provision of this Agreement shall become invalid, inoperative and/or unenforceable by operation of law or by declaration of any competent authority of the executive, legislative, judicial or administrative branches of the federal or state government, the District, the Contractors and the Council shall suspend the operation of such article or provision during the period of its invalidity, and the District and the Council shall negotiate in its place and stead an article or provision that will satisfy the objections to its validity and that, to the greatest extent possible, will be in accord with the intent and purpose of the article or provision in question. The new article or provision negotiated by the District and the Council shall be binding on all parties signatory to this Agreement.

15.2 If any article or provision of this Agreement shall be held invalid, inoperative or unenforceable by operation of law, or by any of the above-mentioned tribunals of competent jurisdiction, the remainder of the Agreement or application of such article or provision to persons or circumstances other than to which it has been held invalid, inoperative or unenforceable shall not be affected thereby.

15.3 Except as enumerated in this Agreement, all other terms and conditions of employment described in the Master Agreement of the Union having traditional and customary jurisdiction over the Covered Work shall apply.

15.4 The provisions of this Agreement shall take precedence over conflicting provisions of any Master Agreement or any other national, area or local collective bargaining agreement, except for all work performed under the NTL Articles of Agreement, the National Stack/Chimney Agreement and the National Cooling Tower Agreement. In addition, all instrument calibration work and loop checking Covered Work shall be performed under the terms of the UA/IBEW Joint National Agreement for Instrument and Control Systems Technicians, and work within the craft jurisdiction of the Elevator Constructors will be performed under the terms of the National Agreements of the International Union of Elevator Constructors. Notwithstanding the provisions of this section, Articles 5, 6 and 9 of this Agreement shall apply to all Covered Work.

15.5 Each person executing this Agreement represents and warrants that he or she is authorized to execute this Agreement on behalf of the party or parties indicated.

15.6 This Agreement may be executed in any number of counterparts, and each counterpart shall be deemed to be an original document. All executed counterparts together shall constitute one and the same document, and any signature pages may be assembled to form a single original document.

15.7 To the fullest extent consistent with the applicable Master Agreement and trust agreement, it is agreed that any liability under this Agreement by District, the Council, a Union, or any other Contractor shall be several and not joint. Any alleged breach of this Agreement by a party shall not affect the rights, liabilities, obligations, and duties among the other parties or between that party and any other party.

ARTICLE 16

HELMETS TO HARDHATS

16.1 The Contractors and Unions recognize a desire to facilitate the entry into the building and construction trades of veterans and members of the National Guard and Reserves who are interested in careers in the building and construction industry. The Contractors and Unions agree to utilize the services of the Center for Military Recruitment, Assessment and Veterans Employment (hereinafter "Center"), a joint Labor-Management Cooperation Trust Fund, established under the authority of Section 6(b) of the Labor-Management Cooperation Act of 1978, 29 U.S.C. Section 175(a), and Section 302(c)(9) of the Labor-Management Relations Act, 29 U.S.C. Section and a charitable tax exempt organization under Section 501 (c)(3) of the Internal Revenue Code, and the Center's "Helmets to Hardhats" program to serve as a resource for preliminary orientation, assessment of construction aptitude, referral to apprenticeship programs or hiring halls, counseling and mentoring, support network, employment opportunities and other needs as identified by the parties.

16.2 The Unions and Contractors agree to coordinate with the Center to create and maintain an integrated database of veterans and members of the National Guard and Reserves interested in working on this Project and of apprenticeship and employment opportunities for this Project. To the extent permitted by law, the Contractors and Unions will give credit to such veterans and members of the National Guard and Reserves for bona fide, provable past experience.

ARTICLE 17

DURATION OF AGREEMENT; MID-TERM ASSESSMENT

17.1 This Agreement shall remain in full force and effect for a period of five (5) years from the date approved by the Board of Education on June 9, 2022. Notwithstanding the term of the Agreement as set forth above, the Agreement will continue to apply until the completion of all Covered Work pursuant to Section 2.1 where the initial bid for any Construction Contract for a Project is awarded or approved by the Board on or before the date the Agreement terminates.

17.2 At the two-year mark, a mid-term assessment, including mutually agreed upon metrics, shall be reported to the Board.

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SIGNATURES

Sacramento City Unified School District

Christine Pritchett Date: 8/5/22

Name: Christine Pritchett

Title: SCUSD Board President

Sacramento-Sierra Building and

Construction Trades Council

DocuSigned by:
Kevin Ferreira
B4C87250B34241A... Date: _____

Name: Kevin Ferreira

Title: Executive Director

Sacramento-Sierra Building and

Construction Trades Council

Karl Pineo Date: 7-29-22

Name: Karl Pineo

Title: President

Sacramento-Sierra Building and

Construction Trades Council

Todd Schiavo

Date: 8/2/2022

Name: Todd Schiavo

Title: Vice-President

UNIONS

DocuSigned by:
6C910C1A0D294D5...
Asbestos Workers Local #16

DocuSigned by:
Karl Pines
CD7DE50D9167457...
Iron Workers Local #118

DocuSigned by:
Dave Tafoya
D48B5A45BA76425...
Bricklayers Local #3

DocuSigned by:
Doyle Radford Jr.
C20514D4BD51437...
Laborers Local #185

DocuSigned by:
Randy Thomas
C23CEC6C30BC44A...
Boilermakers Local #549

Operating Engineers Local #3

DocuSigned by:
Cody Bik
4F8BF44AA19D47C...
Cement Masons Local #400

DocuSigned by:
BB5F4751AD96435...
Plasterers & Cement Masons Local #300

DocuSigned by:
C10D2576816641F...
Asbestos, Lead and Mold Laborers Local #67

DocuSigned by:
Felipe Hernandez
16EECB2BF4504BA...
UA of Journeymen & Apprentices of the Plumbing & Pipe Fitting Ind. Local #355

DocuSigned by:
Robert Williams III
0D9AD26FD7DF4CE...
District Council #16 International Union of Painters & Allied Trades

DocuSigned by:
Todd Schiavo
9CC33EC099FB4FA...
Plumbers & Pipefitters Local #447

DocuSigned by:
Matthew Russo
B9EDEF97DCC4462...
Elevator Constructors Local #8

DocuSigned by:
Morgan Nolde
09D284A82D354D7...
Roofers Local #81

DocuSigned by:
Bob Ward
C0069C1D0CA54AC...
International Brotherhood of Electricians Local #340

DocuSigned by:
Rick Werner
73EA33F8D61046A...
Sheet Metal Workers Local #104

DocuSigned by:
9BF3BF3C681649A...
Sprinkler Fitters Local #669

DocuSigned by:
Conor Tobin
BC6F45A38B6746A...
Teamsters Local #150

Northern California Carpenters Regional Council on behalf of itself and its affiliated Local Unions

UNIONS

Asbestos Workers Local #6

Bricklayers Local #3

Boilermakers Local #549

Carpenters 46 Northern California Counties Conference Board

Cement Masons Local #400

District Council #16 International Union of Painters & Allied Trades

District Council of Plasterers & Cement Masons of Northern California

Drywall/Latherers Local #9109

International Brotherhood of Electricians Local #340

Laborers Local #185

Millwrights Local #102

Northern California District Council of Laborers

Operating Engineers Local #3

Plasterers & Cement Masons Local #300

Pile Drivers Local #34

Plumbers & Pipefitters Local #447

Roofers Local #81

Sheet Metal Workers Local #104

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ATTACHMENT A

PROJECT LABOR AGREEMENT

Project:
Bid Number:

AGREEMENT TO BE BOUND

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

The undersigned hereby certifies and agrees that:

1.) It is a Contractor as that term is defined in Section I .7 of the Sacramento City Unified School District Agreement ("Agreement") because it has been, or will be, awarded a contract or subcontract to assign, award or subcontract Covered Work (as defined in Section 2.3) on the Project (as defined in Section 1.9), or to authorize another party to assign, award or subcontract Covered Work, or to perform Covered Work.

2.) In consideration of the award of such contract or subcontract, and in further consideration of the promises made in the Agreement and all attachments thereto (a copy of which was received and is hereby acknowledged), it accepts and agrees to be bound by the terms and conditions of the Agreement, together with any and all amendments and supplements now existing, or which are later made thereto.

3.) If it performs Covered Work, it will be bound by the legally established trust agreements designated in local master collective bargaining agreements, and hereby authorizes the parties to such local trust agreements to appoint trustees and successor trustee to administer the trust funds, and hereby ratifies and accepts the trustees so appointed as if made by the undersigned.

4.) It has no commitments or agreements that would preclude its full and complete compliance with the terms and conditions of the Agreement.

5.) It will secure a duly executed Agreement to be Bound, in form identical to this document, from any Contractor(s) at any tier or tiers with which it contracts to assign, award, or subcontract Covered Work, or to authorize another party to assign, award or subcontract Covered Work, or to perform Covered Work, and it will provide a copy of such executed Agreement to be Bound to the Sacramento-Sierra Building & Construction Trades Council within fifteen (15) days of such contracting or subcontracting in accordance with Section 3.2 of the Agreement.

DATED: _____ Name of Contractor _____

_____

(Authorized Officer & Title)

_____

_____

(Address)

Section 01 31 00 - PROJECT MANAGEMENT INTERNET COMMUNICATION REQUIREMENTS

NOT USED

Section 01 31 19 - PROJECT MEETINGS & PROCEDURES

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. The District Representative will schedule and administer a preconstruction meeting, regular progress meetings, and specially called meetings throughout progress of the Work, and will:

1. Prepare agenda for meetings.
2. Make physical arrangements for meetings.
3. Preside at meetings.
4. Record the minutes; include significant proceedings and decisions.
5. Reproduce and distribute copies of minutes after each meeting to participants in the meeting and to parties affected by decisions made at meeting.

B. Representatives of Contractor, Subcontractors and suppliers attending meetings shall be experienced supervisory staff with written authorization to act on behalf of the entity each represents.

1.02 PRECONSTRUCTION MEETING

A. Timing: Prior to start of construction.

B. Attendance: Architect and consultants as appropriate, District Representative, Contractor, Project Inspector and Subcontractors when required by District to attend.

C. Purpose: Discuss and familiarize Contractors with construction administrative procedures to be used on the Project.

1.03 PROGRESS MEETINGS

A. Timing: Frequency, day and time to be determined by the District Representative, Architect and District.

B. Attendance: District Representative and each contractor on site; Architect, consultants, Project Inspector, and Subcontractors when required.

C. Purpose: The purpose of these meetings is to provide a formal and regular forum for the District, District Representative, Architect/Engineer and the Contractors to present questions, problems or issues that need to be addressed. It will also provide an opportunity to review the progress on previous issues and action items along with submittal and schedule review.

D. Each Contractor scheduled to commence Work within the following week will attend the current week's meeting to coordinate Work with other contractors already on site.

1.04 SPECIALLY CALLED MEETINGS

A. The District Representative may call a special meeting at any time during the course of the Project. Special Project meetings shall include representatives of the Project as requested in order to discuss problems and/or solutions that are common to the Project.

END OF SECTION

Section 01 35 16 - ALTERATION PROJECT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Products and installation for patching and extending Work.

B. Transition and adjustments.

C. Repair of damaged surfaces, finishes, and cleaning.

D. Salvage materials.

1.02 RELATED SECTIONS

A. Section 01 73 29 - Cutting and Patching.

B. Section 02 41 00 - Minor Demolition for Remodeling.

1.03 ALTERATIONS, CUTTING AND PROTECTION

A. Assign the work of moving, removal, cutting and patching, to trades qualified to perform the work in manner to cause least damage to each type of work, and provide means of returning surfaces to appearance of new work.

B. Perform cutting and removal work to remove minimum necessary, and in a manner to avoid damage to adjacent work.

1. Cut finish surfaces such as concrete, masonry, drywall, plaster or metals, by methods to terminate surfaces in a straight line at a natural point of division, or where indicated.

C. Protect existing finishes, equipment, and adjacent work, which are scheduled to remain, from damage.

1. Protect existing and new' work from extremes of temperature.
   a. Maintain existing Interior work above 60 degrees F
   b. Provide heat and humidity control as needed to prevent damage to remaining existing work and to new work.

D. Provide temporary enclosures to separate work areas from existing building and from areas occupied by the District.

PART 2 PRODUCTS

2.01 PRODUCTS FOR PATCHING AND EXTENDING WORK

A. New Materials. As specified in product Sections; match new materials to existing work.

1. Provide same products or types of construction as that in existing structure, as needed to patch, extend or match existing work.

2. Presence of a product, finish, or type of construction, requires that patching, extending or matching shall be performed consistent to, or better than, existing standards of quality.

B. Type and Quality of Existing Products: Determine by inspection and testing existing products where necessary, referring to existing Work as a standard.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that demolition is complete, and areas are ready for installation of new Work.

B. Beginning of restoration Work means acceptance of existing conditions.

3.02 PREPARATION

A. Cut, move, or remove items as necessary for access to alterations and/or renovation Work. Replace and restore at completion. The full extent of cutting and patching is not shown or specified. The Contractor shall perform all cutting and patching as required.

B. Remove unsuitable material not marked for salvage, such as rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.

C. Remove debris and abandoned items from area and from concealed spaces.

D. Prepare surface and remove surface finishes to provide for proper installation of new work and finishes.

3.03 INSTALLATION

A. Coordinate work of alterations and renovations to expedite completion and to accommodate District occupancy. Patch and extend existing work using skilled mechanics that are capable of matching existing quality of workmanship. Quality of patched or extended work shall be not less than that Specified for new work.

B. Room Finishes. Complete in all respects consistent with the Contract Documents.

C. Remove, cut, and patch Work in a manner to minimize damage and to provide a means of restoring Products and finishes to specified condition.

D. Install Products as specified In Individual Sections.

3.04 TRANSITIONS

A. Where new Work abuts or aligns with existing, perform a smooth and even transition.

B. Patch Work to match existing adjacent Work in texture and appearance, without breaks, steps or bulkheads.

C. When finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect.

3.05 ADJUSTMENTS

A. Where change of plane of 1/4 inch or more occurs, submit recommendation for providing a smooth transition.

B. Where extreme change of plane of two inches or more occurs, request Instructions from Architect as to method of making transition.

C. Trim existing doors as necessary to clear new threshold Installation. Refinish trim as required.

D. Fit work at penetrations of surfaces as shown on drawings.

3.06 SALVAGED MATERIALS

A. Salvaged Materials from existing facilities, which are specified in the Special Provisions, identified in bid doc's or tagged in the field are to be salvaged and shall remain the property of the District. The Contractor shall include the removal, disassembly, preparation, marking, bundling, packaging, tagging, hauling, and stockpiling of salvaged materials or facilities to the location specified in the Special Provisions, or as directed by the District Representative. Materials include, but are not limited toparts, articles, and equipment of assembled facilities. Salvaging does not include the preparation of existing material that is to be reused in the work.

B. When only specific materials from the facility are designated to be salvaged, the remaining materials from that facility shall be removed and disposed of as provided for elsewhere in the Contract Documents. Materials to be salvaged shall not be removed until their use in the existing facility is no longer required, as determined by the District Representative.

C. When practicable, salvaged materials shall be hauled directly to the location specified in the Special Provisions and stockpiled; however, salvaged materials may be temporarily stored at a location selected by the Contractor and approved by the District Representative and later hauled to and stockpiled at their final location. Materials which are lost before stockpiling at their final location shall either be replaced by the Contractor, at the Contractor's expense, or, at the discretion of the District Representative, the estimated cost of replacement may be deducted from any moneys due or to become due to the Contractor.

D. Materials designated to be salvaged that are damaged, as determined by the District Representative, shall be segregated from undamaged material. After review of the damaged materials by the District Representative, all damaged materials that are rejected by the Districts Representative shall become the property of the Contractor and shall be disposed of as provided elsewhere in the Contract Documents.

E. Materials to be salvaged that are damaged as a result of the Contractor's operations shall be repaired by the Contractor, at the Contractor's expense, to the satisfaction of the District Representative. Materials that are damaged beyond repair as a result of the Contractor's operations shall be disposed of as provided elsewhere in the Contract Documents and replaced at the Contractor's expense; or, at the discretion of the District Representative, the estimated cost of replacement may be deducted from any moneys due or to become due to the Contractor.

F. Replacements for lost or damaged materials shall be of the same kind and of the same or better quality and condition as the lost or damaged materials were prior to their removal. Replacement materials should also be of the same size, color, weight etc. of the original materials. Matching or exceeding quality and condition alone may not permit the reuse of material.

3.07 REPAIR OF DAMAGED SURFACES

A. Patch or replace portions of existing surfaces, which are damaged, lifted, discolored, or showing other imperfections.

B. Repair substrate prior to patching finish.

3.08 FINISHES

A. Finish surfaces as specified in Individual Product Sections.

B. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest Intersections.

C. Unless otherwise specified or shown, subsurfaces shall be prepared as recommended by finish material manufacturers for project conditions for the proper application of new finishes.

3.09 CLEANING

A. Clean adjacent Owner-occupied areas of work soiled by work of this contract (See General Conditions Section 00 72 00, Article 19).

END OF SECTION

Section 01 41 00 - ADDITIONAL REQUIREMENTS FOR DSA-REVIEWED PROJECTS

NOT USED

Section 01 45 00 - QUALITY CONTROL

PART 1- GENERAL

1.01 SECTION INCLUDES

A. Quality assurance and control of installation.

B. References.

C. Field samples.

D. Mock-up.

E. Inspection and testing laboratory services.

F. Manufacturers' field services and reports.

1.02 RELATED SECTIONS

A. Section 00 72 00-General Conditions, Article 11- Submittals

B. Technical Specifications

1.03 QUALITY ASSURANCE/CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce Work of specified quality.

B. Comply fully with manufacturers' instructions, including each step-in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.

D. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Perform work by persons qualified to produce workmanship of specified quality.

F. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

G. Contractor’s Line of Authority: Contractor shall provide one person who shall be both knowledgeable and responsible for all work to be performed on this project at all times during normal work hours. In Contractors absence, Contractors appointed representative shall be responsible for all directions given him/her and said directions shall be binding as if given to the Contractor. Contractor’s representative shall be responsible to coordinate all work to be performed.

H. Shop and fieldwork shall be performed by mechanics skilled and experienced in the fabrication and installation of the work involved. All work on this project shall be done in accordance with the best practices of the various trades involved and in accordance with the drawings, approved shop drawings and these specifications.

I. All work shall be erected and installed plumb, level, square and true and in proper alignment and relationship to the work of other trades. All finished work shall be free from defects. The Architect, Engineer, District and its representatives reserves the right to reject any materials and workmanship which are not considered to be up to the highest standards of the various trades involved. Such Inferior material or workmanship shall be replaced by the Contractor at no additional cost to the District and without an extension of the Contract Time.

J. All work shall be installed by a knowledgeable contractor and defined "certified to install" by the specified materials manufacturers. The specifications and recommendations of the manufacturer whose materials are used shall be strictly adhered to during the application or installation of materials.

K. Any additional work beyond that specified or illustrated, or any modification thereto, that is necessary for the furnishing of guarantee shall be provided by the Contractor without additional cost to the District.

1.04 REFERENCES

A. Conform to reference standards by date of issue current on date of the Contract Documents.

B. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.

C. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

D. The Contractor shall be responsible for being current and knowledgeable of all building codes involved for all trades under his direction.

E. Provide all work and materials in full accordance with the California Building Standards Administrative Code, the California Building Code (CBC), California Electrical Code (CEC), California Mechanical Code (CMC), California Plumbing Code (CPC), California Energy Code, California Fire Code (CFC), California Referenced Standards, State Fire Marshal Regulations, Cal/OSHA, and any other applicable laws or regulations. Nothing in these plans or specifications is to be construed to permit work not conforming to these Codes

F. Furnish without extra charge any additional material and labor required to comply with these Rules and Regulations.

1.05 FIELD SAMPLES

A. Install field samples at the site as required by individual specifications Sections for review.

B. Acceptable samples represent a quality level for the Work.

C. Where field sample is specified in Individual Sections to be removed, clear area after field sample has been accepted by Architect.

1.06 MOCK-UP

A. Assemble and erect specified items, with specified attachment and anchorage devices, flashings, seals, and finishes.

B. Where mock-up is specified in Individual Sections to be removed, clear area after mock-up has been accepted by Architect.

1.07 INSPECTION AND TESTING LABORATORY SERVICES

A. The District will appoint, employ, and pay for services of an independent firm approved by the Structural Engineer, Architect and Division of the State Architect (DSA) to perform special inspection and testing.

B. The Independent firm will perform special inspections, tests, and other services specified in Individual specification Sections and as required by the Architect.

C. Reports will be submitted by the independent firm to the Architect, Owner and DSA, indicating observations and results of tests and indicating compliance or noncompliance with Contract Documents.

D. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage and assistance as requested.
1. Notify Architect and independent firm 24 hours prior to expected time for operations requiring services.
2. Make arrangements with independent firm and pay for additional samples and tests required for Contractors use.

E. The special inspector shall perform inspection of all work to determine conformance with these Standards.
1. Request for inspection must be made to the office of the special inspector a minimum of 24 hours in advance of the time the inspection is desired.
2. Underground work shall not be backfilled or covered until an inspection by the special inspector or his representative has been completed and the work approved. Any work that is covered without inspection shall be uncovered at the Contractors expense so an inspection can be made.
3. The Engineer shall have access to the work at all times and shall be furnished every reasonable facility for ascertaining that the work done, materials used and workmanship performed are in accordance with the requirements of these Standards.
4. Inspection of the work shall not relieve the Contractor of any of its obligations to satisfactorily perform the work.

F. Re-testing required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by the Architect. Payment for re-testing will be charged to the Contractor by deducting inspection or testing charges from the Contract Price.

G. An Inspector of record shall be employed by The District and approved by Architect, Structural Engineer, and DSA.

1.08 MANUFACTURERS' FIELD SERVICES AND REPORTS

A. Submit qualifications of observer to Architect 30 days in advance of required observations.

B. When specified in individual specification Sections, require material or Product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust, and balance of equipment as applicable, and to initiate instructions when necessary.

C. Individuals to report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

D. Submit report in duplicate within 30 days of observation to Architect for review.

PART 2 - PRODUCTS - Not Used
PART 3 - EXECUTION - Not Used

END OF SECTION

Section 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

ARTICLE 1. GENERAL

SECTION 1.01 WORK INCLUDED

Temporary Facilities and controls required for this Work include, but are not necessarily limited to:

1. Temporary water, power, light, and heat.
2. Field office and associated telephone and utilities.
3. Temporary weather protection.
4. Parking and storage areas.
5. Site fencing and security.
6. Sanitary facilities.
7. Dewatering.
8. Storm Water Run-Off Plan Compliance
9. Final and course of construction cleanup and removal of debris.
10. Erosion Control.
11. Emergency power and water shut-off.

SECTION 1.02 TEMPORARY UTILITIES

General: Charges for the use of utility services other than those associated with individual field offices or planned electrical service interruptions will be paid for by the District. Each Contractor shall provide temporary heating, or ventilating, or cooling when permanent services are interrupted due to performance of their Work. Each Contractor shall provide temporary means of operation for existing storm, water, sewer, gas, mechanical, electrical, and low voltage systems during construction. Any planned interruption of permanent services, facilities, or operations must be coordinated and approved in advance with the District Representative.

Temporary Power:
Each Contractor shall construct all temporary power facilities required to complete Bid Package scope of Work and maintain in accordance with Division of Industrial Safety "Electrical Safety Orders" (ESO), Public Utilities Commission "Rules of Overhead Line Construction" (G.O. 95), and CAL-OSHA. Materials, devices and equipment used for these facilities shall be in good and safe condition but need not be new. Contractor is responsible for the removal of the temporary power. Existing school electric outlets may be utilized, if permitted by the District and authorized by the District Representative. Any additional power required shall be provided and paid for by the contractor.

Temporary Lighting:
Each Contractor shall provide, maintain, and remove temporary lighting necessary to complete the Bid Package Scope of Work.

Temporary Heat:
Each Contractor shall provide, maintain, and remove temporary heat necessary to complete Bid Package Scope of Work.

Temporary Water:
Each Contractor shall provide sufficient hose to carry water to every required part of construction and allow use of water facilities to Subcontractors engaged in Work. Contractor is also responsible for the removal of the temporary water. Existing school water outlets may be utilized. Any additional water required shall be provided by the Contractor.

Temporary Telephone:
Each Contractor shall provide their own telephone system. Use of District telephones will not be allowed.

Temporary Fire Protection:
Each Contractor shall provide and maintain fire extinguishers and first aid kits in accordance with OSHA requirements to be used in the event of an emergency.

Temporary Weather Protection:
Each Contractor shall provide and maintain protection measures and Best Management Practices to ensure that damage(s) will not occur to District property during course of construction and protect the District from State Water Resources Control Board actions.

Temporary Dewatering:
Each Contractor shall provide and maintain a dewatering system as required to perform its/their Work. This temporary dewatering system may, and should, be reviewed by the Architect and/or the District Representative.

SECTION 1.03 FIELD OFFICE/STORAGE CONTAINERS

If desired, the Contractor may provide a temporary field office(s) or storage container(s). Locate field office(s)/storage container(s) as directed by the District Representative. Upon completion of Work, Contractor shall remove any and all temporary field office(s) and storage container(s).

SECTION 1.04 PARKING OF VEHICLES

Each Contractor shall assume **all** responsibility for job site vehicle parking of his and his Subcontractor's vehicles. Locations of parking shall be as directed by the District Representative. School sites may not accommodate on-site parking of construction personnel vehicles. Contractor shall assure compliance with all applicable requirements for on-street vehicle parking.

SECTION 1.05 STORAGE AND LAYDOWN AREAS

The District Representative will coordinate use of available laydown areas among various contractors. Only areas designated by the District Representative can be used by Contractors. Each contractor is responsible for providing his own fenced storage facilities (trailers or cargo containers.)

SECTION 1.06 TEMPORARY SITE FENCING AND SECURITY

Each Contractor shall provide and maintain temporary fencing surrounding the buildings and/or rooms under construction, and staging areas. Set-up/relocation of temporary fencing shall be included for each phase of work as shown on the Preliminary Construction Schedule. Contractor is responsible for the security of all equipment, material, and completed construction items. Contractor is also responsible for securing any breeches to existing security system/building caused by his Work. Temporary measures may include watchman, temporary doors, temporary alarm, etc.

SECTION 1.07 SANITARY FACILITIES

Each Contractor shall provide sanitary toilet facilities for use of all Workers employed on Project, in accordance with State and Local health departments. Use of District toilet facilities will not be allowed.

SECTION 1.08 CLEAN UP AND REMOVAL OF DEBRIS

Each Contractor shall assume all responsibility for cleanup and removal of debris created by his Scope of Work on a daily basis. No community dumpsters will be provided. In the event unidentifiable job site clutter or debris becomes a problem, at the District Representative's request, each contractor shall provide sufficient labor to be directed by the District Representative's personnel in a group cleanup effort. If a Contractor’s clean-up is found to be deficient, the District may backcharge the Contractor for clean-up and/or withhold progress payments as determined appropriate by the District in accordance with Section 12.06, Para E, General Conditions Section 00 72 00.

SECTION 1.09 TEMPORARY CONSTRUCTION, EQUIPMENT AND PROTECTION

Contractor shall provide, maintain and remove upon completion of Work, all temporary rigging, scaffolding, hoisting equipment, rubbish chutes, ladders, barricades, lights and all other protective structures or devices necessary for safety of Workers and public property as required to complete the Bid Package Scope of Work.

Safety: The contractor is responsible for the complete safety of district personnel, students, and the general public at all times.

Walkways and barricades: If Contractor's portion of Work interferes with pedestrian traffic, provide pedestrian walkway protection conforming to City standards and CAL OSHA requirements.

Access: The contractor is responsible to maintain access to the buildings at all times. Temporary covered walkways and/or barricades may be required.

Protection: Each Contractor must protect all Workers and equipment from power lines by maintaining safe distances and by providing protective devices where and as required by Industrial Safety Commission and CAL-OSHA.

Temporary construction and equipment: All temporary construction and equipment shall conform to all regulations, ordinances, laws and other requirements of State and any other authorities having jurisdiction (including insurance companies), with regards to safety precautions, operations and fire hazards.

SECTION 1.10 EROSION CONTROL

If any soil will be disturbed as part of the scope or course of work, the Contractor must protect disturbed area from erosion and protect the storm drain system from contamination.

- For projects requiring a SWPPP based on State Water Resource Control Board (SWRCB) requirements a SWPPP will be provided by the District unless otherwise stated in the project documents. Projects available for an Erosivity Waiver will have such filed by the District unless otherwise stated in the project documents. All projects, whether under the control of a SWPPP or not shall maintain Best Management Practices to ensure the limiting of erosion and sedimentation. Under no circumstances shall sediment be allowed to leave the project site.
- The contractor shall retain a Qualified SWPPP Practitioner (QSP) to inspect the construction site to ensure compliance with the SWPPP and SWRCB requirements. The Contractor shall implement all measures required by the QSP.
- During the course of the Contract the Contractor shall file all necessary documentation with the SWRCB. At the completion of the contract the Contract the Contractor shall file a Notice of Termination with the SWRCB and provide documentation of such to the District.

SECTION 1.11 EMERGENCY POWER AND WATER SHUT-OFF

The Contractor is responsible to know where all water and power shut-off devices are located and to have the proper tools to operate shut-off valves. The Contractor shall post a site map in a location readily available to workers.

SECTION 1.12 STORM WATER RUN-OFF PLAN:
Not Applicable.

PART 2 - PRODUCTS
Not Used
PART 3 - EXECUTION
Not Used

END OF SECTION

Section 01 71 23 - FIELD ENGINEERING & SURVEY CONTROLS

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. Contractor to provide and pay for field engineering services required for the execution of Work, including, but not limited to:

1. Survey Work required in execution of the Bid Package Work scope.
2. Civil, structural or other professional engineering services specified, or required to execute Contractor's construction methods.

B. Provide field staking of site improvements included in Bid Package; identify existing survey reference points and property line corner stakes indicated on Drawings.

C. Locate and be aware of all existing on-site utility lines and improvements.

1.02 QUALIFICATIONS OF SURVEYOR OR ENGINEER

A. Qualified California registered professional engineer or registered land surveyor, acceptable to Contractor and the District Representative.

B. Registered professional engineer of discipline required for specific service on Project, licensed in State of California.

1.03 SUBMITTALS:

A. Submit name, address, and license of surveyor and professional engineer to the District Representative.

1.04 PROJECT SURVEY REQUIREMENTS

A. Establish and maintain lines and levels as necessary to locate and layout entire scope of Work in Bid Package.

B. Preserve and protect all on-site underground utilities lines and existing on-site improvements in the area of construction.

END OF SECTION

Section 01 73 29 - CUTTING AND PATCHING

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Execute cutting, fitting or patching of Work, required to:
   1. Make parts fit properly.
   2. Uncover Work to provide for installation of ill-timed Work.
   3. Remove and replace Work not conforming to requirements of Contract Documents.
   4. Remove and replace defective Work.
   5. Remove samples of installed Work as specified for testing.
   6. Remove existing materials (demolition) required prior to installation of specified Work.
   7. Uncover Work to provide for Architect's observation of covered Work.

B. Do not endanger structural integrity of any Work by cutting or altering any part of it.

C. The Contractors with structural responsibility within their scope of Work shall solely execute structural cutting and patching required for this Project, according to DSA Approved Drawings.

D. Minor cutting and patching of finishes and/or trim will be performed by the Contractor where required for the execution of his Work. Locations of all cutting and patching (core boring, etc.) shall be reviewed and approved by the Architect prior to the start of Work.

E. The Contractor shall make the field measurements necessary for its Work and be responsible for its accuracy. Also, should any structural difficulties prevent a Contractor from installing its material properly, the District Representative and Architect shall be notified in writing within 24 hours. Cutting into the walls, ceilings and floors, if necessary, shall be carefully and neatly performed and then be repaired as specified in the Contract Documents. The Architect shall be consulted prior to the start of Work in all cases where cutting into a structural portion of the building is either desirable or necessary so that satisfactory reinforcement may be provided.

F. Patching of all exposed architectural finishes shall be performed under the supervision of the Inspector. Cutting and patching of existing architectural finishes shall be minimized to the extent possible through careful routing and placement of new Work. The Architect or Inspector shall have the authority to reject substandard or unacceptable patching.

G. Patching of openings that are cut in any fire rated walls or membranes shall be sealed tightly using approved materials only. Verify that fire rating envelopes are maintained and inspections provided prior to concealing Work. Cutting and patching, if required by Agencies to verify adequacy of protection after concealment, shall be performed at no cost to the District.

1.02 RELATED SECTIONS

A. Section 00 72 00 - General Conditions.

B. Section 00 73 00 - Special Provisions.

C. Section 01 35 16 - Alteration Project Procedures.

D. Section 01 45 00 - Quality Control.

E. Section 01 50 00 - Construction Facilities and Temporary Controls.

1.03 SUBMITTALS

A. Prior to cutting which affects structural safety of Project, submit written notice to Architect requesting consent to proceed with cutting. See items “C” and “E”, Section 1.01.

B. Should conditions of Work or schedule require change of materials or methods, submit written recommendation to Architect, within 48 hours, including:
   1. Conditions requiring change.
   2. Recommendations for alternative materials or methods.
   3. Submittals as required for substitutions.
   4. Quotations of charges or credits.

C. Submit 48-hour advance written notice to Architect (with a copy to the District Representative) designating the time Work will be uncovered.

D. Submit all materials to be used in cutting and patching in accordance with Specification Section 00 72 00.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Primary Products: Materials for replacement of Work removed are to comply with Technical Specifications and are required to match original installation.

B. Product Substitution: For any proposed change in materials, submit request for substitution in accordance with Specification Section 00 72 00.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine existing conditions prior to commencing Work, including elements subject to movement or damage during cutting and patching.

B. After uncovering existing Work, examine conditions affecting installation of new products and performance of Work.

C. Beginning of cutting or patching operations means acceptance of existing conditions.

3.02 PREPARATION

A. Provide means of shoring, bracing and temporary supports as required to maintain structural integrity of the Work.

B. Provide devices, enclosures and methods to protect adjacent surfaces and areas of the property from damage, dust or disruption.

C. Provide protection from the elements for areas, which may be exposed during cutting or patching.

D. Maintain excavations free of water.

3.03 CUTTING

A. Execute cutting, fitting and adjustment of products to permit finished installation to comply with specified tolerances and finishes.

B. Perform cutting and demolition by methods, which will prevent damage to other Work, and will provide proper surfaces to receive installation of repairs and new Work.

C. Uncover Work to install improperly sequenced Work.

D. Remove and replace defective, rejected or non-conforming Work.

E. Remove samples of installed Work for testing when requested.

F. Provide openings in the Work for penetration of Mechanical and Electrical Work.

G. Employ only experienced installers to perform cutting for weather exposed, moisture resistant and sight-exposed surfaces.

H. Cut concrete, tile plaster and other rigid materials using masonry/concrete saws and core drills. Pneumatic tools are not allowed without prior approval.

3.04 PATCHING

A. Execute patching to match adjacent Work.

B. Fit products together to integrate seamlessly with adjacent Work.

C. Execute patching by methods to avoid damage to adjacent Work, and which will provide appropriate surfaces to receive finishing Work.

D. Employ only experienced installers to perform patching for weather exposed, moisture resistant and sight-exposed surfaces.

E. Restore Work with new products in accordance with requirements of the Contract Documents.

F. At penetrations of fire rated walls, partitions, ceiling or floor construction, completely seal voids with approved fire rated material in accordance with the manufacturers installation instructions and applicable Codes.

G. Fit Work to pipes, sleeves, ducts, conduits and other penetrations through affected surfaces neatly and leave in finished condition.

H. All patched surfaces are to match adjacent finishes in all respects: Type, texture, thickness and color. For continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit or area.

END OF SECTION

SECTION 01 57 13

EROSION CONTROL

PART 1 - GENERAL

1.01 SUMMARY

A. General: Provide all materials, equipment and labor necessary to furnish and install straw wattles at locations shown on the Drawings and on Contractors Storm Water Pollution Prevention Plan.

B. The Contractor shall as a minimum address:

1. Cut and fill operations.
2. Temporary stockpiles.
3. Vehicle and equipment storage, maintenance and fueling operations.
4. Concrete, plaster, mortar and paint disposal.
5. Dust control.
6. Tracking of dirt, mud on off-site streets.
7. Erosion Controls
8. Sediment Controls

1.02 QUALITY ASSURANCE

. General: Comply with governing codes and regulations.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Straw Wattles: Shall be new manufactured straw roles in compliance with state requirements for sediment control.

A. Filter Bag: Shall be as required by local jurisdiction.

PART 3 - EXECUTION

3.01 INSTALLATION

A. All BMPS shall be installed per the drawings, CASQA standards and as required throughout construction.

3.02 MAINTENANCE AND REMOVAL:

A. General: Maintain and repair existing and new erosion control facilities throughout the construction period. Remove silt build up at straw wattles and/or silt fences as needed. Repair damage to earth slopes and banks. Erosion control measures shall be left in place until hydroseed is placed.

B. Cleaning: Keep area clean of debris.

C. Remove all sediment control measures following site stabilization.

END OF SECTION

SECTION 02 41 00

SITE DEMOLITION

PART 1 – GENERAL

1.01 SUMMARY

A. RELATED SECTIONS

1. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.
2. Section 01 50 00 - Construction Facilities and Temporary Controls.
3. Section 01 50 13 - Construction Waste Management and Disposal.
4. Section 31 00 00 - Earthwork.

1.02 REGULATORY REQUIREMENTS

A. Conform to applicable jurisdictional authority regulations and codes for disposal of debris.

B. Coordinate clearing Work with utility companies

C. Maintain emergency access ways at all times.

D. Contractor shall comply with all applicable laws and ordinances regarding hazardous materials, including contaminated soils, hazardous material transformers, and similar materials or components.

1.03 SUBMITTALS:

A. Schedule: Submit a detailed sequence of demolition and removal work, including dates for shutoff, capping, and continuance of utility services.

B. Procedures: Submit written procedures documenting the proposed methods to be used to control dust and noise.

1.04 EXISTING CONDITIONS

A. ***Examination is required at two separate address while site demolition is anticipated to only be required at one of the addresses.***
   1. ***The two addresses are: 4140 Cuny Ave, Sacramento, CA 95823 – investigation only as site demo is to be covered by contractor already on site. 6490 Harmon Dr., Sacramento, CA 95831 – full site demo in this contract.***

B. Contractor shall acquaint himself with all site conditions. If unknown active utilities are encountered during work, notify Architect promptly for instructions. Failure to notify will make Contractor liable for damage to these utilities arising from Contractor's operations subsequent to discovery of such unknown active utilities.

C. Conduct demolition to minimize interference with adjacent structures or items to remain. Maintain protected egress and access at all times.

1.05 PROTECTION

A. Adequate protection measures shall be provided to protect workmen and passers-by on and off the site. Adjacent property shall be fully protected throughout the operations. Blasting will not be permitted. Prevent damage to adjoining improvements and properties both above and below grade. Restore such improvements to original condition should damage occur. Replace trees and shrubs outside building area disturbed by operations.

B. In accordance with generally accepted construction practices, the Contractor shall be solely and completely responsible for working conditions at the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and shall not be limited to normal working hours.

C. Safety Precautions Prevent damage to existing elements identified to remain or to be salvaged, and prevent injury to the public and workmen engaged on site. Demolish roofs, walls and other building elements in such manner that demolished materials fall within foundation lines of building. Do not allow demolition debris to accumulate on site. Pull down hazardous work at end of each day; do not leave standing or hanging overnight, or over weekends.

1. Protect existing items which are not indicated to be altered. Protect utilities designated to remain from damage.
2. Protect trees, plant growth, and features designated to remain as final landscaping as shown on drawings.
3. Protect benchmarks from damage or displacement.

D. Trees: Carefully protect existing trees that are to remain. Provide temporary irrigation as necessary to maintain health of trees.

E. Fire Safety: The contractor shall conform to chapter 33 of the California Fire Code (CFC), "Fire Safety During Construction and Demolition”, at all times during the construction process. A copy of this chapter can be provided.

F. Any construction review of the Contractor's performance conducted by the Geotechnical Engineer is not intended to include review of the adequacy of the Contractor's safety measures, in, on, or near the construction site.

G. Surface Drainage: Provide for surface drainage during period of construction in manner to avoid creating nuisance to adjacent areas. The contractor shall make a reasonable effort on a daily basis to keep all excavations and the site free from water during entire progress of work, regardless of cause, source, or nature of water.

H. Adjacent streets and sidewalks shall be kept free of mud, dirt or similar nuisances resulting from earthwork operations.

I. The site and adjacent influenced areas shall be watered as required to suppress dust nuisance. Dust control measures shall be in accordance with the local jurisdiction.

PART 2 - PRODUCTS

Not Used

PART 3 – EXECUTION

3.01 EXAMINATION

A. Examine conditions of work in place before beginning work, report defects.

B. Report existence of hazardous materials or unsafe structural conditions.

3.02 PREPARATION

A. Scheduling:

1. General: Coordinate and schedule demolition work as required by the Owner and as necessary to facilitate construction progress.

B. Hazardous Materials:

1. General: Identify chemicals, gases, explosives, acids, flammables, or other dangerous materials before proceeding with demolition operations, and notify such jurisdictional agencies as may be required. Collect and legally dispose of such materials at official disposal locations away from the site.
2. Asbestos: If asbestos or materials containing asbestos are encountered, stop work immediately and contact the Owner. Do not proceed with demolition until directed by Owner.

C. Utility and Service Termination

1. Locate and identify existing utility, service and irrigation system components affected by work of this contract. Review existing record drawings, conduct site investigations, contact Underground Service Alert and other qualified cable/pipe/line locator services, and implement all other means necessary to define the location of underground systems.
2. Prior to beginning any demolition, properly disconnect all water, gas and electrical power supply at appropriate disconnect locations. Obtain all necessary releases and approvals from serving utility companies.
3. Prior to demolition or disconnect, obtain Owner’s approval that such system does not impact facilities or systems beyond the extent of this contract.
4. Mark location of disconnected systems. Identify and indicate stub-out locations on Project Record Documents.

D. Verify that existing plant life and features designated to remain are tagged or identified.

1. The Architect will mark the features, trees, and shrubs to remain within the construction area. Contractor shall not commence clearing and grubbing operations until authorized by the Owner and all protective measures are in place.

E. Coordinate the time and duration of all system disconnects with Owner.

3.03 DEMOLITION

A. General Requirements

1. Clear areas required for access to site and execution of Work, including pavements, structures, foundations, vegetation, trash and debris.
2. Coordinate with Owner the time of day and route to remove demolished materials from premises.
3. Remove demolished materials from site as work progresses. Upon completion of work, leave areas of work in clean condition.
4. Remove all buried debris, rubble, trash, or other material not deemed suitable by the Geotechnical Engineer.
5. Fill all voids or excavations resulting from clearing, demolition, or removal of vegetation with specified fill material.

B. Fixture and Equipment Removal:

1. Remove existing fixtures and equipment as identified and shown on drawings and required by Architect.
2. Verify all service connections to fixtures and equipment designated for removal have been properly disconnected.
3. Remove all conductors from conduit at all abandoned circuits.

C. Play Equipment Removal:

1. Remove existing play equipment as identified and shown on drawings and required by Architect.
2. Coordinate salvage rights with District for individual components, fasteners, slides, etc. prior to demolition and removal from site.

3.04 UTILITY AND BUILDING SERVICES REMOVAL AND RE-INSTALLATION

A. Where crossing paths and potential points of interference with existing utility services are shown or can be reasonably inferred from surface conditions or evidence of subsurface systems, such as meter boxes, vaults, relief vents, cleanouts and similar components.

1. Review all contract documents showing crossing paths and potential points of interference.
2. Pothole or determine by other means the accurate depth and location of such utilities.
3. Incorporate all costs required to complete work under this contract, including additional trenching, re-routing of existing and new utilities, and all means necessary to construct work under this contract.

4. No additional cost to the Owner will be allowed for work necessary to accommodate utility conflicts where such crossing paths are shown on contract drawings or can be reasonably inferred from surface conditions or components.

B. Remove all conductors from conduit at all abandoned electrical circuits.

C. Seal off ends of all piping, drains and other components as directed by Architect and serving utility.

D. Where necessary to maintain service to existing utility and building systems, relocate or redirect all conduit and conductors, piping, drains, and associated system components.

1. Re-circuit all electrical as required.
2. Re-circuit all landscape irrigation valving and control systems as required.
3. Temporarily terminate landscape system components in approved boxes or with approved caps, suitable for re-connection or extension.
4. Extend or otherwise modify all site drainage systems, including catch basins, drain inlets and piping. Fine grade to maintain proper drainage flow pattern to drains.

E. Demolish structure in an orderly and careful manner.

1. Use of explosives prohibited.

3.05 SITE PAVEMENT REMOVAL

A. Remove sidewalk and curb where required for new construction as specified and as indicated on the Drawings.

1. Remove all paving by saw-cutting.
2. Remove concrete paving and curbing at locations shown on drawings. Locate closest adjacent expansion or weakened plane joint to define start of removal or saw-cutting.

B. Remove asphalt concrete paving areas where required for new construction as specified and as indicated on the Drawings.

1. Remove all paving by saw-cutting.
2. Remove paving assembly as required to expose subgrade.

3.06 LANDSCAPE AND IRRIGATION SYSTEMS DEMOLITION AND RENOVATION

A. Clearing, grubbing, and planting demolition.

1. Remove grass and grass roots to a minimum depth of two inches below existing grade.
2. Remove all shrubs, plants and other vegetation within the area of the work unless designated to remain. Grub and remove all roots of all vegetation to a depth of 24 inches below existing grade.
3. Remove only those trees which are specifically designated for removal, or as shown on the drawings, within the construction area. Remove all stumps. Remove root ball and root systems larger than 1 inch in diameter to a depth of two feet below existing or finished grades,

whichever is lower and a minimum of five feet beyond the edge of paving, structure, wall or walkway.

4. Hand cut existing tree roots over 1 inch in diameter as necessary for trenching or other new construction, apply multiple coats of emulsified asphalt sealant especially made for horticultural use on cut or damaged plant tissues to cut faces and adjacent surfaces. Cover exposed roots with wet burlap to prevent roots from dying out until backfilling is complete.
5. Disking and mixing of vegetation, trash, debris, and other deleterious materials with surface soils prior to grading is not permitted.
6. Remove all buried debris, organic material, rubble, trash, or other material not deemed suitable by the Geotechnical Engineer.
7. Fill all voids or excavations resulting from clearing, demolition, or removal of vegetation with fill material in compliance with Section 31 00 00.
8. Selected equipment of such sizes and capacities that the existing environment is disturbed as little as possible, and to afford ease of mobility within limited and relatively confined work areas. Make every effort to preserve the topography in its natural state.
9. Keep drains, catch basins, surface drainage courses and related drainage system components clear of debris and construction materials.
10. Remove irrigation piping and appurtenances as necessary within area of work, unless noted otherwise to remain. Replace irrigation piping and appurtenances to irrigate new and/or existing landscaping. Contractor shall be responsible for temporary landscape irrigation until such time that irrigation system is restored and operational.

3.07 DISPOSAL

Demolished materials become property of the Contractor and shall be removed from premises, except those items specifically listed to be retained by Owner.

A. Dispose of all demolished material, trash, debris, and other materials not used in the work in accordance with the regulations of jurisdictional authority.

B. It is recommended that all materials that are of a recyclable nature, be transported to a suitable legal recycling facility instead of a dump or refuse facility (unless they are one-in-the same).

C. Burning and Burying of Materials: NOT ALLOWED.

D. Haul Routes:

1. Obtain permits as required by jurisdictional agencies. Establish haul routes in advance, post flagmen for the safety of the public and workmen.
2. Keep streets free of mud, rubbish, etc.; assume responsibility for damage resulting from hauling operations; hold Owner free of liability in connection therewith.

E. Remove demolished materials and debris from site on a daily basis.

3.08 CLEANING

A. Upon completion of work of this Section promptly remove from the working area all scraps, debris.

B. Clean excess material from surface of all remaining paved surfaces and utility structures.

C. Power wash all concrete surfaces to remove stains, dried mud, tire marks, and rust spots.

END OF SECTION

SECTION 02 41 19

SELECTIVE BUILDING DEMOLITION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Section Includes:

1. Demolition of non-structural items in an existing classroom.
   a. ***Scope to include demolition from classroom building to be relocated of all VCT floor tile and t-bar ceiling tiles. T-bar grid to remain and be separated at module line.***
   b. Sawcut and remove the bottom 12" of T-1-11 siding around perimeter of building at dry roted areas.
   c. Refer to the contract drawings for electrical items to be removed from the building and not reused.

2. Demolition of roof top equipment and modifications to roof for new units.

B. Related Requirements:

1. Section 02 41 00 "Site Demolition" for partial demolition of buildings, structures, and site improvements.

1.03 DEFINITIONS

A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged.

B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and store. Include fasteners or brackets needed for reattachment elsewhere.

1.04 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.

1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.05 PREINSTALLATION MEETINGS

A. Pre-demolition Conference: Conduct conference at Project site.

1. Inspect and discuss condition of construction to be demolished.
2. Review structural load limitations of existing structures.
3. Review and finalize building demolition schedule and verify availability of demolition personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review and finalize protection requirements.
5. Review procedures for noise and dust control.
6. Review procedures for protection of adjacent buildings.
7. Review items to be salvaged and returned to Owner.

1.06 INFORMATIONAL SUBMITTALS

A. Qualification Data: For refrigerant recovery technician.

B. Engineering Survey: Submit engineering survey of condition of building.

C. Proposed Protection Measures: Submit report, including Drawings, which indicates the measures proposed for protecting individuals and property. Indicate proposed locations and construction of barriers.

D. Schedule of Building Demolition Activities: Indicate the following:

1. Detailed sequence of demolition work, with starting and ending dates for each activity.
2. Temporary interruption of utility services.
3. Shutoff, capping or re-routing of utility services.

E. Pre-demolition Photographs or Video: Show existing conditions of adjoining construction and site improvements, including finish surfaces, which might be misconstrued as damage caused by demolition operations. Submit before the Work begins.

F. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

1.07 CLOSEOUT SUBMITTALS

A. Inventory: Submit a list of items that have been removed and salvaged.

1.08 QUALITY ASSURANCE

A. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.

1.09 FIELD CONDITIONS

A. Buildings to have demolition will be vacated and their use discontinued before start of the Work.

B. Buildings immediately adjacent to demolition area will be occupied. Conduct building demolition so operations of occupied buildings will not be disrupted.

1. Provide not less than 72 hours' notice of activities that will affect operations of adjacent occupied buildings.
2. Maintain access to existing walkways, exits, and other facilities used by occupants of adjacent buildings.

a. Do not close or obstruct walkways, exits, or other facilities used by occupants of adjacent buildings without written permission from authorities having jurisdiction.

C. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

1. Before demolition, Owner will remove the following items:

a. Furniture and rugs
b. Supplies from storage rooms
c. Book shelves shall be emptied and decorative or educational items shall be removed from walls.

E. Hazardous Materials: Present in buildings and structures to be demolished. A report on the presence of hazardous materials is on file for review and use. Examine report to become aware of locations where hazardous materials are present.

1. Hazardous material remediation is specified elsewhere in the Contract Documents.
2. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents.
3. Owner will provide material safety data sheets for materials that are known to be present in buildings and structures to be demolished because of building operations or processes performed there.

F. On-site storage or sale of removed items or materials is not permitted.

1.10 COORDINATION

A. Arrange demolition schedule so as not to interfere with Owner's on-site operations or operations of adjacent occupied buildings.

PART 2 – PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ASSE A10.6 and NFPA 241.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Verify that utilities have been disconnected and capped as needed before starting demolition operations.

B. Review Project Record Documents of existing construction or other existing condition and hazardous material information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.

C. Verify that hazardous materials have been remediated before proceeding with building demolition operations.

D. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.

3.03 PREPARATION

A. Refrigerant: Before starting demolition, remove refrigerant from mechanical equipment according to 40 CFR 82 and regulations of authorities having jurisdiction.

3.04 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Utilities to be Disconnected: Locate, identify, disconnect, and seal or cap off utilities serving area of demolition.

1. Owner will arrange to shut off utilities when requested by Contractor.
2. If removal, relocation, or abandonment of utility services will affect adjacent occupied buildings, then provide temporary utilities that bypass buildings and structures to be demolished and that maintain continuity of service to other buildings and structures.

3.05 PROTECTION

A. Existing Facilities: Protect adjacent walkways, loading docks, building entries, and other building facilities during demolition operations. Maintain exits from existing buildings.

B. Existing Utilities to Remain: Maintain utility services to remain and protect from damage during demolition operations.

1. Do not interrupt existing utilities serving adjacent occupied or operating facilities unless authorized in writing by Owner and authorities having jurisdiction.

2. Provide temporary services during interruptions to existing utilities, as acceptable to Owner and authorities having jurisdiction.

    a. Provide at least 72 hours' notice to occupants of affected buildings if shutdown of service is required during changeover.

C. Temporary Protection: Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction and as indicated.

1. Protect adjacent buildings and facilities from damage due to demolition activities.
2. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
3. Provide protection to ensure safe passage of people around building demolition area and to and from occupied portions of adjacent buildings and structures.
4. Protect walls, windows, roofs, and other adjacent exterior construction that are to remain and that are exposed to building demolition operations.

D. Remove temporary barriers and protections where hazards no longer exist.

3.06 DEMOLITION, GENERAL

A. Site Access and Temporary Controls: Conduct building demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed trafficways if required by authorities having jurisdiction.
2. Use water mist and other suitable methods to limit spread of dust and dirt. Comply with governing environmental-protection regulations. Do not use water when it may damage adjacent construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.

B. Explosives: Use of explosives is not permitted.

3.07 DEMOLITION BY MECHANICAL MEANS

A. Remove debris from elevated portions of the building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

B. Salvage: Items to be removed and salvaged are indicated on Drawings.

1. Doors and door hardware.
2. Projector Screens.
3. Tackboards.
4. Marker boards.
5. Plumbing fixtures.

3.09 REPAIRS

A. Promptly repair damage to adjacent buildings caused by demolition operations.

3.10 DISPOSAL OF DEMOLISHED MATERIALS

A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Do not burn demolished materials.

3.11 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by building demolition operations. Return adjacent areas to condition existing before building demolition operations began.

1. Clean roadways of debris caused by debris transport.

END OF SECTION

SECTION 03 10 00

CONCRETE FORMING AND ACCESSORIES

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:
1. Formwork for cast-in-place concrete, with shoring, bracing, and anchorage.
2. Openings for other affected work.
3. Form accessories.
4. Stripping forms.

B. Related Sections:
1. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.
2. Section 03 20 00 – Concrete Reinforcing.
3. Section 03 30 00 – Cast-In-Place Concrete.
4. Section 32 16 00 – Site Concrete.

1.02 REFERENCES

A. CBC - California Building Code, (CCR) California Code of Regulations, Title 24, Part 2, Chapter 19A.

B. ACI 301 - Specifications for Concrete Construction.

C. PS-1-95 - Construction and Industrial Plywood.

1.03 SYSTEM DESCRIPTION

A. Design, engineer, and construct formwork, shoring, and bracing to meet design and code requirements, so that resultant concrete conforms to required shapes, lines, and dimensions.

1.04 QUALITY ASSURANCE

A. Construct and erect concrete formwork in accordance with ACI 301.

B. Regulatory Requirements:
1. Conform to CBC - California Building Code, (CCR) California Code of Regulations, Title 24, Part 2.

1.05 SUBMITTALS

A. Submit under provisions of Section 01 33 00.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Plywood: PS-1-95, BB Plyform grade, Class I, Exterior classification. Supply in large sheets of adequate thickness to support the imposed loads, but in no case less than 5/8" thick. General locations and finish levels as noted:
   1. Concrete not exposed to view: APA Plyform or clean and sound 1x8 sawn lumber.
   2. Smooth Concrete exposed to view: APA Plyform.
   3. Fiber Forms: Tubular column type spirally constructed of laminated plies of fiber.
   4. Elevated Floor/Roof Slabs: At discretion of the Contractor.
   5. Extruded Polystyrene Foam: board or shaped as required.

B. Lumber: Douglas Fir species; construction grade; with grade stamp clearly visible. Forms may be used for concrete surfaces that are unexposed and require no further surface applied materials. Lumber, if used, shall be clean and sound 2x (height as required) No. 2 grade or better.

C. Form Coating: Form shall be coated with nongrain-raising and non-staining types of form coating that will not leave a residual matter on the face of the concrete or adversely affect proper bonding of any subsequent paint or other surface applications. Form coating containing mineral oils or other non-drying materials will not be permitted for any concrete work.

D. Form Ties: Snap off metal of fixed length: leaving no metal within 1-1/2 inches of surface and no fractures, spalls or other surface defects larger than one-inch diameter; manufactured by Burke, Dayton Superior, or accepted equal.

E. Spreaders: Metal (no wood permitted).

2.02 ACCESSORIES

A. Form Ties: Snap-off metal of adjustable length; cone type; 1 inch break back dimension; free of defects that will leave holes no larger than 1 inch diameter in concrete surface.

B. Form Release Agent: Colorless material which will not stain concrete, absorb moisture, or impair natural bonding or color characteristics of coating intended for use on concrete.

C. Fillets for Chamfered Corners: Wood strips type; 3/4 x 3/4-inch size; maximum possible lengths.

D. Flashing Reglets: 26-gauge thick galvanized steel; longest possible lengths; release tape sealed slots; with alignment splines for joints; securable to concrete formwork; Type CO reglet manufactured by Fry Reglet www.fryreglet.com.

E. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages: Sized as required; of strength and character to maintain formwork in place while placing concrete.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verity lines, levels, and measurements before proceeding with formwork.

3.02 PREPARATION

A. Obtain Architect's approval for use of earth forms for footings.

B. Minimize form joints. Symmetrically align joints and make watertight to prevent leakage of mortar.

C. Arrange and assemble formwork to permit stripping, so that concrete is not damaged during its removal.

D. Arrange forms to allow stripping without removal of principal shores, where required to remain in place.

3.03 APPLICATION

A. Form Release Agent
   1. Apply form release agent on formwork in accordance with manufacturer's instructions. Apply prior to placing reinforcing steel, anchoring devices, and embedded items.
   2. Do not apply form release agent where concrete surfaces are scheduled to receive applied coverings which may be affected by agent. Soak contact surfaces of untreated forms with clean water. Keep surfaces wet prior to placing concrete.

3.04 CONSTRUCTION

A. Build and erect forms to conform to the required shapes, patterns, lines, grades and dimensions indicated. Forms shall be substantial and tight to prevent any leakage of mortar, properly braced and tied together to maintain their position and shape. Forms shall not deflect under the dead load weight of the plastic concrete or construction loads. Joints in forming material shall be butted tightly and shall bear on solid construction. Provide tool edges where indicated. Completed form work to be checked for grade and alignment to tolerances not exceeding 1/4” in 10’-0” for top of forms and not more than 1/4” in 10’-0” for vertical face.

B. Cast-in Items: Set in formwork all new sleeves, inserts, anchors, and similar items furnished and required under the work of other sections. Brace, anchor and support cast-in-items to prevent displacements and distortions.

C. Clean forms after each use and coat with release agent as required.

D. Space clamps, ties, hangers, and other form accessories so that working capacities are not exceeded by loads imposed from concrete or concreting operations.

E. Build openings into vertical forms at regular intervals if necessary to facilitate concrete placement, and at bottoms of forms to permit cleaning and inspection.

F. Build in securely braced temporary bulkheads, keyed as required, at approved locations of construction joints.

G. Slope tie-wires downward to outside of wall.

H. During and immediately after concrete placing, tighten forms, posts, and shores. Readjust to maintain grades, levels, and camber.

A. Inserts, Embedded Parts, And Openings
   1. Provide formed openings where required for work embedded in or passing through concrete.
   2. Coordinate work of other Sections in forming and setting openings, slots, recesses, chases, sleeves, bolts, anchors, and other inserts.
   3. Install accessories in accordance with manufacturer's instructions, level and plumb. Ensure items are not disturbed during concrete placement.

B. Earth Forms
   1. Construct wood edge strips at top sides of excavations as indicated on drawings.
   2. Provide forms for footings and foundation walls wherever concrete cannot be placed against solid earth.
   3. Remove loose dirt and debris from form area prior to concrete placement.
   4. Concrete for foundations may be placed directly into neat excavations provided the foundation trench walls are stable as determined by the Architect (Structural Engineer) subject to the approval of The Division of the State Architect.
   5. When earth formed foundations are used, the minimum formwork shown on the drawings is mandatory to insure clean excavations prior to and during concrete placement.

C. Form Removal
   1. Do not remove forms and bracing until concrete has sufficient strength to support its own weight and imposed loads.
   2. Do not damage concrete surfaces during form removal.
   3. Store reusable forms for exposed architectural concrete to prevent damage to contact surfaces.
   4. Remove formwork in same sequence as concrete placement to achieve similar concrete surface coloration.
   5. Do not remove forms until concrete has gained sufficient strength to carry its own weight and imposed loads and not displace.

3.05 CLEANING

A. Clean forms to remove foreign matter as erection proceeds.

B. Ensure that water and debris drain to exterior through clean-out ports.

END OF SECTION

SECTION 03 20 00

CONCRETE REINFORCING

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:

1. Reinforcing steel bars, welded steel wire fabric fabricated steel bar or rod mats for cast-in-place concrete.
2. Support chairs, bolsters, bar supports, and spacers, for supporting reinforcement.
3. Fibrous secondary reinforcement for light weight concrete topping.

B. Related Sections:

1. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.
2. Section 03 10 00 – Concrete Forming and Accessories.
3. Section 03 30 00 – Cast-In-Place Concrete.
4. Section 32 16 00 – Site Concrete.

1.02 REFERENCES

A. CBC - California Building Code, (CCR) California Code of Regulations, Title 24, Part 2, Chapter 19A (ACI 318).

B. ACI 301 - Specifications for Concrete Construction.

C. ACI 315 (SP-66) – Guide to Presenting Reinforcing Steel Design Details.

D. ACI 318 - Building Code Requirements for Structural Concrete and Commentary.

E. ASTM A1064-24 - Standard Specification for Steel Wire, Plain, for Concrete Reinforcement.

F. ASTM A1064-24- Welded Steel Wire Fabric for Concrete Reinforcement.

G. ASTM A615-24 - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.

H. ASTM A706-24 - Standard Specification for Deformed and Plain Low-Alloy Steel Bars for Concrete Reinforcement.

I. ASTM C1116-23 - Standard Specification for Fiber-Reinforced Concrete.

J. AWS D1.4 - Structural Welding Code - Reinforcing Steel.

K. CRSI - Manual of Practice.

L. CRSI - Placing Reinforcing Bars.

1.03 QUALITY ASSURANCE

A. Perform concrete reinforcement work in accordance with CASI Manual of Standard Practice.

B. Conform to ACI 301 and ACI 315 (SP-66).

C. Conform to CBC California Building Code, (CCR) California Code of Regulations, Title 24, Part 2.

1.04 SUBMITTALS

A. Submit under provisions of Section 01 33 00.

B. Submit mill test certificates of supplied concrete reinforcing, indicating physical and chemical analysis, to testing laboratory.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Items as identified on the drawings and as otherwise specified herein.

B. Reinforcing Bars: ASTM A615-24 with Supplement S1, marked "S", Grade 60 for #4 bar and larger, Grade 60 for bars smaller than #4.

C. Welded Reinforcement: ASTM A706, Grade 60, deformed bars, unfinished.

D Welded Steel Wire Fabric: ASTM A1064-24 plain type; coiled rolls; uncoated finish. Furnish 6x6 W2.1xW2.1 welded wire fabric in flat sheets; rolls will not be allowed.

E. Steel Wire: ASTM A1064-24, plain, cold drawn steel.

2.02 ACCESSORIES

A. Tie Wire: Minimum 16-gauge annealed type.

B. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for strength and support of reinforcement during installation and placement of concrete including load bearing pad on bottom to prevent vapor barrier puncture. Comply with CRSI “Recommended Practice for Placing Bar Supports, Specifications and Nomenclature, Latest Edition”.

C. Chairs, Bolsters, Bar Supports, Spacers Adjacent to Architectural Concrete Surfaces: Plastic coated sized and shaped as required. Wood is not permitted as supports for reinforcing. Concrete dobies allowed at foundations and footings only.

2.03 FABRICATION

A. Fabricate in accordance with CRSI manual.

B. Steel reinforcement shall not be bent or straightened in a manner that will injure the material. Bars with kinks or bends not shown on the Drawings shall not be used. Heating of the bars for bending will not be permitted. Rebar shall not be field bent or straightened without SEOR review.

1. Spacers and chairs shall be as specified or detailed and spaced such that steel reinforcement will be carried without deflection. Chairs shall center reinforcing vertically at center of slab thickness.
2. Concrete blocks or “dobies” may be used to support bottom layer of steel in floor slabs on grade.
3. Bars shall be in long lengths with laps and splices as shown. Offset laps 8'-0" in adjacent bars. Place steel with clearances and cover as shown. Bar laps shall be as indicated on the drawings. Tie all laps and all intersections with specified wire. Maintain clear space between parallel bars not less than 1-1/2 times nominal diameter for round bars, but in no case shall clear space be less than 1-1/2", nor less than 1-1/2 times maximum size concrete aggregate.
4. Install welded wire fabric in lengths as long as possible. Lap adjoining pieces at least one full mesh and lace splices with wire ties. Offset laps of adjoining widths to prevent continuous laps in either direction.
5. Cut bars true to length with ends square and free of burrs.

B. Drawing Notes: Refer to notes on Drawings for additional reinforcement requirements.

C. Welding of reinforcing bar shall be performed only where indicated on plans and in compliance with AWS D1.4. All welding of reinforcement is to be inspected in accordance with CBC Table 1705A.2.1, Item 5(b).

D. Fabricate in accordance with ACI 315 (SP-66), providing concrete cover specified in Section 03 31 00.

E. Locate reinforcing splices not indicated on Drawings at points of minimum stress. Indicate location of splices on shop drawings.

F. Weld reinforcing bars in accordance with AWS D1.4.

G. Fusion Welding
1. Fusion welding of holding wires to ties, stirrups, and hoops in beams, columns, and grade beams to preassemble reinforcing cages is permissible. The holding wire area shall not exceed 5% of the beam, column, or grade beam cross sectional longitudinal steel area. Fusion welding is not allowed to longitudinal reinforcing steel in any beam, column, or grade beam.

2. Fusion welding of holding wire to the ends of the reinforcing steel places in mats (spread footings, slab reinforcement, etc.) is permitted provided the fusion weld occurs within 6 bar diameters of the free end of the bar (e.g. not allowed at the end of coupled, T-headed, or weld splice bars.)
3. Fusion welding of holding wires shall not occur on a bent portion of a reinforcing bar. Bars may not be bent where a fusion weld occurs.
4. Holding wires shall conform to ASTM A496.
5. All reinforcing steel to be welded shall comply with ASTM A706.
6. Submit complete structural plans indicating which members will use fusion welding process for assembly. Provide complete structural details indicating the size of stirrups and holding wires and welding requirement. Submit a complete shop welding program which includes the following:
   a. Type of the specific fusion welding machine.
7. Periodic inspection protocol of the in-plant welding. This information shall be submitted to the Owner's Testing Agency for approval. Fusion welding and fabrication is not permitted until approved by the Architect.

2.04 SOURCE QUALITY CONTROL AND TESTING

A. Source Quality Control and Testing will be performed under provisions of Section 01 45 00 and as required by the Division of the State Architect and District Inspector.

PART 3 – EXECUTION

3.01 INSTALLATION

A. Before placing concrete, clean reinforcement of foreign particles or coatings.

B. Place, support, and secure reinforcement against displacement. Do not deviate from alignment or measurement.

C. Mix fibrous reinforcement into concrete material according to Section 03 30 00.

D. Do not displace or damage vapor barrier required by Section 03 30 00. Protect rebar in place from damage from other trades. Protect rebar from rusting from exposure to the elements.

3.02 FIELD QUALITY CONTROL

A. Field inspection and testing will be performed under provisions of Section 01 45 00 and as required by the Division of the State Architect and District Inspector.

END OF SECTION

SECTION 03 30 00

CAST-IN-PLACE CONCRETE

PART 1 – GENERAL

1.01 SUMMARY

A. SECTION INCLUDES:

1. Concrete Formwork.
2. Reinforcement of Concrete.
3. Concrete Placing and Finishing.

B. RELATED SECTIONS

1. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.
2. Section 03 10 00: Concrete Forming and Accessories.
3. Section 03 20 00: Concrete Reinforcing.
4. Section 32 16 00: Site Concrete.

1.02 REFERENCES

A. CBC - California Building Code, (CCR) California Code of Regulations Title 24, Part 2, Chapter 19A.

B. CBC - California Building Code, (CCR) California Code of Regulations, Title 24, Part 2, California State Accessibility Standards.

C. ACI 117-10 - Specification for Tolerances for Concrete Construction and Materials.

D. ACI 211.1-91 - Standard Practice for Selecting Proportions for Normal Weight, Heavy Weight and Mass Concrete.

E. ACI 301-16 - Specifications for Structural Concrete for Buildings.

F. ACI 302.1R-15 - Guide to Concrete Floor and Slab Construction.

G. ACI 304R-00 - Guide for Measuring, Mixing, Transporting and Placing Concrete.

H. ACI 305R-10 - Hot Weather Concreting.

I. ACI 306R-16 - Cold Weather Concreting.

J. ACI 308-16 - Standard Practice for Curing Concrete.

K. ACI 309R-05 - Guide for Consolidation of Concrete.

L. ACI 318-14 - Building Code Requirements for Structural Concrete.

M. ASTM A615-24 - Deformed and Plain Billet Steel Bars for Concrete Reinforcement.

N. ASTM C33-24a - Concrete Aggregates.

O. ASTM C94-25 - Ready-Mixed Concrete.

P. ASTM C114-24 - Methods of Chemical Analysis of Hydraulic Cement.

Q. ASTM C150-24 - Portland Cement.

R. ASTM C260-24 - Air Entraining Admixtures.

S. ASTM C289-07 - Standard Test Method for Potential Alkali-Silica Reactivity.

T. ASTM C309-19 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.

U. ASTM C330-23 - Standard Specification for Lightweight Aggregates for Structural Concrete.

V. ASTM C494-024 - Chemical Admixtures for Concrete.

W. ASTM C567-19 - Standard Test Method for Determining Density of Structural Lightweight Concrete.

X. ASTM C595-25 - Standard Specification for Blended Hydraulic Cements.

Y ASTM C618-25a - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.

Z. ASTM C932-06(2024) - Standard Specification for Surface-Applied Bonding Compounds for Exterior Plastering.

AA. ASTM C989-25 - Standard Specification for Slag Cement for Use in Concrete and Mortars

BB. ASTM C1315-25 - Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete.

CC. ASTM C1602-22 - Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete

DD. ASTM D226-22 - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.

EE. ASTM D1751-23 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types).

FF. ASTM E96-24a - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials.

GG. ASTM E1155-23 - Standard Test Method for Determining FF Floor Flatness and FL Floor Levelness Numbers.

HH. ASTM E1155-23 - Standard Test Method for Determining FF Floor Flatness and FL Floor Levelness Numbers.

II. ASTM E1643-24 - Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.

JJ. ASTM E1745-17(2023) - Standard Specifications for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs.

KK ASTM F710-22 - Standard Practice for Preparing Concrete Floor to Receive Resilient Flooring.

LL. ASTM F1869-23 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.

MM National Ready Mix Concrete Association - Plant Certification Program.

1.03 QUALITY ASSURANCE

A. All Concrete for the project shall be controlled concrete of specified strengths, of uniform color, and free from defects liable to adversely affect strength, durability or appearance of the structure or its components.

B. Requirements of Regulatory Agencies: The quality and design of structural concrete shall comply with the requirements of the California Building Code, except where more stringent requirements are specified.

C. Workmanship: Materials and methods used for the production and placement of concrete shall be such as to assure the specified quality and shall conform to applicable requirements of the Building Code for Reinforced Concrete (ACI 318) of the American Concrete Institute, except as otherwise specified in this Section.

1. All materials, components, assemblies, workmanship and installation are to be observed by the Owner’s Project Inspector. Work not so inspected is subject to uncovering and replacement at no expense to the Owner.
2. Proper installation of partitions and equipment requires the floor finish to be level and smooth throughout. Extreme care shall be exercised during all floating and troweling operations to check levels often.
3. Any concrete work which does not comply with tolerances and elevations shown on drawings will be cause for rejection of all work affected, and, if so rejected, such work shall be removed and replaced at no increase in cost to the Owner.

D. Removal and replacement of Defective Concrete Surfaces shall be done in the following manner when, in the opinion of the Architect, such defects may be removed and replaced at no additional cost to the Owner.

1. Rock pockets, voids, spalls, cracks (superficial and structural) and exposed reinforcing shall be removed and replaced.
2. Floor surfaces which exceed the allowable variation in plane or level as specified herein shall be ground, filled, or replaced to obtain the level and plane required. Fill materials, where required, shall be of type approved by the Architect.
3. Surfaces which are not plumb and square, or which do not conform to the lines and levels indicated shall be removed and replaced.

E. Uniformity of Concrete: All aggregates shall be measured by weight and the proportion of water to cement shall be accurately controlled by either automatic measuring devices or calibrated containers. All concrete placed shall be uniform strength and color appearance as well as surface texture.

F. Screeds shall be provided at all construction joints as required to ensure installation of concrete to lines and elevations noted.

G. Ready-Mixed Concrete: ASTM C94-25 except as otherwise specified herein. Mix and deliver in accordance with the requirements set forth in ASTM C94 and ACI 301. Continuous Batch Plant inspection is required per CBC Section 1705A.3.3. Contractor may request waiver of batch plant inspection in accordance with CBC Section 1705A.3.3.1 provided the following is met:

1. Approved Testing Laboratory shall check the first batching for each class of concrete and furnish mix proportions to the Licensed Weighmaster.
2. Licensed Weighmaster to positively identify materials as to quantity and to certify to each load by ticket.
3. Ticket shall be transmitted to Project Inspector by truck driver with load identified thereon. Project Inspector will not accept load without load ticket identifying mix and will keep daily record of pours, identifying each truck, its load and time of receipt and will transmit two copies of record to the Division of the State Architect (DSA).
4. Do not add water at the site to concrete mixes with a maximum specified WCR unless the water content at batch time provides for a WCR less than specified and this provision, including the quantity of water which may be added at the site, is specifically noted on the Mix Design and Certification by the mix preparer.
5. At end of project, Weighmaster shall furnish affidavit to DSA on form satisfactory to DSA, certifying that all concrete furnished conforms in every particular and to proportions established by mix designs.

H. Concrete Preplacement Inspection: Concrete shall not be poured until the forms, reinforcement, and preparations are complete and have been reviewed by the Project Inspector.

I. Tests: For structural concrete, the Testing Lab shall take four (4) test cylinders of concrete each day for every 50 cubic yards of concrete or fraction thereof being placed. Cylinders shall be made and stored as per instructions given by the testing laboratory and shall be in accordance with ASTM Specifications C31-25b and C39-24. Cylinders shall be tested for ultimate compressive strength of concrete with one cylinder tested at the age of 7 days and two (from the same batch) to be tested at

the age of 28 days, with one cylinder held as a spare for future testing if needed. Tests shall be made by a recognized test laboratory selected by the Owner and approved by the Architect.

1. Cylinders not meeting the required design stresses shall indicate defective concrete and such concrete shall be removed and replaced at no increase in cost to the Owner. Core tests requested by the Contractor to establish design stresses, when cylinder tests indicate defective concrete, shall be paid for by the Contractor.
2. Batch plant inspection as required by the DSA Structural Tests and Inspections Form SSS 103-1.

J. Floor Flatness: Provide certification of floor slab flatness per the requirements of Part 3 below.

K. Preinstallation Meetings.

1. Preinstallation Conference: Conduct conference at Project site.
   a. Before submitting design mixtures, review concrete design mixture and examine procedures for ensuring quality of concrete materials. Require representatives of each entity directly concerned with cast-in-place concrete to attend, including the following:
      1) Contractor's superintendent.
      2) Independent testing agency responsible for concrete design mixtures.
      3) Ready-mix concrete manufacturer.
      4) Concrete Subcontractor.
      5) Special concrete finish Subcontractor.
      6) Inspector.
      7) Owner’s Representative.
      8) Architect.

   b. Review special inspection and testing and inspecting agency procedures for field quality control, concrete finishes and finishing, cold and hot-weather concreting procedures, curing procedures, construction contraction and isolation joints, and joint-filler strips, semirigid joint fillers, forms and form removal limitations, vapor-retarder installation, anchor rod and anchorage device installation tolerances, steel reinforcement installation, methods for achieving specified floor and slab flatness and levelness, floor and slab flatness and levelness measurement, and concrete protection.
   c. Sign-in sheet shall be provided at time of meeting to document attendees.

1.04 SUBMITTALS

A. Submit under provisions of Section 01 33 00.

B. Manufacturer's Data: Submit manufacturer's product data with application and installation instructions for proprietary materials and items, including reinforcement and forming accessories, admixtures, patching compounds, joint systems, chemical floor hardeners, and others as may be requested by the Architect.

C. Shop Drawings: Shop drawings sheet size shall be 24" x 30" minimum.

1. Reinforcing Steel: The correctness of the bending diagrams is the responsibility of the Contractor. Identify such shop drawings with a reference thereon to sheet and detail numbers

from the contract drawings. No reinforcing steel shall be fabricated without approved shop drawings.

2. Construction joint layout per Part 3 below. Contractor to submit plan based upon design team's layout as shown on drawings. Provide verification that the joint layout will limit the risk of slab cracking. Plans shall include control, and expansion joints.

D. Concrete Mix Design: Submit proposed mix design prepared by concrete supplier. Mix design must be submitted to Owner for review and acceptance by a recognized independent testing lab, for all structural concrete.

E. Historical test data on all proposed mix designs including 28-day strength reports, and verification of aggregate and concrete shrinkage.

F. Test reports for Floor Flatness and Floor Levelness shall be submitted for review after first slab has been poured and prior to subsequent slabs being poured.

1.05 JOB CONDITIONS

A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required by construction activities.

PART 2 – PRODUCTS

2.01 CONCRETE MATERIALS

A. Portland Cement: ASTM C150-24, Type II, low alkali, Type II/V, Type V, ASTM C595 Type 1L. All cement used shall be of one manufacturer. Other blended mix designs are not acceptable.

1. Use Type IIA cement if pumping of concrete is selected and permitted for placing of concrete.
2. All cement shall contain not more than 0.6 percent total alkali when calculated as sodium oxide as determined by "Methods of Chemical Analysis of Hydraulic Cement", ASTM C114-24.

B. Blended Cement: ASTM C595-25, Type IL (MS or (HS).

1. All cement shall not contain more than 0.6 percent total alkali when calculated as sodium oxide as determined by "Methods of Chemical Analysis of Hydraulic Cement", ASTM C114-24.

C. Supplementary Cementitious Materials:

1. ASTM C618-25a Class N or Class F materials (Class C is not permitted).
2. ASTM C989-125 Ground Granulated Blast Furnace Slag.

D. Water: ASTM C1602-22 Clean and free from deleterious amounts of acids, alkalis, salts and organic matter.

E. Concrete Aggregates: ASTM C33-08 except as otherwise specified hereinafter. All aggregates shall be nonreactive and nondegenerative, and shall consist of sound crushed rock, washed gravel, or a combination of both.

1. Aggregate size for structural slabs shall be 1-1/2 inch. Aggregate size for other structural concrete shall be between 3/4 inch and 1-1/2-inch maximum.
2. Aggregate shall be saturated surface dry by batch plant.
3. Modify fine aggregates when air entrained concrete is used in accordance with Paragraph 4.2.4 of ASTM C33-08.
4. Aggregate shall result in shrinkage of concrete not exceeding .048 percent at 28 days. Testing lab shall verify aggregate and concrete shrinkage.
5. Do not use fine or coarse aggregates that contain substances that are known to cause spalling or adverse reactions in the concrete.

F. Cementitious Materials:

1. Fly Ash: 40 percent replacement maximum.
2. Slag Cement: 50 percent maximum.
3. Combined Fly Ash and Slag Cement: 50 percent replacement maximum.

G. Air Entraining Agents shall be used in concrete at the contractor's option. The maximum entrained air content shall be no more than 4 percent + 1 percent by volume. Sika AER, Master Builders Micro Air, Darex AEA, Protex AEA or approved equal meeting ASTM C260-24.

H. Admixtures: Except for air entraining agents, and water-reducing admixtures, no other admixtures shall be used without written approval from the Architect. Where such agents are permitted, they shall be a type approved and used only as directed by the Architect and at no increase in cost to the Owner.

1. Calcium chloride will not be permitted for use in concrete under any circumstances.
2. Air Entraining Agents: ASTM C260. Use where specified. The maximum entrained air content shall be no more than 4 percent + 1 percent by volume unless noted otherwise. Approved air entraining agents are Sika AER, Master Builders Micro Air, Darex AEA, Protex AEA or approved equal.
3. Water Reducing Admixtures: ASTM C494-24 Type A, D, E, F, or G and ACI 318, Section 3.6. Use where specified.
4. Or as otherwise required by project conditions.

2.02 CRUSHED ROCK BASE:

A. Under all new concrete ramps and paving, or as otherwise indicated on the Drawings, provide a minimum of 4 inches of crushed rock fill. Crushed rock fill shall be clean gravel of 1" max. size and have no material passing through a No. 4 sieve.

2.03 JOINT MATERIAL:

A. Provide 3/8" wide fiber expansion joint material, Model No. 320-F, as manufactured by W.R. Meadows or approved equal.

B. Provide Snap-Cap as manufactured by W.R. Meadows or approved equal. Snap-Cap shall have a top plastic edge that can be used for leveling concrete. Once concrete has set up, top edge of Snap-Cap can be pulled free and discarded. Joint shall then be sealed.

C. Joint sealing material shall be a two-component, self-leveling, polyurethane elastomeric sealant. Product shall be Sikaflex 2cSL as manufactured Sika Corporation, or equal. Color shall be chosen by Architect from the full range of manufacturer's standard colors.

2.04 RELATED MATERIALS

A. Concrete Adhesive and Bonding Agent: "Concresive #1001-LPL" (1-1/2-hour maximum pot life), an epoxy polysulfide type concrete adhesive as manufactured by Master Builders or approved equal.

B. Liquid Curing Compound: W.R. Meadows, Product: "Vocomp-20" or approved equal.

C. Bonding Adhesive: White Cap Glue, Burke Bondcrete-S or approved equal; use as a modifier for patching and overlays up to 1/2" thick or approved equal.

D. Doweling Epoxy: Hilti "HIT-RE 500" (ICC-ES ESR-3814), Simpson Strong-Tie "SET-3G" Epoxy (ICC-ES ESR-4057) or approved equal.

1. Anchor rods shall be furnished with a 45-degree chisel point on one end to allow for easy insertion into adhesive filled hole and manufactured to meet the requirements of ASTM A36. Nuts and washers shall be furnished to meet the requirements of the anchor rod specifications noted above.
2. Install per manufacturer's recommendation; use stainless steel for all exterior work.
3. Testing required as noted in the Structural Drawings.

E. Vapor Barrier: Stego Wrap, 15 mil. vapor barrier system, with a Class A rating, and perm rating not to exceed 0.01 perms; by Stego Industries of San Juan Capistrano, CA (877) 464-7834, VaporGuard by Reef Industries (713) 507-4250., Sundance 15 mil Vapor Barrier by Sundance Inc. (855) 300-7156, or 15 mil Husky, Yellow Guard, Vapor Barrier by Poly-America (800) 527-3322. No other substitutions will be accepted. System to include Stego Mastic, Stego "Crete Claw Tape" and pipe boots, or approved equal by the specified manufacturers. Conform to ASTM 1745.

F. Patching Mortar: Meadow-Crete GPS, one-component, trowel applied, polymer enhanced, shrinkage-compensated, fiber reinforced, cementitious repair mortar for horizontal, vertical and overhead applications as manufactured by W.R. Meadows or approved equal.

G. Non-shrink Grout: Masterflow 713 Plus by Master Builders or approved equal. Premixed, non-metallic, no chlorides, non-staining, and non-shrinking per CRD-C621, Corps of Engineers Specification and ASTM C 1107, Grades B and C.

2.05 CONCRETE DESIGN

A. The concrete mix shall be proportioned to produce a minimum ultimate compressive strength at 28 days of 3,000 psi for structural concrete and 3,000 psi for all other concrete (Section 32 13 00) unless otherwise noted.

1. Laboratory Mix Design: Concrete designs, using Methods B or C, Section 1905.1.1 of the CBC, Title 24, shall be reviewed by the Testing Laboratory. The concrete mix designs reviewed by the Testing Laboratory and approved by the Project Architect or Structural Engineer shall be used by the Contractor. Contractor shall provide samples of aggregates as required by the laboratory to review the mix designs. Laboratory shall also include shrinkage tests.
2. Water Reducing Admixture: All concrete shall contain a water reducing admixture.

3. Air Entraining Agent: Include in all concrete in all exterior concrete to result in concrete at point of placement having an air entrainment of 4% (+/- 1%).
4. Maximum water - cement ratio at point of placement: 0.45.

B. Ready-Mixed Concrete: ASTM C94-25 except as otherwise specified herein.

1. Transit-mixed concrete shall be mixed for a period of not less than 10 minutes at a peripheral drum speed of approximately 200 feet per minute, and mixing shall be continued until discharge is complete. At least 3 minutes of the mixing period shall be at the job. Transit mixers shall be equipped with water measuring devices consisting of either accurately calibrated water tanks or water meters.
2. When outside air temperature is between 85 degrees and 90 degrees, reduce mixing and delivery time from 90 minutes to 75 minutes. When outside air temperature is above 90 degrees, reduce mixing and delivery time to 60 minutes.

C. Job Mixing: The capacity of the mixer shall be such that it will handle one or more full sack batches. No split sack batches will be permitted except when all materials are weighed. The rated capacity of the mixer shall not be exceeded. The mixing drum shall be equipped with an automatic timing and locking device and with an accurate water gauge for measuring the amount of water used. Mixing time of each batch shall be at least 1-1/2 minutes after all ingredients are in the mixer.

D. Slump of Concrete: The slump of concrete as determined by the Standard Test Method for Slump of Hydraulic Cement Concrete ASTM Designation C-143-20 shall be as follows:

1. All Concrete: 4 inches maximum, plus/minus 1 inch (5 inch maximum).

PART 3 – EXECUTION

3.01 CONCRETE PLACEMENT

A. Surrounding Conditions: Before any concrete is placed, the following items of work shall have been completed in the area of placing.

1. Forms shall have been erected, braced, cleaned, sealed, lubricated if required, and bulkheaded where placing is to stop.
   a. Any wood forms other than plywood shall be thoroughly water soaked before placing any concrete. The wetting of forms shall be started at least 12 hours before concreting.

2. Reinforcing steel shall have been placed, tied, supported, and, at time concrete is placed around it, shall be cleaned of rust, scale, mill scale or other coatings that will destroy or reduce bond.
3. Embedded work of all trades shall be in place in the forms, tied and braced.
4. The entire place of deposit shall have been cleaned of dirt, chips, sawdust, rubbish, debris, hardened concrete, and other foreign matter before concrete is deposited therein. No wooden ties nor blocking shall be left in concrete except where indicated for attachment of other work.
5. Concrete surfaces to which fresh concrete is to be bonded shall be roughened as indicated. Surfaces shall be brush cleaned to remove all dust and foreign matter and to expose the aggregate, and then coated with the bonding adhesive herein specified.

B. Conveying Concrete from mixer to forms shall be as rapid as possible.

1. Ready-mixed concrete shall be mixed and delivered in accordance with ASTM C94 /-25. A delivery ticket shall be furnished for each load of ready-mix or transit-mix concrete. A copy of each delivery ticket shall be handed to the job superintendent at the time of delivery and unloading. A record copy of the delivery tickets shall be forwarded to the Architect for their files.
2. Conveying equipment shall be of a sufficient capacity to ensure a continuous flow of concrete to the placing point without separation or loss of materials. Carts and buggies shall be equipped with pneumatic tires. Runway supports shall not bear on reinforcing or fresh concrete. All conveying equipment shall be thoroughly cleaned before beginning and at frequent intervals during the placing of the concrete.
   a. Chutes, if employed, shall slope not less than 4" or more than 6" per foot of horizontal run.

3. Exercise care not to spill concrete on forms & reinforcing steel during the conveying operations. Where such spillage or splattering occurs, the surfaces shall be thoroughly cleaned before concrete hardens.

C. Placing Concrete: Notify the Architect 48 hours in advance of beginning of pouring operations. Under no circumstances shall concrete that has partially hardened be deposited on the work. No concrete shall be placed during rainy weather without the Architect's approval.

1. The Project Inspector shall keep a record on the site of the time and date of placing the concrete in each portion of the structure in accordance with CBC Section 1705A.3.6. The record shall be kept until the completion of the structure and a copy provided to the Architect and DSA.
2. Before starting new pour on or against concrete that has hardened, forms shall be retightened, and the hardened concrete roughened and thoroughly cleaned of foreign matter and any laitance by sandblasting. Just ahead of the new pour, slush joints with a 2" layer of grout of the designated concrete mix minus 50 percent of the large aggregate.
3. Reinforcing steel exposed to the sun shall be cooled by a water spray prior to the placing of concrete.
4. No adjustment of steel reinforcement will be permitted during the placement of concrete.
5. Concrete shall be scheduled so that the placing is a continuous operation for the completion of each section between predetermined construction joints. If a planned concreting operation cannot be carried on continuously, the concreting shall stop at temporary bulkheads. Locate where resulting construction joints shall be as shown on the Drawings or as approved by the Architect. Prior to placing of concrete for any concrete slabs, the moisture content of the subgrade below the slabs shall be adjusted to at least optimum moisture.
6. Deposit the concrete in forms as nearly as practicable in its final position to avoid flowing and maintain until completion of the unit an approximate horizontal plastic surface. Thoroughly compact all concrete during placing operations, thoroughly around reinforcement, embedded fixtures, or accessories, and into the corners of forms to eliminate air pockets and honeycombing. Compacting shall be done with mechanical vibrators. Vibrators shall not be used to cause concrete to flow horizontally. Thoroughly compact concrete to the forms to release the air and secure full contact of the concrete with the forms.
7. Hot Weather Concreting: Concrete placing and finishing operations during hot weather shall be done as quickly as possible. Ample personnel shall be available to manage and place the concrete immediately after its mixing or delivery to the site of the work. Concrete shall be

placed in layers thin enough and over areas small enough to ensure complete bond and union of adjacent layers, and thus prevent "cold joints".

a. At air temperature of 80 degrees Fahrenheit or above, the following precautions should be taken:
   1) In no case shall the temperature of the concrete exceed 90 degrees Fahrenheit when placed in the work.
   2) If necessary, to produce and maintain concrete at an acceptable temperature, chopped or crushed ice shall be added directly into the mixer up to 50 percent by weight of the mixing water used, the weight of the ice being included in batch weight of the mixing water. The ice shall be added at such a rate and in such a manner that it will be completely melted by the time concrete is mixed.
   3) Stockpiled aggregates shall be saturated and kept surface moist by continuous fog spray or by intermittent sprinkling.
   4) Forms, reinforcements, and subgrade surfaces shall be wet down immediately before concrete is placed in contact therewith. Remove all excess water before placing concrete. Wetting down of areas around the work to cool the surrounding air and increase the humidity is recommended.

8. Cold Weather Requirements: Do not place concrete when ambient temperature is below 40 degrees Fahrenheit and falling.

3.02 CONCRETE FINISHING

A. All Concrete Work, except as otherwise specified, shall be of a quality that will present a finished appearance upon the stripping of the forms. Only a minimum of patching and finishing should be necessary as required to fill holes left by form ties and to remove any fins or minor irregularities left by the joints in the forms. Except as otherwise specified, all concrete surfaces shall be finished as follows:

B. Float finish: Begin float finish when bleed water sheen has disappeared, and the concrete surface has stiffened sufficiently to permit operations. Float surface with power driven floats, or by hand-floating if area is small or inaccessible to power units. Finish surfaces to true planes within a tolerance as specified in 3.04-C. Cut down high spots and fill low spots. Refloat surface immediately to a uniform granular surface.

1. Final Finish: Provide a medium textured broom finish for all exterior surfaces by drawing a soft bristle broom across concrete surface perpendicular to line of traffic to provide a uniform fine line texture finish.
2. No magnesium bull floats allowed on non-air entrained concrete.

C. Floor Flatness and Floor Level Tolerances for slab on grade:

1. An independent testing agency will inspect finished slabs for compliance with specified tolerances.
2. Minimum F(F) Floor Flatness and F(L) Floor Levelness Values at slabs on grade and shored slabs:
   a. Exposed to View and Foot Traffic: F(F) of 35; F(L) of 25.
   b. Under Thick-Bed Tile: F(F) of 20; F(L) of 15.
   c. Under Carpeting: F(F) of 25; F(L) of 20.
   d. Under Thin Resilient Flooring and Thinset Tile: F(F) of 35; F(L) of 25.

3. Measure F(F) Floor Flatness and F(L) Floor Levelness in accordance with ASTM E1155 (ASTM E1155M-23), within 72 hours after slab installation; report both composite overall values and local values for each measured section.
4. Correct the slab surface if composite overall value is less than specified and if local value is less than two-thirds of specified value or less than F(F) 13/F(L) 10.
5. Correct defects by grinding, floating with leveling compound, or by removal and replacement of the defective work. Areas requiring corrective work to be identified by Contractor and a repair/replacement plan shall be submitted for review by Architect. Re-measure corrected areas by the same process.

D. Curb Finishing: Steel trowel as described for slab finishing above.

E. Final Tooling: Tool edges of paving, gutters, curbs, and joints formed in fresh concrete with a jointing tool to a radius of 1/4". Repeat tooling of edges and joints after applying surface finishes. Eliminate tools marks on all concrete surfaces.

F. Form removal requirements – see SS 03 10 00.

3.03 CONSTRUCTION JOINTS

A. NO SOFTCUT (SAWCUT) CONTROL JOINTS ALLOWED.

B. Construct contraction, construction, and isolation joints true to line with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to the centerline unless otherwise indicated.

C. Joints at Existing Concrete: All joints between existing concrete and new concrete or at sawcut locations through existing slabs are to include dowels at a minimum of #4 bars @ 4'-0" on center, 18" maximum from the ends, epoxy set into existing concrete a minimum of 6" in length at the centerline of existing concrete slab.

D. Contraction Joints (Control Joints): Provide weakened-plane contraction joints, sectioning concrete into areas indicated. Construct contraction joints for a depth equal to at least 1/4 of the concrete thickness unless otherwise noted on drawings. Form in fresh concrete by grooving and finishing each edge of joint with a radiused jointer tool. Joints shall be formed as soon as concrete can support operator and equipment and no more than 4 hours after concrete placement. **Joints to be spaced at 10' on center maximum or as shown on the drawings.**

E. Construction Joints: Set construction joints at side and end terminations of concrete placement and at locations where placement operations are stopped for more than 1/2 hour unless placement ends at isolation joints.

1. Provide preformed galvanized steel or plastic keyway-section forms or bulkhead forms with keys. Use Burke "Keyed Kold Joint Header Form" or approved equal. Embed keys at least 1 1/2" into concrete.
2. Provide slip dowels across construction joints.

F. Isolation Joints (Expansion Joints): Form isolation joints of performed joint filler strips abutting concrete curbs, catch basin, utility access holes, inlets, structures, walks, other fixed objects, and where indicated.

1. Extend joint fillers full width and depth of joint, not less than 1/2” or more than 1” below finished surface where a joint sealant is indicated. Place top of removable joint filler flush with finished concrete surface.
2. Protect top edge of joint filler during concrete placement with metal, plastic, or other temporary, removable performed cap.
3. After concrete has cured, remove cap exposing top edge of fiber joint filler, and apply joint sealant.

3.04 PUMPING OF CONCRETE (may be permitted for concrete, providing):

A. The Contractor engages a testing laboratory to design concrete mixes for pumping. Trial batches shall be made and tested as required hereinbefore for typical concrete.

B. The quality and proportioning of aggregates for pumping conditions shall be determined in accordance with ACI, Recommended Practice 613. Aggregate proportioning must be tailored to the pump intended for use.

C. When starting a pump operation, actual pumping of concrete shall be preceded by a mortar mix (concrete without coarse aggregate) for the purpose of lubrication.

D. All mortar and concrete leakage resulting from pumping operations shall be removed from formwork, reinforcing steel and any finished surface.

3.05 CURING

A. Protect freshly placed concrete from premature drying and excessive cold or hot temperature. Comply with the recommendations of ACI 306R for cold weather protection and ACI 305R for hot weather protection during curing.

B. Evaporation control is to be implemented in hot, dry and windy weather by protecting concrete from rapid moisture loss before and during finishing operations with an evaporation control material. Apply in accordance with manufacturer’s instructions after screeding and bull floating, but not before floating.

C. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.

D. Cure concrete by moisture curing, moisture-retaining-cover curing, curing compound, or a combination.

1. For moisture-curing, keep surfaces continuously moist for not less than 7 days with water, a continuous water-fog spray, or absorptive cover kept wet continuously wet.
2. For moisture-retaining-cover, cover concrete with moisture retaining cover with side and end laps sealed.
3. For curing compound, apply in accordance with manufacturer’s instructions. Recoat areas subjected to rainfall within 3-hours after initial application.

3.06 CLEANING AND PROTECTION

A. Clean all surfaces and leave in satisfactory condition to receive final finish surface treatment.

B. Protect concrete surfaces from damage by tools, equipment, material, and workers. No traffic, shoring or other loading will be permitted until concrete has hardened sufficiently to prevent injury to finish and strength, but at least 14 days.

1. Remove surface stains and spillage of materials as they occur.
2. Sweep concrete and wash free of stains, discolorations, dirt, and other foreign material prior to final inspection.

3.07 INSPECTION

A. Approval of reinforcing steel, after installation, must be received from Project Inspector. Architect, Structural Engineer, and DSA must be notified 48 hours in advance of beginning concrete placement operations. Inspection of welding will be done by laboratory.

B. There will be initial or preliminary inspection of the finished concrete slabs by the Project Inspector and/or Architect for overall finish.

C. Slabs shall be measured for FF and FL as required by 3.02-C and findings submitted to Architect.

D. New pours will be reviewed for cracks. If during this inspection, cracked sections are found and determined unacceptable by the District, that section should be removed and replaced.

E. Final concrete inspection: Prior to occupancy, concrete will be reviewed by Owner and Architect. If any cracks, spalls, exposed finish layer seperation, etc. are identified, that section(s) shall be removed and replaced.

END OF SECTION

SECTION 06 10 00

ROUGH CARPENTRY

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:

1. Description of requirements for materials, fabrications and installation of rough carpentry and associated items (except that which is specified elsewhere) indicated on Drawings and necessary to complete the work. Items include, but are not necessarily limited to, the following:
   a. Rough Hardware
   b. Plywood Sheathing

B. Related Sections

1. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.
2. Section 07 60 00: Flashing and Sheet Metal
3. Section 07 90 00: Joint Sealants
4. Section 09 91 00: Painting

C. References

1. Chapter 23, California Building Code (CBC), 2025, as adopted by the California Division of the State Architect (DSA).
2. American Society for Testing and Materials (ASTM).
3. Lumber: West Coast Lumber Inspection Bureau (WCLIB), Rule 17, Standard Grading Rules for West Coast Lumber.
4. Lumber: Western Wood Products Association (WWPA); Western Lumber Grading Rules.
5. Plywood: American Plywood Association (APA) Plywood Specifications and Grades and Voluntary Product Standard DOC PS 1 “Construction and Industrial Plywood”.
6. Wood Preservative: American Wood Protection Association (AWPA), Standard U1.
7. AWC NDS – National Design Specification for Wood Construction.
8. AWC SDPWS – Special Design Provisions for Wind and Seismic.

1.02 QUALITY ASSURANCE

A. Manufacturer data: Submit product data for all materials specified under this section and as applicable to each site.

B. Coordinate the work of all trades to ensure proper placement of all materials, anchors, etc., as well as providing for openings and anchors for the installation of surface mounted materials and equipment.

C. Qualifications of Workmen: Provide sufficient skilled workmen and supervisors who shall be present at all times during execution of this portion of the work and who shall be thoroughly familiar with the type of construction involved and the materials and techniques specified.

D. Rejection: In the acceptance or rejection of rough carpentry, no allowance will be made for lack of skill on the part of the workmen.

E. Design Criteria: Pressure treatment shall not adversely affect application, permanence, or appearance of finish paint system.

1.03 SUBMITTALS

A. Submit per the requirements of the General Conditions.

B. Certification:
   1. Pressure Treated Wood: Certification for water-borne preservative that moisture content was reduced to 19% maximum, after treatment.
   2. Pressure Treated Wood: Submit certification by treating plant stating the chemicals and process used, net amount of salts retained, and conformance with applicable standards.

1.04 JOB CONDITIONS

A. Environmental Requirements: Maintain uniform moisture content of lumber at 19 percent or less prior to close-in.

B. Sequencing: Coordinate details with other work supporting, adjoining, or fastening to rough carpentry work.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Protection, General: Protect wood from moisture while being stored and while work is in progress.

B. Protection:
   1. After delivery, store all materials in such a manner as to ensure proper ventilation and drainage and to protect against damage and the weather.
   2. Keep all material clearly identified with all grade marks legible; keep all damaged material clearly identified as damaged, and separately store to prevent its inadvertent use. Do not allow installation of damaged or otherwise non-complying material.
   3. Use all means necessary to protect the installed work and materials of all other trades.

C. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Architect and at no additional cost to the Owner.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Wood:

1. Lumber (Blocking, Backing, Stripping, Furring, and Nailers): WCLIB Construction.
2. Lumber (Wood Framing): Meet requirements of following minimum grades, and as noted on Structural Drawings.

Item	Species	Grade	Reference
Studs	D.F.	No. 1	WCLIB 121
Plates	D.F.	No. 1	WCLIB 123b
Beams	D.F.	Select Structural	WCLIB 130b
Joists	D.F.	No. 1	WCLIB 123b
Posts	D.F.	Select Structural	WCLIB 131b

3. 3x and larger lumber shall be free of heart center.
4. 2x6 T & G Douglas Fir No. 1.

B. Plywood:

1. Roof and Wall Structural Sheathing: PS-1 Structural 1, CDX APA with exterior glue.
2. Thickness and type shall be as indicated on Drawings.
3. ***Wall non-structural siding: T-1-11 plywood siding installed vertically. Thickness and pattern to match existing.***

C. Pressure-Treated Lumber:
1. Douglas Fir, pressure treated.
   a. Required for cast-in-nailers, sills or anywhere wood is in contact with concrete, masonry, or grout.
   b. Required for all rooftop blocking.

D. Building Paper: Fed. Spec. UU-B-790a, Type I, Grade B (15 lb. min.).

E. Preservative Treatment
1. Furnish pressure treated Douglas Fir in accordance with AWPA, Standard U1. Each piece is required to bear AWPA stamp.
2. Field treat cut edges and holes frilled in factory treated lumber with an approved AWPA Standard U1 preservative product.
3. For fastener requirements, see Paragraph 2.01-F-8.

F. Rough Hardware Fastenings and Connections: All types including bolts, lag screws, nails, spikes, screws, washers, framing devices and other rough hardware, or kinds that may be purchased and that require no further fabrication, shall be furnished, and installed for all finish and rough carpentry. All exterior hardware shall be hot-dipped galvanized per ASTM A123-24 Standards.
1. Nails: ASTM F1667 Common wire nails or spikes; box nails not permitted.
2. Wood Screws: Wood Screws: ANSI Standard B18.6.1; use galvanized type for exterior work.
3. Lag Screws: Conform to ASTM A307-21 and ANSI Standard B18.2.1. Dimensions and installation shall conform to requirements described in the National Design Specification (NDS), current edition.

4. Bolts: ASTM A307-21, Grade A, hexagonal heads, unless noted otherwise.
5. Washers: Washers for bearing against wood shall be provided under all bolt heads and nuts. Washers shall be as indicated on Drawings.
6. Powder Driven Fasteners: Tempered steel pins with special corrosive-resistant plating or coating. Pins shall have guide washers to accurately control penetration, minimum 1-1/8 inch. Fastening shall be accomplished by low-velocity pistol-driven powder activated tool. Pins and tool shall be as manufactured by Hilti Fastening Systems; Impex Tool Corporation; or approved equal. ICBO approved.
7. Fabricated Sheet Metal Timber Framing Connectors: CBC approved. Fabricate from hot-dipped galvanized steel. Connectors shall be at least 18 gauge minimum material (1/8" plate materials where welded, unless otherwise noted), punched for nailing. Nails and Nailing shall conform to the manufacturer's instructions with a nail provided for each punched hole. Types as noted on Drawings, manufactured by Simpson Co. or approved substitute. All framing connectors shall be stamped with manufacturer's logo, and model designation.
8. All fasteners into preservative-treated and fire-retardant-treated wood shall be of hot dipped zinc-coated galvanized steel, stainless steel, silicon bronze or copper per CBC 2304.10.5. The coating weights for zinc-coated fasteners shall be in accordance with ASTM A153. Fasteners other than nails, timber rivets, wood screws and lag screws shall be permitted to be of zinc coated steel with coating weights in accordance with ASTM B695, Class 55 minimum.

G. Exterior Trim and Fascia: RIS Grade Stamped, Redwood, B Heart, Vertical Grain, Kiln Dried, surfaced sizes as indicated on the drawings.

2.02 FABRICATION

A. Lumber:
1. Air- or kiln-dry to maximum 19 percent moisture content, prior to installation. Lumber must be 19 percent moisture content prior to close-in and finish.
2. Furnish S4S unless otherwise noted.
3. Size to conform with rules of governing standard. Sizes shown are nominal unless otherwise noted.

2.03 SOURCE QUALITY CONTROL

A. Grade Mark each piece of lumber. Marking must be done by recognized agency. Lumber Manufacturer's Association Certificates may be accepted in lieu of such grade and trademarks.
1. Douglas Fir shall bear WCLIB grade stamp.

B. Plywood Sheathing: Each panel shall be legibly identified as to type, grade, and specie by APA grade. If plies are spliced, the slope of the scarf shall not be steeper than 1:8. White pockets will not be permitted in face plies.

C. Each piece of preservative treated lumber shall bear AWPA stamp.

2.04 WOOD PRESERVATIVE TREATMENT

A. Preservative treatment: Comply with applicable requirements of AWPA standards C2 for lumber and C9 for plywood. After treatment, kiln dry lumber to a maximum moisture content of 19 percent, and plywood to 15 percent.
   1. Pressure treat members connected with roofing, flashing and weatherproofing; including but not limited to cants, nailers, curbs, equipment supports and blocking.
   2. Pressure treat members that are concealed and in contact with masonry or concrete, including, but not limited to, sills, nailers, blocking, furring and studs.

PART 3 – EXECUTION

3.01 SURFACE CONDITIONS

A. Inspection:
   1. Prior to all work of this Section, carefully inspect the installed work of all other trades, and verify that all such work is complete to the point where this installation may properly proceed.
   2. Verify that rough carpentry may be performed in strict accordance with the original design and all pertinent codes and regulations.

B. Selection of Lumber Pieces: Carefully select all members. Select individual pieces so that knot and obvious defects will not interfere with placing bolts or proper nailing or making proper connections. Cut out and discard all defects which will render a piece unable to serve its intended function.

C. Lumber may be rejected by the Architect, whether or not it has been installed, for excessive warp, twist, bow, crook, mildew, fungus, or mold, as well as for improper cutting and fitting. No load carrying member shall be exposed to earthen materials.

D. Shimming: Do not shim any framing component.

3.02 FASTENING

A. Nailing: Except as otherwise indicated on Drawings or specified, all nailing shall be as scheduled on Drawings:
   1. Nails or Spikes shall be common wire unless noted otherwise. Penetration of nails or spikes shall be one-half the length of the nail or spike into the piece receiving the point. However, to connect pieces 2 inches in thickness, 16d nails shall be used unless noted otherwise.
      a. Bore holes for nails wherever necessary to prevent splitting.
      b. Use finish or casing nails for finish work.
      c. Use of nailing guns is as limited by CBC and must be approved by Architect and DSA. Submittal of guns and nails is required.

B. Bolts: Bolts shall be of sizes indicated. Drive fit with washers under nuts. Tighten all bolts and screws before closing in.

C. Framing Devices: As specified under Products, sizes as indicated. Use half-length nails where required.

D. Lag Screws: Pre-Bore lead holes and install per NDS, current edition.

3.03 FRAMING AND ROUGH CARPENTRY

A. Sills: Shall be in long lengths of sizes shown, fastened with anchor bolts at exterior walls and with powder driven fasteners at interior walls as indicated, a minimum of two (2) fasteners per piece and a bolt within 9" but not nearer than 6" from end of piece. Place malleable iron or steel plate washers (but not cut washers) under nuts bearing on wood. Set sills level and true and bed exterior wall sills and interior bearing wall sills on 1/2 inch dry-pack or non-shrink grout.

B. Studs, Posts and Columns: Shall be full length. Corners shall be as detailed. Partitions or walls containing plumbing, heating or other piping shall be so formed as to give proper clearance for materials. Cut members as required to provide full bearing at ends. Connect to structure as indicated.

C. Plates: Shall be in long lengths and spliced as shown.

D. Blocking: Shall be same thickness and width of studs or joists unless shown otherwise. Blocking shall not be spaced over 8'-0" o.c. Install fire blocking in accordance with CBC, Section 717. Install blocking at all plywood joints unless otherwise noted on the drawings. Install blocking for fastening all surface applied items.

E. Joists and Beams: Shall be in long lengths and spliced over bearings unless shown otherwise. Install with crown side up. Beams or headers indicated to be built up of two or more joists shall be fabricated on the job using full length members. For two-piece members, stitch nail pieces together with 16d common nails spaced not over 12" o.c. and staggered. Clinch nails protruding through members.
   1. Provide double joists and headers at all openings through floors and roofs unless otherwise shown on Drawings.
   2. Provide typical headers at all openings through walls where one or more studs are required to be cut. For penetration through walls narrower than stud spacing, provide solid backing on all sides for fastening finish materials.

F. Plywood Structural Sheathing: Install to pattern indicated and provide blocking at joints where noted on the drawings. Center all joints overbearing supports. Nail to framing as indicated. Install plywood with face plies perpendicular to joists or studs unless indicated otherwise.

G. Wood Furring, Stripping and Grounds: Install as shown or required to provide nailing of materials or passage of pipes, conduits, etc., not otherwise accommodated.

H. Bridging: Space not over 8'-0" o.c. for spans over 16'-0". Spans over 8'-0" and under 16'-0" shall have bridging placed at midspan. Bridging shall be two 2 x 3's or solid blocking as indicated. Joists 8" or less in depth shall not require bridging unless specifically indicated.

I. Backing: Shall be provided for all wall and ceiling finishes and for supporting of fixtures and equipment for all trades, including toilet partitions, toilet room accessories, frames, case work, mirrors, trim, applied wall finishes, etc. Coordinate placement of backing and supports with manufacturer or supplier of mounted items.

J. Building Paper: Install two layers in all exterior locations. Install with weather lap edges a minimum of 2 inch horizontal and 6-inch vertical laps. Continue building paper minimum 6 inches around inside and outside corners. Fasten in place with appropriate staples.

K. Cuts or holes in preservative treated wood shall be treated in accordance with AWPB standard M4 in the field.

3.04 MISCELLANEOUS HARDWARE

A. Finish hardware is specified in Section 08 71 00. All other hardware indicated or required but not specified elsewhere shall be furnished and installed hereunder, including appropriate screws or other fastening devices.

3.05 MISCELLANEOUS CARPENTRY WORK

A. Miscellaneous Carpentry Work not included under other sections shall be furnished and installed hereunder as indicated. Carefully locate and securely anchor such items to structure.

B. Drypack: Drypack shall consist of 1 part high early strength Portland cement to not more than 3 parts of sand by volume. Add only a minimum amount of water to hold the mixture in shape while packing and to provide hydration. Solidly ram drypack into place to provide uniform bearing and cure with moist sacks or cloths for a period of at least three (3) days.

C. Plywood Backing for electrical, telephone, and similar types of wall mounted equipment shall be provided hereunder where required. Plywood shall be 3/4" thick exterior A-C plywood with 'A' face exposed.

D. Shoring and Bracing: Shore or brace for temporary support of all work as required during the construction period except any shoring and bracing specified and included under other sections of these specifications.

E. Temporary Enclosures: Provide and maintain all barricades and enclosures required to protect the work in progress.

F. Protect all work in progress and all work installed, as well as the work of all other trades. Any work damaged as a result of the work under this section shall be corrected to its original condition or replaced if directed by the Architect and at no increase in cost to the Owner.

G. Protection Devices: Pedestrian walkways, barricades, lights, shoring and other protective structures and devices necessary for the protection of pedestrians shall conform in all respects to the requirements of CBC, Section 3306 Title 24 and to the requirements of the Department of Public Works.

3.06 FRAMING TOLERANCES

A. Maximum variation from true flatness: 1/4 inch in ten feet in any direction.

3.07 CLEAN-UP

A. Upon completion of the work of this Section, remove all surplus materials, rubbish, and debris from the premises.

END OF SECTION

SECTION 07 60 00

FLASHING AND SHEET METAL

PART 1 – GENERAL

1.01 SUMMARY

A. All applicable portions of Division 1, including the drawings and general provisions of the contract, the general and supplementary conditions and Division 1 specification sections which apply to work of this section as if printed herein.

B. Section Includes:
   1. Flashings, counter flashings, and copings as indicated on the Drawings and specified herein.

C. Related Sections:
   1. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.
   2. Section 07 90 00 – Joint Sealants.
   3. Division 23 - HVAC

1.02 REFERENCES

A. Fabricate sheet metal items from sheet steel in accordance with ASTM G90-23.

B. ASTM A924-22a - General Requirements for Steel Sheet, Metallic-Coated by the Hot Dip Process.

C. FS TT-C 494B – Federal Specification for Coating Compound, Bituminous, Solvent Type, Acid Resistant.

D. SMACNA - Architectural Sheet Metal Manual, current edition.

E. AWS - American Welding Society.

1.03 SUBMITTALS

A. Submit under provisions of Section 01 33 00.

B. Shop Drawings: Indicate locations, configurations, jointing methods, welding methods, fastening methods, expansion joint layouts, downspout layout and installation details.

C. Samples: Submit two samples, 12 inches long illustrating component design, finish, color, and configuration.

1.04 QUALITY ASSURANCE

A. Conform to SMACNA Manual for architectural sheet metal flashing and installation details.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Where general flashing pieces are shown on drawings, provide steel sheet metal of at least 22-gauge steel unless otherwise noted on drawings.

B. Galvanized Steel: .336-inch thick (22 gauge) ASTM A924 -09a, Grade A, G90 zinc coating.

2.02 ACCESSORIES

A. Fasteners and Clips: Provide as required and appropriate for the materials being fastened. Where fasteners or clips may be exposed to outside weather conditions, provide galvanized or stainless-steel type.
   1. Provide fasteners such as bolts, screws, and nails hot-dip galvanized as specified in accordance with ASTM A153-23.

B. Where rivets will be used, provide malleable iron type with rust-inhibitive coating.

C. If drive pins are incorporated into work, provide Omark or other approved, cadmium plated with neoprene facing, at least 1-inch long, with neoprene washers.

F. Bituminous Coating: SSPC – Paint 12, solvent-type bituminous mastic, nominally free of sulfur, compounded for 15-mil dry film thickness per coat.

G. Mastic Sealant: Polyisobutylene; non-hardening, non-skinning, non-drying, non-migrating sealant.

H. Elastomeric Sealant: Generic type recommended by manufacturer of metal and fabricator of components being sealed and complying with requirements for joint sealants as specified in Section 07 90 00 Joint Sealers.

I. Epoxy Seam Sealer: Two-part noncorrosive metal seam cementing compound, recommended by metal manufacturer for exterior/interior non-moving joints including riveted joints.

J. Adhesives: Type recommended by flashing sheet manufacturer for waterproof/weather-resistant seaming and adhesive application of flashing sheet.

K. Paper Slip Sheet: 5 lbs. rosin-sized building paper.

L. Polyethylene Underlayment: Minimum 6-mil carbonated polyethylene film resistant to decay when tested in accordance with ASTM E154-08a(2025).

M. Reglets: Metal or plastic units of type and profile indicated, compatible with flashing indicated, noncorrosive.

N. Elastic Flashing Filler: Closed-cell polyethylene or other soft closed-cell material recommended by elastic flashing manufacturer as filler under flashing loops to ensure movement with minimum stress on flashing sheet.

2.03 FABRICATION

A. General Metal Fabrication:
   1. Shop fabricate work to greatest extent possible. Comply with details shown and with applicable requirements of SMACNA "Architectural Sheet Metal Manual" and other recognized industry practices. Fabricate waterproof and weather-resistant performance with expansion provisions for running work, sufficient to permanently prevent leakage, damage, or deterioration of the work.
   2. Form work to fit substrates. Comply with material manufacturer instructions and recommendations for forming material. Form exposed sheet metal work without excessive oil-canning, buckling, and tool marks, true to line and levels indicated, with exposed seams with epoxy seam sealer; rivet joints for additional strength where required.

B. Seams: Fabricate non-moving seams in sheet metal with flat-lock seams. For metal other than aluminum, in edges to be seamed, form seams and solder. Form aluminum seams with epoxy seam sealer; rivet joints for additional strength where required.

C. Expansion Provisions: Where lapped or bayonet-type expansion provisions in work cannot be used or would not be sufficiently weather/waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).

D. Sealant Joints: Where movable, non-expansion type joints are indicated or required for proper performance of work, form metal to provide for proper installation of elastomeric sealant, in compliance with SMACNA standards.

E. Separations: Provide for separation of metal from incompatible metal or corrosive substrates by coating concealed surfaces at locations of contact, with bituminous coating or other permanent separation as recommended by manufacturer/fabricator.

F. Aluminum Extrusion Units: Fabricate extruded aluminum running units with formed for extruded aluminum joint covers. Fabricate mitered and welded corner units.

2.04 PREFABRICATED SHEET METALS

A. All other flashing: Provide minimum 22-gauge galvanized flashing to the sizes and shapes as detailed on the drawings. All exposed flashing shall be primed and painted per the paint specification sections. Provide minimum two (2) coats of paint.

PART 3 – EXECUTION

3.01 PREPARATION

A. Inspect substrate conditions prior to installation of sheet metal items. Conditions which could be detrimental to correct and proper installation of sheet metal assemblies are to be called to the attention of the Owner for their disposition prior to sheet metal work being installed.

B. Coordinate fabrication and installation of sheet metal items with work of others such as roofing, curtainwall and windows, sealants, mechanical and electrical.

3.02 INSTALLATION

A. General: Except as otherwise indicated, comply with manufacturer's installation instructions and recommendations and with SMACNA "Architectural Sheet Metal Manual." Anchor units of work securely in place by methods indicated, providing for thermal expansion of metal units; conceal fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weatherproof.

C. Bed flanges of work in a thick coat of bituminous roofing cement where required for waterproof performance.

D. Install reglets to receive counterflashing in manner and by methods indicated. Where shown in concrete, furnish reglets to trades of concrete work for installation as work of Division 3 sections. Where shown in masonry, finish reglets to trades of masonry work, for installation as work of Division 4 sections.

E. Install counter flashings in reglets, either by snap-in seal arrangement or by welding in-place for anchorage and filling reglet with mastic or elastomeric sealant, as indicated in depending on degree of sealant exposure.

F. Flash around exterior openings in the building where other waterproofing methods are insufficient.

G. Joints
   1. Typically, provide flat locked joints with sealant between metal surfaces, unless shown otherwise. Where standing seams are required, provide with folded corners.
   2. Provide minimum of 3-inch laps.
   3. Where concealed joints are possible, provide flat locked joints with 3-inch reinforcing behind, set-in full bed of sealant.
   4. Do not leave sheet metal joint unsealed. See sealant section of these specifications.

3.03 INSPECTION

A. Immediately following installation of sheet metal work, touch-up areas where primer has been removed during installation operations and where soldering has occurred.

B. Where architectural coatings are provided, touch-up marred or abraded finishes with compatible coating which can be expected to provide the same serviceability as factory applied coatings.

3.04 CLEANING

A. Clean exposed metal surfaces, removing substances that might cause corrosion of metal or deterioration of finishes.

3.06 PROTECTION

A. Advise Contractor of required procedures for surveillance and protection of flashings and sheet metal work during construction to ensure that work will be without damage or deterioration other than natural weathering at time of Substantial Completion.

END OF SECTION

SECTION 07 90 00

JOINT SEALERS

PART 1 – GENERAL

1.01 SUMMARY

A. SECTION INCLUDE
1. Preparing sealant substrate surfaces.
2. Concrete Joint Sealants.
3. Sealant and backing.

B. RELATED SECTIONS
1. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.
2. Section 00 72 13: General Conditions.
3. Section 07 60 00: Flashing and Sheet Metal: Sealants used in conjunction with metal flashings.
4. Section 08 11 00: Metal Doors and Frames: Perimeter sealants.
5. Section 09 29 00: Gypsum Board Systems.
6. Division 22: Mechanical.
7. Division 26: Electrical.
8. Section 32 16 00: Site Concrete.

C. REFERENCES
1. ASTM C834-17(2023) Standard Specification for Latex Sealants.
2. ASTM C920-18(2024) Standard Specification for Elastomeric Joint Sealants.
3. ASTM E84-24 Standard Test Method for Surface Burning Characteristics of Building Materials.
4. ASTM E119-03a(2023)e1 Standard Test Methods for Fire Tests of Building Construction and Materials.
5. ASTM E814-24 Standard Test Method for Fire Tests of Penetration Firestop Systems.
6. FM (Factory Mutual) - Fire Hazard Classifications.
7. UL - Fire Hazard Classifications.
8. UL 263 – Standard for Fire Tests of Building Construction and Materials.
9. UL 723 - Test for Surface Burning Characteristics of Building Materials.
10. UL 1479 - Fire Tests of Through-Penetration Firestops.
11. FS TT S 00227 Sealing Compound: Elastomeric Type, Multi-Component.
12. FS TT S 00230 Sealing Compound: Elastomeric Type, Single Component.
13. FS TT S 001543 Sealing Compound, Silicone Rubber Base.

1.02 SUBMITTALS

A. Submit manufacturer’s product data under provisions of Section 01 33 00 for each product required.

B. Submit product data indicating sealant chemical characteristics, performance criteria, limitations, and color availability.

D. Submit standard color ranges of exposed materials for Architect selection.

E. Submit manufacturer's installation instructions under provisions of Section 01 33 00.

1.03 QUALITY ASSURANCE

A. Manufacturer: Company specializing in manufacturing the products specified in this Section with minimum three years' experience.

B. Applicator: Company specializing in applying the work of this section with minimum three years' experience, with projects of a similar size and type.

C. Conform to Sealant Waterproofing and Restoration Institute requirements for materials and installation.

D. Prior to installation of joint sealants, field test adhesion to joint substrates.
   1. Install joint sealants in 5-foot joint lengths. Allow to cure before testing. Test adhesion by pulling sealant out of joint.
   2. Perform field tests for each type of elastomeric sealant and joint substrate.
   3. Arrange for tests to take place with joint sealant manufacturer's technical representative present.
   4. Report whether or not sealant in joint connected to pulled out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each type of product and joint substrate.
   5. Sealants not evidencing adhesive failure from testing, in absence of other indications of non-compliance with requirements, will be considered satisfactory. Do not use sealants that fail to adhere to joint substrate during testing.

1.04 ENVIRONMENTAL REQUIREMENTS

A. Do not install solvent curing sealants in enclosed building spaces.

B. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

C. Do not install sealants under adverse weather conditions or when temperatures are above or below manufacturer's recommended limitations for installation.

D. Deliver materials in the unopened, original containers or unopened packages with manufacturer's name, labels, product identification, color, expiration period, curing time and mixing instructions for multi-component materials.

1.05 SEQUENCING AND SCHEDULING

A. Coordinate the work of this Section with all Sections referencing this Section.

1.06 WARRANTY

A. Provide two-year warranty for materials and workmanship under provisions of Section 01 33 00.

B. Warranty: Include coverage of installed sealants and accessories which fail to achieve airtight and watertight seal, exhibit loss of adhesion or cohesion, or do not cure.

PART 2 – PRODUCTS

2.01 SEALANTS

A. Silicone Sealant: Silicone Sealant (use at concrete, masonry, or glazing applications): FS TT S 01543, Class A, low modulus type; Spectrum I as manufactured by Tremco, Inc.

B. Interior Building Sealant: Acrylic-emulsion; one-part, non-sag, mildew-resistant. Complying with ASTM C834-17(2023), formulated to be paintable; Pecora Corp. “AC-20”, Sonneborn “Sonolac”, Tremco Inc. “Tremco Acrylic Latex 834” or approved equal.

C. Sanitary Sealant: One-part mildew-resistant silicone; ASTM C920-18(2024) Type S; Grade NS Class 25; Uses NT, G, A and O; formulated with fungicide for sealing interior joints with nonporous substrates around ceramic file, showers, sinks and plumbing fixtures; Dow Corning Corp. “786 Mildew Resistant”, or approved equal.

D. Acoustical Sealant for Concealed Joints: Nondrying, nonhardening, non-skinning, non-staining, gun-able, synthetic rubber sealant recommended for sealing interior concealed joints to reduce transmission of airborne sound; Pecora Corp. “BA-98”, Tremco Inc. “Tremco Acoustical Sealant” or approved equal.

E. Acoustical Sealant for Exposed Joints: Nonoxidizing, skin-able, paintable, gun-able sealant recommended for sealing interior exposed joints to reduce transmission of airborne sound; Pecora Corp. “AC-20”, USG “Sheetrock Acoustical Sealant” or approved equal.

F. Concrete Expansion Joints: Joint sealing material shall be a two-component, self-leveling, polyurethane elastomeric sealant. Product shall be Sikaflex 2cSL as manufactured Sika Corporation, or equal. Color shall be chosen from the full range of manufacturer’s standard colors.

G. Sheet Metal Flashings, Trims, Gutters, & Joints: Joint sealing material shall be a two-component, self-leveling, polyurethane elastomeric sealant. Product shall be Sikaflex 2cSL as manufactured Sika Corporation, or equal. Color shall be chosen from the full range of manufacturer’s standard colors. Provide Sikaflex 260 Primer at all stainless steel and/or galvanized substrate location for proper adhesion of Sikaflex 2cSL.

H. Substitutions: Under provisions of Section 01 33 00.

I. Color of sealant shall be as selected by Architect.

2.03 ACCESSORIES

A. Primer: Non staining type, recommended by sealant manufacturer to suit application.

B. Joint Cleaner: Noncorrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.

C. Joint Backing: Non-staining; compatible with sealant and primer; such as round, closed cell polyethylene foam rod; oversized 30 to 50 percent larger than joint width. Materials impregnated with oil, bitumen or similar materials shall not be used. Sealant shall not adhere to back-up material.

D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

E. Solvents: cleaning agents or other accessory materials shall be as recommended by the sealant manufacturer.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Verify that surfaces and joint openings are ready to receive work and field measurements are as shown on Drawings and recommended by the manufacturer.

B. Beginning of installation means installer accepts existing surfaces.

3.02 PREPARATION

A. Clean and prime joints in accordance with manufacturer's instructions.

B. Remove loose materials and foreign matter which might impair adhesion of sealant.

C. Verify that joint backing and release tapes are compatible with sealant.

D. Perform preparation in accordance with sealant manufacturer's recommendations.

E. Protect elements surrounding the work of this Section from damage or disfiguration.

F. Clean concrete, masonry, unglazed surfaces of ceramic tile and similar porous surfaces, by brushing, grinding, blast cleaning, mechanical abrading, or acid washing to produce a clean, sound substrate. Remove loose particles remaining from cleaning operations by vacuuming or blowing out joints.

G. Clean metal, glass, glazed surfaces of ceramic tile and other non-porous surfaces by chemical cleaners or other means which are not harmful to substrates or leave residues capable of interfering with adhesion of joint sealants.

3.03 INSTALLATION

A. Install sealant in accordance with manufacturer's instructions.

B. Caulk all exterior joints and openings in the building envelope that are observable sources of air infiltration.

C. Measure joint dimensions and size materials to achieve required width/depth ratios.

D. Install joint backing to achieve a neck dimension no greater than 1/3 the joint width. Roll the material into the joint to avoid lengthwise stretching. Do not twist or braid rod stock.

E. Install bond breaker where joint backing is not used.

F. Prime surfaces to receive joint sealant with primer recommended by sealant manufacturer.

G. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges. Apply masking tape where required to protect adjacent surfaces from sealant application.

H. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.

I. Tool joints concave.

J. At all surface-mounted light fixtures mounted on gypsum board ceilings, contractor shall caulk light fixture body to ceiling finish to eliminate gap between metal body and fixture. Coordinate locations with drawings.

3.04 CLEANING AND REPAIRING

A. Clean work under provisions of Section 01 77 00.

B. Clean adjacent soiled surfaces. Use a solvent or cleaning agent as recommended by the sealant manufacturer.

C. Repair or replace defaced or disfigured finishes caused by work of this Section.

3.05 PROTECTION OF FINISHED WORK

A. Protect finished installation under provisions of Section 01 66 00.

B. Protect sealants until cured.

C. Do not paint sealants until sealant is fully cured.

D. Do not paint silicone sealant.

END OF SECTION

SECTION 09 51 00

ACOUSTICAL CEILINGS

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Lay-in acoustical ceiling systems and metal suspension system.

B. Related Requirements:
   1. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.
   2. Section 02 41 19: Select Building Demolition

1.02 REFERENCES

A. Conform to CBC requirements and UL - Tunnel Test for Fire Hazard Classification of Building Materials.

B. CISCA: Acoustical Ceilings Use and Practice.

C. Division of the State Architect: Comply with requirements of IR 25-2.10.

D. ASTM A641-19 - Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire.

E. ASTM A653-25 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

F. ASTM C423-23e1 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.

G. ASTM C635-22 - Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings.

H. ASTM C636-19 - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels.

I. ASTM E84-24 - Standard Test Method for Surface Burning Characteristics of Building Materials.

J. ASTM E580-24a – Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Subject to Earthquake Ground Motions.

K. ASTM E1264-23 - Standard Classification for Acoustical Ceiling Products.

L. ASTM E1414-21a - Standard Test Method for Airborne Sound Attenuation Between Rooms Sharing a Common Ceiling Plenum.

M. ASTM E1477-98a - Standard Test Method for Luminous Reflectance Factor of Acoustical Materials by Use of Integrating-Sphere Reflectometers.

N. ASCE 7 - Minimum Design Loads for Buildings and Other Structures, as amended by CBC 1615A.1.16.

O. CHPS Low-Emitting Materials Table: Materials submitted must be listed as low emitting on the CHPS website, www.CHPS.net.

1.03 SUBMITTALS

A. Samples:
1. Lay in panels of each specified type, 6-inch by 6-inch minimum size.
2. Suspension System: 12-inch-long samples of suspension system members, connections, moldings and wall angles, for each color specified.

B. Shop Drawings:
1. Indicate complete plan layouts and installation details.
2. Indicate related Work of other sections which is installed in, attached to, or penetrates ceiling areas, such as air distribution and electrical devices.

C. Product Data:
1. Suspension System for Lay-in Ceiling: Printed data for suspension system components, including load tests, indicating conformance to specified tests and standards.
2. Acoustical units: Printed data indicating conformance to specified tests and standards.

D. Maintenance Materials: Provide extra panels equal to 1 percent of the area of each typical module size of acoustical panel, but not less than eight (8) of each specified size, style and color.

1.04 QUALITY ASSURANCE

A. Ceiling systems shall consist of lay-in acoustical ceiling panels by a single manufacturer and suspension systems by a single manufacturer for the entire project.

B. Qualifications of Installer: Minimum five (5) years' experience in installing acoustical ceiling systems of the types specified.

C. Design Criteria:
1. Deflection of finished surface to 1/360 of span or less.
2. 1/8-inch maximum permissible variation from true plane measured from 10-foot straightedge placed on surface of finished acoustical fiber units.

1.05 DELIVERY, STORAGE AND HANDLING

A. Deliver materials to the Project site in original sealed packages.

B. Storage: Store materials in building area where they will be installed, in original package. Keep clean and free from damage due to water or deteriorating elements.

C. Handle in a manner to prevent damage during storage and installation.

1.06 PROJECT CONDITIONS

A. Installation of acoustical ceiling system shall not begin until the building is enclosed, permanent heating and cooling is in operation, and residual moisture from plaster and concrete work has dissipated. Building areas to receive ceilings shall be free of construction dust and debris.

B. Environmental Requirements: Maintain temperature in space at 55 degrees F or above for 24 hours before, during, and after installation of materials.

C. Scheduling:
1. Before concealing Work of other sections, verify required tests and inspections have been completed.
2. Coordinate with related Work of other sections. Coordinate location and symmetrical placement of air distribution devices, electrical devices, and penetrations with related Work section.

1.07 WARRANTY

A. Manufacturer shall provide a 10-year material warranty.

B. Installer shall provide a two (2) year fabrication and installation warranty.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. USG Corporation.

B. Armstrong World Industries.

C. CertainTeed Ceilings Corp.

D. Or Approved Equal.

2.02 SUSPENSION SYSTEM

A. Metal suspension system for acoustical lay-in tile shall be hot-dipped galvanized steel conforming to ASTM A653-53. Main beams and cross tees shall be double-web steel construction with exposed flange design, with factory punched cross tee slots, hanger holes and integral couplings.

B. Metal suspension system for acoustical lay-in tile shall conform with ASTM C635-22, C636 and E580-24a and section 13.5.6 of ASCE 7, as amended by CBC Section 1615A.1, for installation in high seismic areas.

C. Structural classification of suspension systems shall be heavy-duty in conformance to ASTM C635-22.

D. Vertical Strut: USG Donn Compression Post, or equal, or as indicated; types and designs complying with requirements of authorities having jurisdiction and seismic Zones D, E and F requirements. Provide base attachment clip for connection of vertical strut to main beams.

E. Wall Molding: Fabricated from galvanized steel with 2-inch horizontal leg and hemmed edges, same finish as main and cross tees.

F. Spacer/Stabilizer Bars: Provide for tying together the ends of main runners and cross tees that are not attached to wall molding.

G. Hanger Wire: 0.106-inch diameter (0.144-inch diameter for pendant fixtures), galvanized soft annealed mild steel wire as defined in ASTM A641-19(2025), Class 1 coating.

H. Provide attachment devices and any other required accessories for a complete suspended ceiling system installation.

2.03 ACOUSTICAL CEILING PANELS

A. Acoustical ceiling panels shall be class A in accordance to ASTM E1264-23.

B. Acoustical panels shall meet the following surface-burning characteristics when tested in accordance to ASTM E84-24 for Class A materials:
   1. Maximum Flame Spread: 25.
   2. Maximum Smoke Developed: 50.

C. Mold and Mildew Resistance: Panels and faces shall be treated with a biocide paint additive or an antimicrobial solution to inhibit mold and mildew.

2.04 CEILING TYPES

A. ACT 1 - Classrooms:
   1. Acoustical Ceiling Panels:
      a. Panel Name: Armstrong Fine Fissured High NRC 1811, USG Radar Climaplus HiNRC 22311, CertainTeed Fine Fissured HHF 497 HNRC, or equal.
      b. Panel Size: 2-foot by 4-foot.
      c. Panel Thickness: 3/4 inch.
      d. Edge Detail: Lay-in.
      e. Light Reflectance: 0.82 minimum, complying with ASTM E1477-98a(2022).
      f. CAC: Minimum 40, UL Classified, complying with ASTM E1414-21a.
      g. NRC: Minimum 0.70, UL Classified, complying with ASTM C423-71(2019).
      h. Color: White.

i. Recycled Content: Minimum 37 percent.

2. Suspension System:
   a. Suspension System Name: Prelude XL by Armstrong, Donn DX by USG, 1200 Seismic Series by Chicago Metallic Corporation, or equal.
   b. Color: White.

PART 3 - EXECUTION

3.01 PREPARATION

A. Furnish layouts for inserts, clips or other supports and struts required to be installed by the Work of other trades that depend on the suspended ceiling system for support.

B. Coordinate related Work to ensure completion prior to installation of clips or fasteners.

C. Compare layouts with construction conditions. Tile shall be spaced symmetrically about the centerlines of the room or space, and shall start with a tile or joint line as required to avoid narrow tiles at the finish edges unless indicated otherwise. Joints shall be tight with joint lines straight and aligned with the walls. Ceiling moldings shall be provided where tile abuts wall with matching caulking to eliminate any space.

3.02 INSTALLATION

A. Suspension Systems
   1. Install suspension system in accordance with ASTM C636, ASTM E580 and in full compliance with DSA IR 25-2.
   2. System shall be complete; with joints neatly and tightly joined and securely fastened; suspension members shall be installed in a true, flat, level plane.
   3. Hanger Wires: 0.106-inch diameter minimum; larger sizes as indicated or required.
      a. Fasten wires to panel points and structure above per most stringent requirements of fabricator and CBC and as indicated on Drawings.
      b. Wires exceeding 1:6 out-of-plumb shall be braced with counter-sloping wires.
      c. Maintain wires at least 6 inches from non-braced ducts, pipes, conduits, and other items.
      d. Install wire along main runners at 4 feet on center. Terminal ends of each main runner and cross tee must be supported within 8 inches of each wall with a perimeter wire or within 1/4 of the length of the end tee, whichever is least, for the perimeter of the ceiling area.
      e. Where obstructions prevent direct suspension, provide trapezes or equivalent devices; 1 ½-inch minimum cold rolled channels back-to-back may be installed for spans to 6 feet maximum.
      f. Wire shall be straight, without extraneous kinks or bend. Hanger wire connections must be capable of carrying a 200 - pound pull without stretching or shifting the suspension clip.

   4. Bracing Wires to Resist Seismic Forces: 0.106-inch diameter minimum, larger sizes as indicated or required.
      a. System for Bracing Ceilings: Lay-in Ceiling Systems: Install one (1) 4 wire set of sway bracing wires and a vertical strut for each 144 square feet maximum of ceiling area. Locate wire sets

and struts at 12 feet maximum on center. At ceiling perimeters, wire-sets shall be installed within 6 feet of walls.

b. Install 4-wire sets and struts within 2 inches of cross-runner intersection with main runner; space wires 90 degrees from each other.
c. Do not install sway bracing wires at an angle greater than 45 degrees with the ceiling plane.
d. Wires shall be tight, without causing ceiling to lift.
e. Fasten struts in accordance with CBC requirements.
f. Maintain wires at least 6 inches from non-braced ducts, pipes, conduit, and other items.

5. Provide additional wires, 0.106-inch diameter minimum, necessary to properly support suspension at electrical devices, air distribution devices, vertical soffits, and other concentrated loads.
6. Suspension:
   a. Suspension members shall be fastened to two (2) adjacent walls per ASTM 580; but shall be at least 3/4 inches minimum clear of other walls.
   b. Any suspension members not fastened to walls shall be interconnected to prevent spreading, near their free end, with a horizontal metal strut or stabilizer bar or 0.064-inch diameter taut tie wire.
   c. Provide additional tees or sub tees to frame openings for lights, air distribution devices, electrical devices, and other items penetrating through ceiling, which do not have an integral flange to support and conceal cut edges of acoustic panels. Provide cross bracing necessary to securely support any surface mounted fixtures or other items.

7. Attachment of Wires:
   a. To Metal Deck or Steel Framing Members: Install as required by current code.
   b. To Suspension Members: Insert through holes in members or supporting clips.
   c. Wires shall be fastened with three (3) tight turns minimum for hanger wires and four (4) tight turns minimum bracing wires. Turns shall be made in a 1 ½-inch maximum distance.

B. Suspension System for 2-foot by 4-foot Lay-in Acoustical Ceilings:
   1. Main Runners: Install main runners 48 inches apart; 0.106-inch diameter hanger wires space 48 inches on center maximum along runners, and within 8 inches of ends.
   2. Install wall moldings with fasteners to studs. Install corner caps at molding intersections.
   3. Cross Tees: Install between main runners in a repetitive pattern of 2-foot spacings.
   4. Sub-Tees: Install at edges of penetrations.

C. Acoustical Panels
   1. Install panels into suspension system. Partial panels shall be neatly cut and fitted to suspension and around penetrations and/or obstructions. Duplicate tegular edges at partial panels; cuts to be straight. Repaint cut tiles to match color or as directed by manufacturer for mylar facing at visually exposed conditions or as required by the Architect.
   2. Penetrations through the ceilings for sprinkler heads and other similar devices that are not integrally tied to the ceiling system in the lateral direction shall have a 2-inch oversized ring, sleeve or adapter through the ceiling tile to allow free movement of 1 inch in horizontal directions. Alternatively, per ASTM E580-24a, a flexible sprinkler hose fitting that can accommodate 1 inch of ceiling movement shall be permitted to be used in lieu of the oversized ring, sleeve or adapter.

D. Air Distribution Devices
   1. Refer to and coordinate with Division 23 - HVAC.
   2. Install air distribution grilles and other devices into suspension system. Install 4 taut wires, each 0.106-inch diameter minimum, to each device within 3 inches of device corners, to support their weight independent of the suspension system.

E. Light Fixtures
   1. Refer to and coordinate with Division 26 - Electrical.
   2. Fixtures weighing less than 56 pounds: Install fixtures into suspension systems and fasten earthquake clips to suspension members. Install minimum 2 slack safety wires, each 0.106 inch diameter minimum, to each fixture at diagonally opposite corners, to support their weight independent of the system.
   3. Fixtures weighing 56 pounds or more: Install fixtures into suspension system and fasten earthquake clips to suspension system members as required by the Drawings and/or code. Install not less than 4 taut 0.106-inch diameter wires capable of supporting four (4) times the fixture load.
   4. Support pendant-mounted light fixtures directly from the structure above with hanger wires or cables passing through each pendant hanger and capable of supporting two (2) times the weight of the fixture. Brace the pendant-mounted light fixtures by either a bracing assembly at the ceiling penetration or below the ceiling to the walls, as indicated in the drawings.

3.03 CLEANING

A. General: After installation of acoustical material has been completed, clean surfaces of the material, removing any dirt or discolorations. Replace panels as required.

B. Acoustical Panels: Minor abraded spots and cut edges shall be touched up with the same paint as was used for factory applied finish of the lay-in panels.

C. Remove and replace work that cannot be successfully cleaned and repaired to eliminate evidence of damage.

D. Remove rubbish, debris, and waste materials and legally dispose of off of the Project site.

3.04 PROTECTION

A. Protect the Work of this section until Substantial Completion.

END OF SECTION

SECTION 09 68 00

CARPET

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:
1. Broadloom and carpet tile
2. Integrated walk-off mats
3. Base finish and accessories
4. Subfloor testing and preparation.

B. RELATED SECTIONS
1. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.
2. Section 02 41 19: Selective Building Demolition

1.02 REFERENCES

A. ANSI/ASTM E648-25 - Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source.

B. ASTM F1869-23 – Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.

1.03 QUALITY ASSURANCE

A. Manufacturer, Contractor, and Installer Qualifications:
1. Manufacturer: Company specializing in contract flooring with ten years minimum experience.
2. Flooring Contractor: Company with five years' minimum documented experience, approved by manufacturer for the installation of the specified products and shall have access to all manufacturers required technical, maintenance, specifications and related documents.
3. Installer:
a. Floor covering installer must be factory trained and certified for the installation of the specific products being installed.
b. Installer to provide project inspector proof of certification prior to starting work.
c. Certified installer must be present on job site while work is in progress.

4. Testing Laboratory:
a. Certified, bonded, qualified and experienced agency to perform pH and Relative Humidity (RH) emission tests.

B. Pre-Floor Covering Installation Meeting:

1. Contactor to notify Construction Manager with a minimum of 5-days' notice when anticipated to be ready for pre-floor covering installation meeting. (After subfloor preparation is complete and ready for floor covering installation.)
2. Contractor, installer, and manufacturer representative are required to attend pre-floor covering meeting. Contractor is responsible for coordinating and scheduling their attendance.
3. Construction Manager will schedule meeting with Contractor team, Project Inspector, and Architect.
4. Purpose of Meeting: To review subfloor preparation, verification of readiness for floor covering installation and use of correct products, verification of the acclamation of correct finish materials and review installation requirements.

C. Manufacturer's Field Services:
   1. Manufacturer representative to attend the "Pre-Flooring" meeting.
   2. Upon Owner or Architect's request, and with at least 72-hour notice, provide manufacturer's representative site visit(s) for inspection of product installation.
   3. At the Owner's request, manufacturer representative to attend operation and maintenance training meeting for Owner's custodial staff prior to acceptance of floor covering installation.

1.04 SUBMITTALS

A. Provide a complete submittal package with all components required within this section. Submit per Section 01 33 00.
   1. Product Data: Provide product data describing physical and performance characteristics, sizes, patterns, colors, material safety data sheets, and method of seaming and manufacture's installation instructions for all proposed products.
   2. Shop Drawings:
      a. Provide a floor plan indicating all proposed seam locations and integrated walk-off mats. Indicate method of joining seams, and direction of carpet.

   3. Samples:
      a. Submit samples for color selection illustrating color and pattern for floor material with samples of matching walk-off mats, rubber base and transition material proposed for installation.
      b. Submit sample of solvent welded seam.

   4. Maintenance Data: Submit manufacturers recommend cleaning and maintenance data. Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning.
   5. Recycled Content Percentage Submittals
   6. Submit a statement signed by the manufacturer's Executive Officer or independent certification third-party that the provided carpet materials have the specified recycled material percentage.
   7. Submit documentation of manufacturer's take-back program for carpet. Including:
      a. Confirmation that the new carpet being installed will be accepted (at the point of future replacement) through a manufacturer's operated program for recycling or reuse;
      b. Written description of such a process for the recycling and/or recovery of used/worn products;
      c. Contact information for the take-back program.

8. Existing Carpet Recycling Plan and Recycling Certification. Submit documentation describing the reclamation plan for existing carpet. Include appropriate contact information, overview of procedures, and limitations and conditions applicable to the project Carpet recycling options consist of:
    1. Repurposing - reusing the product in another application such as facilitating the donation of used carpeting to charities and other nonprofit organizations.
    2. Closed Loop Recycling - turning waste materials into new materials of the same value, such as vinyl backing into vinyl backing and nylon yarn into nylon carpet yarn.
    3. Open Loop Recycling – creating other product types from reclaimed carpet. For example, turning nylon face fiber into automotive parts or carpet padding, including nylon face fiber in recycled backings
    4. Waste-to-Energy - using carpet for waste-to-energy. In the case of waste-to-energy, manufacturer shall justify why carpet cannot be recycled as this method should be a last resort.
    5. Landfill or incineration – are not approved disposal methods
    6. At the completion of the project, a certificate shall be furnished verifying the reclamation of the carpet and the pounds of material diverted from the landfill.

1.05 OPERATION AND MAINTENANCE DATA

A. Submit cleaning and maintenance data under provisions of Section 01 33 00.

B. Include maintenance procedures, recommended maintenance materials, and suggested schedule and products for cleaning.

C. Provide in-service training with Owner’s custodial staff prior to acceptance of flooring for proper care and maintenance of carpet. Also review and provide recommended type of furniture casters and glides.

1.06 DELIVERY, STORAGE AND HANDLING

A. Delivery: Deliver materials in manufacturer’s original, unopened, undamaged containers with identification labels intact.

B. Storage and Protection: Store materials protected for exposure to harmful weather conditions and at a temperature and humidity conditions recommended by manufacturer. Materials should be stored in areas that are fully enclosed, weather tight with the permanent HVAC system set at a uniform temperature of at least 68 degrees F (20 degrees C) for 72 hours prior to, during and after installation.

1.07 ENVIRONMENTAL REQUIREMENTS

A. Store materials for three days prior to installation in area of installation to achieve temperature stability.

B. Maintain minimum 70 F ambient temperature at floor level three days prior to, during, and 24 hours after installation of materials.

C. Prior to testing for moisture vapor emission rate, space shall be enclosed, fully weather-tight, wet-work in space shall be completed and nominally dry, work above ceilings finished. The test site should be at the same temperature and humidity expected during normal use.

D. Maintain lighting at a minimum uniform level of 50 or more-foot candles in areas where the floor system is being installed.

E. Comply with CRI's "CRI Carpet Installation Standard" for temperature, humidity, and ventilation limitations.

F. Environmental Limitations: Do not deliver or install carpet tiles until spaces are enclosed and weather tight, wet-work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at levels planned for building occupants.

G. Floor temperature should be 60 °F minimum for proper adhesive curing and performance.

H. If subfloor is contaminated with an oily residue either from removal of “cutback” during asbestos abatement or from a previous end use such as metal fabrication, this residue MUST be totally removed or covered prior to applying modular adhesive and carpet.

1.08 CONCRETE SUBFLOOR TESTING

A. Not Required

1.09 EXTRA MATERIALS

A. Provide a minimum of 4 square yards of each color installed. In addition, provide all usable scraps one sq. yd. or larger in size. Remnants shall be packaged, identified and delivered to the Owners’ Representative, who will retain any he chooses for future repairs before they are removed from the job site.

B. Provide a minimum of 10 lineal feet of base and transition pieces of each material and color specified or 2 % whichever is greater.

1.10 WARRANTY

A. Manufacturer’s Warranty: Twenty (20) year minimum manufacturer warranty commencing on recordation date of the Notice of Completion.
   1. Should carpet, tend to creep, bulge, be defective in manufacturing, or show a substantial amount of wear - carpet shall be replaced with new carpeting at no cost to the Owner. Manufacturer to submit written warranty covering the following:
      a. 20 Year minimum, non-prorated Guarantee shall also include:
         1) No resiliency loss of backing.
         2) No zippering.

3) Static protection (will not lose static property—will not give static discharge above 3.5KV).
4) No edge ravel or zippering.
5) Delamination.
6) Surface wear (maintains at least 90% surface pile weight).
7) No staining.
8) Dimensional Stability.
9) Moisture Resistance.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Carpet (Vinyl Cushioned Tufted Textile): Color as selected by Owner Representative from Manufacturer's standard range. No other substitutions will be allowed.
   1. Tarkett Commercial – Hybrid resilient sheet flooring
      a. "Aftermath II" Series, 6'-0" roll, glue down. Powerbond cushion RS vinyl backing system and seam sealer.
      b. Or Equal.

B. Rubber Wall Base: Cove style, conforming to ASTM F 1861 or FS-SS-W-40, Type 1. Modernization-type projects 6" high and 1/8-inch (3.2mm) gauge. No manufactured corners. Install from roll.
   1. Burke Industries.
   2. Armstrong.
   3. Musson Rubber Co.
   4. Roppe Rubber Corp.
   5. Approved equal.

C. Resilient Edge and Adapter/Transition Strips: 1/8-inch-thick, tapered or bullnose, minimum of 1 inch wide.
   1. Roppe
   2. Johnsonite
   3. Flexco Floors
   4. Approved equal.

D. Leveling and Patching Compounds:
   1. Portland cement-based patch recommended by carpet manufacturer. Install as recommended by manufacturer for specific application.

E. Primer:
   1. Tarkett Commercial: C-36E primer.
   2. Milliken: None required.

F. Adhesives: Low VOC, waterproof, and as recommended by product manufacturer.
   1. Tarkett "RS" pre applied microencapsulated tackifier.
   2. Tarkett Commercial: C-16E Powerbond Adhesive.
   3. Milliken: Mosaic Moisture XT Spray.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Modernization Construction (Existing Concrete Slab)
   1. If existing flooring was determined to be asbestos containing and required abatement, verify that the abatement work has been accepted by the Owner's representative prior to commencing work.
   2. Testing for internal relative humidity of concrete slabs must be conducted in accordance with the current version of ASTM F2170-19a, not to exceed manufacturer's requirements (ASTM F2170-19a – Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using In-Situ Probes).

3.02 PREPARATION

A. Modernization Construction (Existing Concrete Slab)
   1. Remove existing finishes, adhesives, and other materials as necessary to properly prepare existing substrates. (Refer to asbestos abatement procedures.)
   2. Install underlayment where flooring is being installed on a wooden subfloor per the manufacturer's instructions.
   3. Remove sub-floor ridges and bumps. Fill low spots, cracks, joints, holes, and other defects with subfloor filler.
   4. Fill low spots, cracks, joints, holes and other defects with filler prior to flooring installation.
   5. Apply, trowel, and float filler to leave a smooth, flat, hard surface.
   6. Prohibit traffic from area until filler is cured.
   7. Prepare floor substrate to be smooth, rigid, flat, level, permanently dry, clean and free of foreign materials such as dirt, paint, grease, oils, solvent, curing and hardening compounds, sealers, asphalt and old adhesive residue. Vacuum clean substrate.
   8. Apply primer to concrete surfaces.

3.03 CARPET INSTALLATION

A. Install in accordance with manufacturers' instructions and recommendations with fully welded seams.

B. Install flooring square with room axis and in accordance with approved shop drawing.

C. Layout roll-goods in a manner to minimize seams and avoid seams in traffic areas. End butt joints shall be kept to a minimum, shall be staggered, and shall occur where approved on detail plan layout. Use the largest sections possible to minimize seams. Avoid cross seams, filler pieces and strips. Match edges for color shading and pattern at the seams in compliance with the manufacturer recommendations.

D. Terminate flooring at centerline of door openings where adjacent floor finish is dissimilar.

E. Scribe, cut, fit flooring to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture, including pipes, outlets, edgings, thresholds, nosing and cabinets.

F. Install edge strips at unprotected or exposed edges, and where flooring terminates.

G. Install flooring on covers for telephone and electrical ducts, and similar items occurring within finish floor areas. Maintain overall continuity of color and pattern with pieces of flooring installed on these covers.

H. Adhere carpet to prepared substrate without producing open cracks, voids, raising and puckering at joints, telegraphing to adhesive spreader marks, or other surface imperfections in completed installation.

I. Fully solvent weld all seams. Seams shall be unnoticeable in finished installation.

J. Verify carpet match before cutting to ensure minimal variation between dye lots.

K. Double cut carpet, to allow intended seam and pattern match. Make cuts straight, true, and unfrayed.

L. Lay carpet on floors with run of pile in same direction as anticipated traffic.

M. Do not change run of pile in any room where carpet is continuous through a wall opening into another room. Locate change of color or pattern between rooms under door centerline.

N. Complete installation shall conform to the Carpet Installation Standard of Carpet and Rug Institute (CRI).

3.04 INSTALLATION - BASE MATERIAL

A. Install resilient wall base on entire wall perimeter including toe spaces and open ends of cabinets. Set all bases in adhesive as recommended by the manufacturer. All joints in bases shall be plumb, flush, tight and inconspicuous. Seat top edge and back of base firmly against the wall. Wrap base around all outside corners and no seams within 12” of corners. Interior corners shall be mitered and tightly fitted. Install from roll. Strips will not be accepted.

3.05 PROTECTION

A. Prohibit traffic from carpet areas for 24 hours after installation.

B. Protect flooring from damages by other trades prior to owner occupancy.

3.06 FINAL CLEANING

A. Remove excess adhesive from floor, base, and wall surfaces without damage. Remove and dispose of all small scraps, cartons, and rubbish upon completion of the work. Remove all loose threads with sharp scissors.

B. Clean carpet of all spots with proper spot remover, and vacuum carpet surfaces.

END OF SECTION

SECTION 09 91 00

PAINTING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Surface preparation and field painting of exposed interior items and surfaces, including mechanical and electrical equipment that do not have a factory-applied finish.

1.2 RELATED SECTIONS

A. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.

B. Section 06 10 00: Rough Carpentry

C. Division 23: Mechanical.

D. Division 26: Electrical.

1.3 REFERENCES

A. ASTM International (ASTM): ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications.

1.4 DEFINITIONS

A. General: Standard coating terms defined within Masters Painters Institute (MPI) manual.
   1. Gloss level 1 - Flat with a gloss range below 5 when measured at a 60-degree meter and 10 when measured at an 85-degree meter.
   2. Gloss level 2 - Low Sheen with a gloss range of 5 to 10 when measured at a 60 degree meter and 10 to 35 when measured at an 85 degree meter.
   3. Gloss level 3 - Eggshell with a gloss range between 10 and 15 when measured at a 60-degree meter and 10 to 35 when measured at an 85-degree meter.
   4. Gloss level 4 - Satin with a gloss range between 25 to 35 when measured with a 60 degree meter.
   5. Gloss level 5 - Semi-Gloss with a gloss range between 50 and 55 when measured at a 60 degree meter.
   6. Gloss level 6 - Gloss with a gloss range more than 70 when measured at a 60 degree meter.

1.5 SUBMITTALS

A. General: Submit in accordance with Conditions of the Contract and Division 1 Specification sections.

B. Product Data: Manufacturer's data sheets on each product to be used, including:

1. Material List: An inclusive list of required coating materials. Indicate each material and cross-reference specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.
2. Preparation instructions and recommendations.
3. Manufacturer's Information: Manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each coating material.

C. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.

D. At project completion, provide floorplans and elevations denoting all colors used on project with descriptive notations for color and sheen. Each paint color shall be labeled P1, P2, P3, etc. Provide a legend identifying all paint colors. Legend shall also match the final draw downs of each color.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: A firm or individual experienced in applying paints and coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.

B. Obtain block fillers and primers for each coating system from the same manufacturer as the finish coats.

C. Paint Exposed Surfaces: If an item or a surface is not specifically mentioned, paint the item, or surface the same as similar adjacent materials or surfaces. If a color of finish is not indicated, Architect will select from standard colors and finishes available.

D. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to Project site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label:

B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F (7 deg C). Maintain storage containers in a clean condition, free of foreign materials and residue.

C. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

D. Apply waterborne paints only when temperatures of surfaces to be painted and surrounding air are between 50 and 90 deg F (10 and 32 deg C), unless manufacturer's instructions specifically states.

E. Apply solvent-thinned paints only when temperatures of surfaces to be painted and surrounding air are between 45 and 95 deg F (7 and 35 deg C).

F. Do not apply paint in snow, rain, fog, or mist; or when relative humidity exceeds 85 percent; or at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.
   1. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by manufacturer during application and drying periods.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Dunn Edwards Paints.

2.2 PAINT MATERIALS – GENERAL

A. Material Compatibility: Provide block fillers, primers, and finish-coat materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

B. VOC Classification: Provide materials, including primers, undercoats, and finish-coat materials, which meet local air quality management district regulations.

C. Color: Refer to Finish Schedule for paint colors.

D. Application Rate: Coating thickness for primer, intermediate, barrier and finish coats shall be measured as Dry Film Thickness (DFT) and comply with manufacturer's published recommendations.

2.3 Interior Paint Systems

A. Gypsum and Tackable Walls:
   1. Prime Coat: DE Ultra – Grip Acrylic Premium Primer
   2. 2nd Coat: DE Spartawall Acrylic Low VOC Eggshell Enamel
   3. 3rd Coat: DE Spartawall Acrylic Low VOC Eggshell Enamel

B. Previously Painted Wood:
   1. Prime Coat: DE Ultra-Grip Acrylic Premium Primer
   2. 2nd Coat: DE Aristoshield Water Based Urethane Alkyd Semi-Gloss Enamel
   3. 3rd Coat: DE Aristoshield Water Based Urethane Alkyd Semi-Gloss Enamel

C. Metal Doors and Frames:
   1. Prime Coat: DE Ultra-Grip Acrylic Premium Primer
   2. 2nd Coat: DE Aristoshield Water Based Urethane Alkyd Semi-Gloss Enamel
   3. 3rd Coat: DE Aristoshield Water Based Urethane Alkyd Semi-Gloss Enamel

2.4 Exterior Paint Systems

A. Interior & Exterior Surfaces of Exterior Doors:
1. Prime Coat: DE Ultra-Grip Acrylic Premium Primer
2. 2nd Coat: DE Aristoshield Water Based Urethane Alkyd Semi-Gloss Enamel
3. 3rd Coat: DE Aristoshield Water Based Urethane Alkyd Semi-Gloss Enamel

B. New and Previously Painted Wood:
1. Prime Coat: DE Ultra-Grip Acrylic Premium Primer
2. 2nd Coat: DE Aristoshield Water Based Urethane Alkyd Semi-Gloss Enamel
3. 3rd Coat: DE Aristoshield Water Based Urethane Alkyd Semi-Gloss Enamel

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

C. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.
1. Notify Architect about anticipated problems when using the materials specified over substrates primed by others.
2. If a potential incompatibility of primers applied by others exists, obtain the following from the primer Applicator before proceeding:
a. Confirmation of primer's suitability for expected service conditions.
b. Confirmation of primer's ability to be top coated with materials specified.

D. All murals that are to remain in place, protect murals from extensive cleaning. Fully tape/mask murals during priming/painting adjacent wall surfaces.

3.2 PREPARATION

A. General: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of size or weight of the item, provide surface-applied protection before surface preparation and painting.
1. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.

B. Cleaning: Before applying paint or other surface treatments, clean substrates of substances that could impair bond of the various coatings. Remove oil and grease before cleaning.
1. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.

C. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.
   1. Provide barrier coats over incompatible primers or remove and reprime.
   2. Provide barrier coats over incompatible primers or remove primers and reprime substrate.
   3. Cementitious Substrates: Prepare concrete, brick, concrete masonry block, and cement plaster surfaces to be coated. Remove efflorescence, chalk, dust, dirt, grease, oils, and release agents. Roughen as required to dull surfaces. If hardeners or sealers have been used to improve curing, use mechanical methods to prepare surfaces.
      a. Use abrasive blast-cleaning methods if recommended by coating manufacturer.
      b. Determine alkalinity and moisture content of surfaces by performing appropriate tests. If surfaces are sufficiently alkaline to cause the finish paint to blister and burn, correct this condition before application. Do not coat surfaces if moisture content exceeds that permitted in manufacturer's written instructions.

   4. Wood Substrates: Clean surfaces of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Smoothly sand surfaces exposed to view and dust off.
      a. Scrape and clean small, dry, seasoned knots, and apply a thin coat of white shellac or other recommended knot sealer, before applying primer.
      b. Immediately on delivery, prime edges, ends, faces, undersides, and backsides of wood to be coated.
      c. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.
      d. Determine moisture content of surfaces by performing a moisture test. Do not coat if moisture content exceeds 15 percent.

   5. Ferrous-Metal Substrates: Clean ungalvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with SSPC recommendations.
      a. Touch up bare areas and shop-applied prime coats that have been damaged. Wire brush, solvent clean, and touch up with same primer as the shop coat.
         Remove pretreatment from galvanized sheet metal fabricated from coil stock by mechanical methods.

D. Material Preparation: Carefully mix and prepare coating materials according to manufacturer's written instructions.
   1. Maintain containers used in mixing and applying coatings in a clean condition, free of foreign materials and residue.
   2. Stir materials before applying to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into the material. Remove film and, if necessary, strain coating material before using.
   3. Use only the type of thinners approved by manufacturer and only within recommended limits.

4. Tinting: Tint each undercoat a lighter shade to simplify identification of each coat when multiple coats of same material are applied. Tint undercoats to match the color of the finish coat but provide sufficient differences in shade of undercoats to distinguish each separate coat.

3.3 APPLICATION

A. General: Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.

B. General: Apply high-performance coatings according to manufacturer's written instructions.
1. Use applicators and techniques best suited for the material being applied.
2. Do not apply high-performance coatings over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to forming a durable coating film.
3. Coating surface treatments, and finishes are indicated in the coating system descriptions.
4. Provide finish coats compatible with primers used.
5. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, convector covers, grilles, covers for finned-tube radiation, and similar components are in place. Extend coatings in these areas, as required, to maintain system integrity and provide desired protection.

C. Application Procedures: Apply coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.
1. The number of coats and film thickness required is the same regardless of application method.
2. Completed Work: Match approved Samples for color, texture, and coverage. Remove, refinish, or recoat work that does not comply with specified requirements.

3.4 FIELD QUALITY CONTROL

A. Owner reserves the right to invoke the following test procedure at any time and as often as Owner deems necessary during the period when paint is being applied:
1. Owner will engage a qualified independent testing agency to sample paint material being used. Samples of material delivered to Project will be taken, identified, sealed, and certified in the presence of Contractor.
2. Owner may direct Contractor to stop painting if test results show material being used does not comply with specified requirements. Contractor shall remove non-complying paint from Project site, pay for testing, and repaint surfaces previously coated with the non-complying paint. If necessary, Contractor may be required to remove non-complying paint from previously painted surfaces if, on repainting with specified paint, the two coatings are incompatible.

3.5 CLEANING

A. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping without scratching or damaging adjacent finished surfaces.

3.6 PROTECTION

A. Protect work of other trades, whether being painted or not, against damage from painting. Correct damage by cleaning, repairing, or replacing, and repainting, as approved by Architect.

B. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting operations, remove temporary protective wrappings provided by others to protect their work.

C. After work of other trades is complete, touch up and restore damaged or defaced painted surfaces.

END OF SECTION

SECTION 22 00 50

BASIC PLUMBING MATERIALS AND METHODS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Valve boxes.
2. Insulation.

1.02 RELATED REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. This Section is a part of each Division 22 Section.

1.03 ADDITIONAL REQUIREMENTS

A. Furnish and install any incidental work not shown or specified which is necessary to provide a complete and workable system.

B. Make all temporary connections required to maintain services during the course of this Contract without additional cost to the Owner. Notify the Owner seven days in advance before disturbing any service.

C. Plumbing work done under this contract shall not adversely affect the operation of the existing plumbing systems.

1.04 REFERENCES AND STANDARDS

A. Where material or equipment is specified to conform to referenced standards, it shall be assumed that the most recent edition of the standard in effect at the time of bid shall be used.

1. CSA – Canadian Standards Association International.
2. ANSI - American National Standards Institute.
3. ASTM - American Society for Testing and Materials.
4. CCR - California Code of Regulations.

a. Title 8 - Division of Industrial Safety, Subchapter 7; General Industry Safety Orders, Articles 31 through 36.

5. NCPWB - National Certified Pipe Welding Bureau.
6. CEC - California Electrical Code.
7. NEMA - National Electrical Manufacturers' Association.
8. NFPA - National Fire Protection Association.
9. OSHA - Occupational Safety and Health Act.

10. UL - Underwriters' Laboratories, Inc.

B. Requirements of Regulatory Agencies:

1. The publications listed below form part of this specification; comply with provisions of these publications except as otherwise shown or specified.

a. California Building Code, 2025.
b. California Electrical Code, 2025.
c. California Energy Code, 2025.
d. California Fire Code, 2025.
e. California Green Building Standards Code, 2025.
f. California Mechanical Code, 2025.
g. California Plumbing Code, 2025.
h. California Code of Regulations, Title 24.
i. California Health and Safety Code.
j. CAL-OSHA.
k. California State Fire Marshal, Title 19 CCR.
l. National Fire Protection Association.
m. Occupational Safety and Health Administration.
n. Other applicable state laws.

2. Nothing in Drawings or specifications shall be construed to permit work not conforming to these codes, or to requirements of authorities having jurisdiction. It is not the intent of Drawings or specifications to repeat requirements of codes except where necessary for clarity.

1.05 DRAWINGS

A. Examine Contract Documents prior to bidding of work and report discrepancies in writing to Architect.

B. Drawings showing location of equipment and materials are diagrammatic and job conditions will not always permit installation in location shown. The Plumbing Drawings show general arrangement of equipment and materials, etc., and shall be followed as closely as existing conditions, actual building construction, and work of other trades permit.

1. Architectural and Structural Drawings shall be considered part of the Work. These Drawings furnish Contractor with information relating to design and construction of the Project. Architectural Drawings take precedence over Plumbing Drawings.
2. Because of the small scale of Plumbing Drawings, not all offsets, fittings, and accessories required are shown. Investigate structural and finish conditions affecting the Work and arrange Work accordingly. Provide offsets, fittings, and accessories required to meet conditions. Inform Architect immediately when job conditions do not permit installation of equipment and materials in the locations shown. Obtain the Architects approval prior to relocation of equipment and materials.
3. Relocate equipment and materials installed without prior approval of the Architect. Remove and relocate equipment and materials at Contactors' expense upon Architects' direction.
4. Minor changes in locations of equipment, piping, etc., from locations shown shall be made when directed by the Architect at no additional cost to the Owner providing such change is ordered

before such items of work, or work directly connected to same are installed and providing no additional material is required.

C. Execute work mentioned in Specifications and not shown on Drawings, or vice versa, the same as if specifically mentioned or shown in both.

1.06 FEES AND PERMITS

A. Obtain and pay for all permits and service required in installation of this work; arrange for required inspections and secure approvals from authorities having jurisdiction. Comply with requirements of Division 01.

B. Arrange for utility connections and pay charges incurred, including excess service charges.

1. Bear the cost of construction related to utility services, from point of connection to utility services shown on Contract Documents. This includes piping, excavation, backfill, meters, boxes, check valves, backflow prevention devices, general service valves, concrete work, and the like, whether or not Work is performed by Contractor, local water/sanitation district, public utility, other governmental agencies or agencies' assigns.

C. Prior to the start of construction, contact local gas company representative and coordinate location of gas meter and piping. In addition, coordinate time required for installation, in order to avoid delay to the Project.

D. Coordination:

1. General:

a. Coordinate plumbing Work with trades covered in other Specifications Sections to provide a complete, operable and sanitary installation of the highest quality workmanship.

2. Electrical Coordination:

a. Refer to the Electrical Drawings and Specifications, Division 26, for service voltage and power feed wiring for equipment specified under this section. Contractor has full responsibility for the following items of work:

1) Review the Electrical Drawings and Division 26 Specifications to verify that electrical services provided are adequate and compatible with equipment requirements.
2) If additional electrical services are required above that indicated on Electrical Drawings and in Division 26, such as more control interlock conductors, larger feeder, or separate 120 volt control power source, include cost to furnish and install additional electrical services as part of the bid.
3) Prior to proceeding with installation of additional electrical work, submit detailed drawings indicating exact scope of additional electrical work.

3. Mechanical Coordination:

a. Arrange for pipe spaces, chases, slots and openings in building structure during progress of construction, to accommodate mechanical system installation.

b. Coordinate installation of supporting devices. Set sleeves in poured-in-place concrete and other structural components during progress of construction.
c. Coordinate requirements for access panels and doors for mechanical items requiring access where concealed behind finished surfaces. Access panels and doors are specified in Division 08 Section “Access Doors and Frames.”
d. Coordinate with other trades equipment locations, pipe, duct and conduit runs, electrical outlets and fixtures, air inlets and outlets, and structural and architectural features. Provide information on location of piping and seismic bracing to other trades as required for a completely coordinated project.

1.07 SUBMITTALS - GENERAL

A. Refer to Division 01 Submittals Section(s) for additional requirements.

B. Submittal packages may be submitted via email as PDF electronic files, or as printed packages. PDFs shall be legible at actual size (100 percent). Provide seven copies of printed submittal packages.

C. Provide submittal of materials proposed for use as part of this Project. Product names in Specifications and on Drawings are used as standards of quality. Furnish standard items on specified equipment at no extra cost to the Contract regardless of disposition of submittal data. Other materials or methods shall not be used unless approved in writing by Architect. Architect's review will be required even though "or equal" or synonymous terms are used.

1. Partial or incomplete submittals will not be considered.
2. Quantities are Contractor's responsibility and will not be reviewed.
3. Provide materials of the same brand or manufacturer for each class of equipment or material.
4. Identify each item by manufacturer, brand, trade name, number, size, rating, or other data necessary to properly identify and review materials and equipment. Words "as specified" are not sufficient identification.
5. Identify each submittal item by reference to items’ Specification Section number and paragraph, by Drawing and detail number, and by unit tag number.
6. Organize submittals in same sequence as in Specification Sections.
7. Show physical arrangement, construction details, finishes, materials used in fabrications, provisions for piping entrance, access requirements for installation and maintenance, physical size, mechanical characteristics, foundation and support details, and weight.

a. Submit Shop Drawings, performance curves, and other pertinent data, showing size and capacity of proposed materials.
b. Specifically indicate, by drawn detail or note, that equipment complies with each specifically stated requirement of Contract Documents.
c. Drawings shall be drawn to scale and dimensioned (except schematic diagrams). Drawings may be prepared by vendor but must be submitted as instruments of Contractor, thoroughly checked and signed by Contractor before submission to Architect for review.
d. Catalog cuts and published material may be included with supplemental scaled drawings.

D. Review of submittals will be only for general conformance with design concept and general compliance with information given in Contract Documents. Review will not include quantities, dimensions, weights or gauges, fabrication processes, construction methods, coordination with work of other trades, or construction safety precautions, which are sole responsibility of Contractor.

Review of a component of an assembly does not indicate acceptance of an assembly. Deviations from Contract Documents not clearly identified by Contractor are Contractor's responsibility and will not be reviewed by Architect.

E. Within reasonable time after award of contract and in ample time to avoid delay of construction, submit to Architect Shop Drawings or submittals on all items of equipment and materials provided. Provide submittal in at least seven copies and in complete package.

1. Shop Drawings and submittals shall include Specification Section, Paragraph number, and Drawing unit symbol or detail number for reference. Organize submittals into booklets for each Specification section and submit in loose-leaf binders with index. Deviations from the Contract Documents shall be prominently displayed in the front of the submittal package and referenced to the applicable Contract requirement.

F. Furnish to the Project Inspector complete installation instructions on material and equipment before starting installation.

1.08 ACTION SUBMITTALS

A. Product Data: Submit manufacturer's technical product data and installation instructions for plumbing systems materials and products.

B. Shop Drawings.

C. Sustainable Design Submittals:

1. Product Data: For adhesives and sealants, documentation of compliance including printed statement of VOC content and chemical components.
2. Laboratory Test Reports: For adhesives and sealants, indicating compliance with requirements for low-emitting materials.

D. Pipe, pipe or plumbing fittings, fixtures, solder and flux installed in a system providing water for human consumption shall comply with lead free requirements of the California Health and Safety Code Section 11 68 75. Provide submittal information for products third-party certified by an approved laboratory as complying with California Health and Safety Code Section 11 68 75.

1.09 INFORMATIONAL SUBMITTALS

A. Provide layouts for plumbing systems, for inclusion in coordinated layout specified in Section 23 80 00. Comply with requirements for layouts specified in Section 23 80 00.

1.10 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data:

1. Refer to Division 01 for complete instructions.
2. Furnish three complete sets of Operation and Maintenance Manual bound in hardboard binder, and one compact disc containing complete Operation and Maintenance Manual in searchable PDF format. Provide Table of Contents. Provide index tabs for each piece of equipment in binder and disc. Begin compiling data upon approval of submittals.

a. Sets shall incorporate the following:

1) Product Data.
2) Shop Drawings.
3) Record Drawings.
4) Service telephone number, address and contact person for each category of equipment or system.
5) Complete operating and maintenance instructions for each item of plumbing equipment and systems.
6) Copies of guarantees/warrantees for each item of equipment and systems.
7) Test data and system balancing reports.
8) Typewritten maintenance instructions for each item of equipment listing lubricants to be used, frequency of lubrication, inspections required, adjustment, etc.
9) Manufacturers' bulletins with parts numbers, instructions, etc., for each item of equipment.
10) Control diagrams and literature.
11) A complete list or schedule of all scheduled valves giving the number of the valve, location and the rooms or area controlled by the valve. Identify each valve with a permanently attached metal tag stamped with number to match schedule. Post list in frame under plastic on wall in mechanical room or where directed by Architect.
12) Check test and start reports for each piece of plumbing equipment provided as part of the Work.
13) Commissioning and Preliminary Operation Tests required as part of the Work.

b. Post service telephone numbers and/or addresses in an appropriate place as designated by the Architect.

B. Record Drawings:

1. Refer to Division 01, Record Documents, for requirements governing Work specified herein.
2. Upon completion of the work, deliver to Architect the following:

a. Originals of drawings showing the Work exactly as installed.

1) RFI, ASI, CCD references pasted onto contract documents or final shop drawings by the Contractor, or provided as reference, does not suffice as record of the as-built conditions. The Contractor shall document the as-built conditions showing Work exactly as installed using red-lined markups of the contract documents or final shop drawings.

b. One complete set of reproducible drawings showing the Work exactly as installed.
c. One compact disc with complete set of drawings in PDF format showing the Work exactly as installed.
d. Provide Contractor’s signature, verifying accuracy of record drawings.
e. Obtain the signature of the Project Inspector for all record drawings.

1.11 SUBSTITUTIONS

A. Refer to Division 01 for complete instructions. Requirements given below are in addition to or are intended to amplify Division 01 requirements. In the case of conflict between requirements given herein and those of Division 01, Division 01 requirements shall apply.

B. It is the responsibility of Contractor to assume costs incurred because of additional work and or changes required to incorporate proposed substitute into the Project. Refer to Division 01 for complete instructions.

C. Substitutions will be interpreted to be all manufacturers other than those specifically listed in the Contract Documents by brand name, model or catalog number.

D. Only one request for substitution will be considered for each item of equipment or material.

E. Substitution requests shall include the following:

1. Reason for substitution request.
2. Complete submittal information as described herein; see “Submittals.”
3. Coordinated scale layout drawings depicting position of substituted equipment in relation to other work, with required clearances for operation, maintenance and replacement.
4. List optional features required for substituted equipment to meet functional requirements of the system as indicated in Contract Documents.
5. Explanation of impact on connected utilities.
6. Explanation of impact on structural supports.

F. Installation of reviewed substitution is the Contractors’ responsibility. Any mechanical, electrical, structural, or other changes required for installation of reviewed substituted equipment or material must be made by the Contractor without additional cost to the Owner. Review by the Architect of the substituted equipment or material, including dimensioned Drawings will not waive these requirements.

G. Contractor may be required to compensate the Architect for costs related to substituted equipment or material.

1.12 QUALITY ASSURANCE

A. Manufacturer's Qualifications: Firms regularly engaged in manufacture of plumbing systems products, of types, materials, and sizes required, whose products have been in satisfactory use in similar service for not less than 5 years.

B. Contractor's Qualifications: Firm with at least 5 years of successful installation experience on projects with plumbing systems work similar to that required for this Project.

C. California Health and Safety Code Compliance: For products covered under the scope of HSC 116875 for potable water service. Products for potable water service shall be third-party certified by an approved laboratory as complying with California Health and Safety Code Section 11 68 75.

D. Comply with applicable portions of California Plumbing Code pertaining to selection and installation of plumbing materials and products.

E. All materials and products shall be new and shall match existing.

1.13 DELIVERY, STORAGE, AND HANDLING

A. Protect equipment and piping delivered to Project site from weather, humidity and temperature variations, dirt, dust and other contaminants.

1.14 FIELD CONDITIONS

A. Contractor shall visit Project site and examine existing conditions in order to become familiar with Project scope. Verify dimensions shown on Drawings at Project site. Bring discrepancies to the attention of Architect. Failure to examine Project site shall not constitute basis for claims for additional work because of lack of knowledge or location of hidden conditions that affect Project scope.

B. Information on Drawings relative to existing conditions is approximate. Deviations from Drawings necessary during progress of construction to conform to actual conditions shall be approved by the Architect and shall be made without additional cost to the Owner. The Contractor shall be held responsible for damage caused to existing services. Promptly notify the Architect if services are found which are not shown on Drawings.

1.15 WARRANTY

A. Refer to Division 01 for warranty requirements, and duration and effective date of Contractor’s Standard Guarantee.

B. Repair or replace defective work, material, or part that appears within the warranty period, including damage caused by leaks.

C. On failure to comply with the warranty requirements within a reasonable length of time after notification is given, the Architect/Owner shall have the repairs made at the Contractor's expense.

PART 2 - PRODUCTS

2.01 GENERAL

A. Materials or equipment of the same type shall be of the same brand wherever possible. All materials shall be new and in first class condition.

B. All sizes, capacities, and efficiency ratings shown are minimum, except that gas capacity is maximum available.

C. Refer to Sections 22 10 00 for specific system piping materials.

2.02 MATERIALS AND PRODUCTS

A. No material installed as part of this Work shall contain asbestos.

B. Insulation products, including insulation, insulation facings, jackets, adhesives, sealants and coatings shall not contain polybrominated diphenyl ethers (PBDEs) in penta, octa, or deca formulations in amounts greater than 0.1 percent (by mass).

2.03 VALVE BOXES

A. General:

1. Where several valves or other equipment are grouped together, provide larger boxes of rectangular “vault” type adequately sized for condition and similar in construction to those specified above.
2. Provide valve box extensions as required to set bottom of valve box tight up to top of piping in which valve is installed.
3. Provide a tee handle wrench for each size, Alhambra Foundry Co. #A-3008, or equal.

B. Valve Boxes in Traffic Areas: Provide Christy No. G5 traffic valve box, Brooks, or equal, 10-3/8 inches inside diameter with extensions to suit conditions, with cast iron or steel locking cover. Provide Owner with set of special wrenches or tools as required for operation of valves.

C. Valve Boxes in Non-Traffic Areas: Provide Christy No. F22, Brooks, or equal, 8 inches inside diameter by 30 inches long, with cast iron or steel locking cover. Provide Owner with set of special wrenches or tools as required for operation of valves. Cut bottom of plastic body for operation of valves.

D. Valve Box (Rectangular Vault Type): Precast concrete or cast iron with cast iron or steel locking type covers lettered to suit service – Brooks No. 3-TL, Christy No. B3, Fraser No. 3, Alhambra A-3004 or A-3005, Alhambra E-2202, or E-2702, or equal, with extension to suit conditions.

2.04 INSULATION WORK

A. General:

1. Insulation products, including insulation, insulation facings, jackets, adhesives, sealants and coatings shall not contain polybrominated diphenyl ethers (PBDEs) in penta, octa, or deca formulations in amounts greater than 0.1 percent (by mass).
2. Adhesives and sealants shall comply with testing and product requirements of South Coast Air Quality Management District, Rule 1168.
3. The term "piping" used herein includes pipe, valves, strainers and fittings.
4. Apply insulating cement to fittings, valves and strainers and trowel smooth to the thickness of adjacent covering. Cover with jacket to match piping. Extend covering on valves up to the bonnet. Leave strainer cleanout plugs accessible.
5. Provide pre-formed PVC valve and fitting covers.
6. Provide Calcium Silicate rigid insulation and sheet metal sleeve, 18 inch minimum length at each pipe hanger. Seal ends of insulation to make vapor tight with jacket.
7. Test insulation, jackets and lap-seal adhesives as a composite product and confirm flame spread of not more than 25 and a smoke developed rating of not more than 50 when tested in accordance with UL723 or ASTM E84.
8. Clean thoroughly, test and have approved, all piping and equipment before installing insulation and/or covering.

9. Repair all damage to existing pipe and equipment insulation whether or not caused during the work of this contract, to match existing adjacent insulation for thickness and finish, but conforming to flame spread and smoke ratings specified above.

B. Insulation of Piping:

1. Insulate domestic hot and tempered water with minimum 3-1/2 pounds per cubic foot density fiberglass with ASJ-SSL jacket. Insulation thickness shall be the following:

    a. Pipe 3/4 inches and smaller: 1 inch thick.
    b. Pipe 1 inch through 1-1/2 inches: 1-1/2 inches thick.
    c. Pipe 2 inches and larger: 2 inches thick.

2. Insulate domestic hot water piping under slab on grade with Owens Corning Foamglas, preformed pipe insulation, or equal. Inorganic, incombustible, foamed or cellulated glass with annealed, rigid, hermetically sealed cells. Cover pipe and fittings with insulation manufacturer's recommended jacketing. Insulation thickness shall be the following:

    a. Pipe 3/4 inches and smaller: 2 inches thick.
    b. Pipe 1 inch and larger: 3 inches thick.

3. Insulate domestic cold water piping located within building, outside of insulation envelope in outside walls, vented attic spaces, and unheated spaces, including equipment rooms and below raised floor with 1 inch thick molded fiberglass, minimum 3-1/2 pound per cubic foot density, with ASJ-SSL jacket.
4. Insulate domestic cold water piping located outside building exposed to weather with minimum 3-1/2 pounds per cubic foot density fiberglass with ASJ-SSL jacket. Insulation thickness for all pipe sizes: 2 inches.
5. Exposed insulated piping within the building shall have a Zeston 2000 25/50, Proto Lo-Smoke, or equal, PVC jacket and fitting cover installed over the insulation, applied per manufacturer's instructions. Insulation shall be vapor tight before applying PVC jacket and fitting covers. Verify suitability with manufacturer of insulation. Insulation with pre-applied polymer jacket may be substituted at Contractor's option.
6. Where insulated piping is exposed to the weather apply aluminum jacket secured with 1/2 inch stainless-steel bands on 12 inch centers. Insulation shall be vapor tight before applying metal jacket, and aluminum fitting covers. Install jacketing with 2-inch overlap at longitudinal seams and end joints. Overlap longitudinal seams arranged to shed water. Seal end joints with weatherproof sealant recommended by insulation manufacturer. Cover fittings with glass cloth, two coats of Foster Sealfas 30-36, and factory-fabricated aluminum fitting covers, of same material, finish, and thickness as jacket. Insulation shall be vapor tight before applying metal jacket and fitting covers.

    a. Fitting covers:

        1) Preformed 2-piece or gore, 45- and 90-degree, short- and long-radius elbows.
        2) Tee covers.
        3) Flange and union covers.
        4) End caps.
        5) Beveled collars.

6) Valve covers.
7) Field fabricate fitting covers only if factory-fabricated fitting covers are not available.

b. Jacket thickness:

1) Pipes 10 inches diameter and smaller: Minimum .016 inch thick jacket with smooth finish.
2) Pipes 12 inches diameter and larger: Minimum .020 inch thick jacket with smooth finish.

PART 3 - EXECUTION

3.01 EXISTING MATERIALS

A. Remove existing equipment, piping, wiring, construction, etc., which interferes with Work of this Contract. Promptly return to service upon completion of work in the area. Replace items damaged by Contractor with new material to match existing.

B. Removed materials which will not be re-installed and which are not claimed by Owner shall become property of Contractor and shall be removed from Project site. Consult Owner before removing any material from Project site. Carefully remove materials claimed by Owner to prevent damage and deliver to Owner-designated storage location.

C. Existing piping and wiring not reused and are concealed in building construction may be abandoned in place and all ends shall be capped or plugged. Remove unused piping and wiring exposed in Equipment Rooms or occupied spaces. Material shall be removed from Project premises. Disconnect power, water, gas, pump or any other active energy source from piping or electrical service prior to abandoning in place.

D. Existing piping, ductwork, and equipment modified or altered as part of this Work shall comply with the most recent applicable code requirements.

3.02 FRAMING, CUTTING AND PATCHING

A. Special framing, recesses, chases and backing for Work of this Section, unless otherwise specified, are covered under other Specification Sections.

B. Contractor is responsible for placement of pipe sleeves, hangers, inserts, supports, and location of openings for the Work.

C. Cutting, patching, and repairing of existing construction to permit installation of equipment, and materials is the responsibility of Contractor. Repair or replace damage to existing work with skilled mechanics for each trade.

D. Cut existing concrete construction with a concrete saw. Do not utilize pneumatic devices.

E. Core openings through existing construction for passage of new piping and conduits. Cut holes of minimum diameter to suit size of pipe and associated insulation installed. Coordinate with building structure, and obtain Structural Engineer's approval prior to coring through existing construction.

3.03 PLUMBING DEMOLITION

A. Refer to Division 01 Sections “Cutting and Patching” and “Selective Demolition” for general demolition requirements and procedures.

B. Disconnect, dismantle and remove mechanical systems, equipment, and components indicated to be removed. Coordinate with all other trades.

1. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
2. Piping to Be Abandoned in Place: Drain piping and cap or plug piping to remain with same or compatible piping material. Refrigerant system must be evacuated per EPA requirements.
3. Equipment to Be Removed: Drain down and cap remaining services and remove equipment.
4. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
5. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.

C. If pipe, insulation, or equipment to remain is damaged in appearance or is unserviceable, remove damaged or unserviceable portions and replace with new products of equal capacity and quality.

3.04 ELECTRICAL REQUIREMENTS

A. Provide adequate working space around electrical equipment in compliance with the California Electrical Code. Coordinate the Mechanical Work with the Electrical Work to comply.

B. Furnish necessary control diagrams and instructions for the controls. Before permitting operation of any equipment which is furnished, installed, or modified under this Section, review all associated electrical work, including overload protection devices, and assume complete responsibility for the correctness of the electrical connections and protective devices. Motors and control equipment shall conform to the Standards of the National Electrical Manufacturers' Association. All equipment and connections exposed to the weather shall be NEMA IIIR with factory-wired strip heaters in each starter enclosure and temperature control panel where required to inhibit condensation.

C. All line voltage and low voltage wiring and conduit associated with the Temperature Control System are included in this Section. Wiring and conduit shall comply with Division 26.

3.05 PIPING SYSTEM REQUIREMENTS

A. Drawing plans, schematic and diagrams indicate general location and arrangement of piping systems. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on coordination drawings.

3.06 PRIMING AND PAINTING

A. Perform priming and painting on the equipment and materials as specified herein.

B. See Division 09 Painting Section(s) for detailed requirements.

C. Priming and Painting:

1. Exposed ferrous metals, including piping, which are not galvanized or factory-finished shall be primed and painted.

a. Black Steel Piping:

1) Primer: One coat gray Sherwin-Williams Pro Industrial Pro-Cryl Universal Primer, comparable products by Rust-Oleum, Kelly Moore, or equal.
2) Topcoat: Two coats gray Sherwin-Williams Pro Industrial Waterbased Alkyd Urethane Enamel, comparable products by Rust-Oleum, Kelly Moore, or equal.

2. Metal surfaces of items to be jacketed or insulated except piping shall be given two coats of primer unless furnished with equivalent factory finish. Items to be primed shall be properly cleaned by effective means free of rust, dirt, scale, grease and other deleterious matter and then primed with the best available grade of zinc rich primer. After erection or installation, all primed surfaces shall be properly cleaned of any foreign or deleterious matter that might impair proper bonding of subsequent paint coatings. Any abrasion or other damage to the shop or field prime coat shall be properly repaired and touched up with the same material used for the original priming.
3. Where equipment is provided with nameplate data, the nameplate shall be masked off prior to painting. When painting is completed, remove masking material.

3.07 EXCAVATING

A. Perform all excavating required for work of this Section. Provide the services of a pipe/cable locating service prior to excavating activities to determine location of existing utilities.

B. Unless shown otherwise, provide a minimum of 2'-6" cover above top of pipe to finished grade for all service piping, unless otherwise noted. Trim trench bottom by hand or provide a 4 inch deep minimum bed of sand to provide a uniform grade and firm support throughout entire length of pipe. For all PVC pipe and for PE gas pipe, bed the pipe in 4 inch sand bed. Pipe bedding materials should be clean crushed rock, gravel or sand of which 100 percent will pass a 1 inch sieve. For pipes that are larger than 10 inches in diameter, at least 95 percent should pass a 3/4 inch sieve, and for pipes 10 inches in diameter or smaller, 100 percent should pass a 1/2 inch sieve. All other materials should have a minimum sand equivalent of 50. Only a small proportion of the native soils will meet these requirements without extensive processing; therefore, importation of pipe bedding materials should be anticipated. Pipe bedding materials shall be compacted in lifts not exceeding 6 inches in compacted thickness. Each lift shall be compacted to not less than 90 percent relative compaction at or above the optimum moisture content, in accordance with ASTM Specification D2940, except that bedding materials graded such that 100 percent of the material will pass a No. 200 sieve shall be compacted in 6 inch lifts using a single pass of a flat-plate, vibratory compactor or vibratory drum. Pipe bedding materials should extend at least to the spring line.

C. Maintain all warning signs, barricades, flares, and red lanterns as required.

D. For all trenches 5 feet or more in depth, submit copy of permit detailed drawings showing shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving

ground during the excavation of such trenches. Obtain a permit from the Division of Industrial Safety prior to beginning excavations. A copy of the permit shall be available at the site at all times.

3.08 BACKFILLING

A. Backfill shall comply with applicable provisions of Division 31 of these Specifications.

B. Except under existing or proposed paved areas, walks, roads, or similar surfaces, backfill for other types of pipe shall be made using suitable excavated material or other approved material. Place backfill in 8 inch layers, measured before compaction, and compact with impact hammer to at least 90 percent relative compaction per ASTM D2940.

1. Backfill plastic pipe and insulated pipe with sand for a minimum distance of 12 inches above the top of the pipe. Compact using mechanical tamping equipment.

C. Entire backfill for excavations under existing or proposed pavements, walks, roads, or similar surfaces, under new slabs on grade, shall be made with clean sand compacted with mechanical tamping equipment vibrator to at least 90 percent relative compaction per ASTM D2940. Remove excess earth. Increase the minimum compaction within the uppermost two feet of backfill to 95 percent.

D. Replace or repair to its original condition all sod, concrete, asphalt paving, or other materials disturbed by the trenching operation. Repair within the guarantee period as required.

3.09 PIPING SYSTEMS INSTALLATION

A. At time of final connection, and prior to opening valve to allow pressurization of water and gas piping from existing systems, on site or off site, perform a pressure test to indicate static pressure of existing systems. If pressure on water piping is greater than 80 psi, or gas pressure is not as indicated on Contract Documents, inform Architect immediately. Do not allow piping systems to be pressurized without written consent of the Architect.

B. General:

1. All piping shall be concealed unless shown or otherwise directed. Allow sufficient space for ceiling panel removal.
2. Installation of piping shall be made with appropriate fittings. Bending of piping will not be accepted.
3. Install piping to permit application of insulation and to allow valve servicing.
4. Where piping or conduit is left exposed within a room, the same shall be run true to plumb, horizontal, or intended planes. Where possible, uniform margins are to be maintained between parallel lines and/or adjacent wall, floor, or ceiling surfaces.
5. Horizontal runs of pipes and/or electrical conduit suspended from ceilings shall provide for a maximum headroom clearance. The clearance shall not be less than 6'-6" without written approval from the Architect.
6. Close ends of pipe immediately after installation. Leave closure in place until removal is necessary for completion of installation.
7. Each piping system shall be thoroughly flushed and proved clean before connection to equipment.

8. Pipe the discharge of each relief valve, air vent, backflow preventer, and similar device to floor sink or drain.
9. Install exposed polished or enameled connections with special care showing no tool marks or threads at fittings.
10. Install horizontal valves with valve stem above horizontal.
11. Use reducing fittings; bushings shall not be allowed. Use eccentric reducing fittings wherever necessary to provide free drainage of lines and passage of air.
12. Verify final equipment locations for roughing-in.
13. Service Markers: Mark the location of each plugged or capped pipe with a 4 inch round by 30 inch long concrete marker, set flush with finish grade. Provide 2-1/2 inch diameter engraved brass plate as part of monument marker.
14. Furnish and install anchors or thrust blocks on PVC water lines in the ground, at all changes in direction of piping, and at all connections or branches from mains 1-1/2 inch and larger. Form anchors or thrust blocks by pouring concrete between pipe and trench wall. Thrust blocks shall be of adequate size and so placed as to take thrusts created by maximum internal water pressure. Sizing and placement shall be per manufacturer's recommendations, CPC, and IAPMO installation standards. Anchor piping to building construction.
15. Sanitary Sewer and Storm Drain: Grade piping inside building uniformly 1/4 inch per foot if possible but not less than 1/8 inch per foot. Run piping as straight as possible. Make piping connections between building piping and outside service pipe with cast iron reducers or increasers. Slope sewers uniformly between given elevations where invert elevations are shown.
16. Where piping is installed in walls within one inch of the face of stud, provide a 16 gauge sheet metal shield plate on the face of the stud. The shield plate shall extend a minimum of 1-1/2 inches beyond the outside diameter of the pipe.

C. Expansion Loops:

1. Install expansion loops where piping crosses building expansion or seismic joints, between buildings, between buildings and canopies, and as indicated on Drawings.
2. Install expansion loops of sizes matching sizes of connected piping.
3. Install grooved-joint expansion joints to grooved-end steel piping.
4. Materials of construction and end fitting type shall be consistent with pipe material and type of gas or liquid conveyed by the piping system in which expansion loop is installed.

D. Sleeves:

1. Install Adjus-to-Crete, Pipeline Seal and Insulator, or equal, pipe sleeves of sufficient size to allow for free motion of pipe, 24 gauge galvanized steel. The space between pipe and sleeves through floor slabs on ground, through outside walls above or below grade, through roof, and other locations as directed shall be caulked with oakum and mastic and made watertight. The space between pipe and sleeve and between sleeve and slab or wall shall be sealed watertight.
2. At Contractor's option, Link-Seal, Metraflex Metraseal, or equal, casing seals may be used in lieu of caulking. Wrap pipes through slabs on grade with 1 inch thick fiberglass insulation to completely isolate the pipe from the concrete.

E. Floor, Wall, and Ceiling Plates:

1. Fit all pipes with or without insulation passing through walls, floors, or ceilings, and all hanger rods penetrating finished ceilings with chrome-plated or stainless escutcheon plates.

F. Firestopping:

1. Pack the annular space between the pipe sleeves and the pipe through all floors and walls with UL listed fire stop, and sealed at the ends. All pipe penetrations shall be UL listed, Hilti, 3M Pro-Set, or equal.

    a. Install fire caulking behind mechanical services installed within fire rated walls, to maintain continuous rating of wall construction.

2. Provide SpecSeal Systems UL fire rated sleeve/coupling penetrators for each pipe penetration or fixture opening passing through floors, walls, partitions or floor/ceiling assemblies. All Penetrators shall comply with UL Fire Resistance Directory (Latest Edition), and in accordance with Chapter 7, CBC requirements.
3. Sleeve penetrators shall have a built in anchor ring for waterproofing and anchoring into concrete pours or use the special fit cored hole penetrator for cored holes.
4. Copper and steel piping shall have SpecSeal plugs on both sides of the penetrator to reduce noise and to provide waterproofing.
5. All above Systems to be installed in strict accordance with manufacturer's instructions.
6. Alternate firestopping systems are acceptable if approved equal. However, any deviation from the above specification requires the Contractor to be responsible for determining the suitability of the proposed products and their intended use, and the Contractor shall assume all risks and liabilities whatsoever in connection therewith.

G. Flashing:

1. Flashing for penetrations of metal or membrane roof for mechanical items such as flues and pipes shall be coordinated with the roofing manufacturer and roofing installer for the specific roofing type. The work of this section shall include furnishing, layout, sizing, and coordination of penetrations required for the mechanical work.

    a. Furnish and install flashing and counterflashing in strict conformance with the requirements of the roofing manufacturer. Submit shop drawing details for review prior to installation.
    b. Furnish and install counterflashing above each flashing required. Provide Stoneman, or equal, vandalproof top and flashing combination. Provide vandalproof top for each plumbing vent through roof. Elmdor/Stoneman Model 1540, 1550, 1570, or equal.

2. For all other types of roofing system, furnish and install around each pipe, where it passes through roof, a flashing and counterflashing. All flashing shall be made of four pound seamless sheet lead with 6 inch minimum skirt and steel reinforced boot. Counterflashing shall be cast iron. For vents, provide vandalproof top and flashing combination. Elmdor/Stoneman Model 1100-4, 1100-5, 1100-7, or equal.

3.10 UNION AND FLANGE INSTALLATION

A. Install Watts, Epco, Nibco, or equal, dielectric unions or flanges at points of connection between copper or brass piping or material and steel or cast iron pipe or material except in drain, waste,

vent, or rainwater piping. Bushings or couplings shall not be used. Dielectric unions installed in potable water systems shall conform to the lead-free requirements of the California Health and Safety Code Section 11 68 75.

B. Install unions in piping NPS 2” and smaller, and flanges in piping NPS 2-1/2” and larger whether shown or not at each connection to all equipment and tanks, and at all connections to all automatic valves, such as temperature control valves. Unions installed in potable water systems shall conform to the lead-free requirements of the California Health and Safety Code Section 11 68 75.

C. Locate the unions for easy removal of the equipment, tank, or valve.

3.11 PIPE PROTECTION

A. Wrap bare galvanized and black steel pipe buried in the ground and to 6" above grade, including piping in conduit, with one of the following, or equal:

1. Polyethylene Coating: Pressure sensitive polyethylene coating, "X-Tru-Coat" as manufactured by Pipe Line Service Corporation or "Green Line" wrap as manufactured by Roystron Products, or equal.

a. Field Joints and Fittings: Protecto Wrap #1170 tape as manufactured by Pipe Line Service Corporation, or Primer #200 tape by Roystron Products, or equal. Installation shall be as per manufacturer's recommendation and instructions.

2. Tape Wrap: Pressure-sensitive polyvinyl chloride tape, "Transtex #V-l0 or V-20", "Scotchwrap 50", Slipknot l00, PASCO Specialty & Mfg., Inc., or equal, with continuous identification. Tape shall be a minimum of 20 mils thick for fittings and irregular surfaces, two wraps, 50 percent overlap, 40 mils total thickness. Tape shall be laminated with a suitable adhesive; widths as recommended by the manufacturer for the pipe size. Wrap straight lengths of piping with an approved wrapping machine.

B. Field Joints: Valves and Fittings: double wrap polyvinyl chloride tape as above. Provide at least two thicknesses of tape over the joint and extend a minimum of 4 inches over adjacent pipe covering. Build up with primer to match adjacent covering thickness. Width of tape of fittings shall not exceed 3 inches. Tape shall adhere tightly to all surfaces of the fittings without air pockets.

C. Testing: Test completed wrap of piping, including all epoxy painted piping with Tinker and Rasor Co. test machine (San Gabriel, CA - 818-287-5259), Pipeline Inspection Company (Houston, TX - 713-681-5837), or equal.

D. Cleaning: Clean all piping thoroughly before wrapping.

1. Inspection: Damaged or defective wraps shall be repaired as directed. No wrapped pipe shall be covered until approved by Architect.

E. Sleeve copper piping/tubing installed below slab with “Polywrap-C” polyethylene sleeve, as manufactured by Northtown Pipe Protection Products, or equal. Sleeve shall be a minimum of 6 mils thick, colored blue for domestic water piping and orange for other piping. Install sleeve per manufacturer’s recommendations and instructions.

F. Sleeve copper piping/tubing installed outside building below grade with “Polywrap-C” polyethylene sleeve, as manufactured by Northtown Pipe Protection Products, or equal. Sleeve shall be a minimum of 6 mils thick, colored blue for domestic water piping. Install sleeve per manufacturer’s recommendations and instructions.

G. Sleeve cast iron and ductile iron pipe below grade and below slab with “Polywrap” polyethylene sleeve, as manufactured by Northtown Pipe Protection Products, or equal. Sleeve shall be a minimum of 8 mils thick, colored natural. Install sleeve per manufacturer’s recommendations and instructions.

H. Covering: No rocks or sharp edges shall be backfilled against the wrap or sleeve. When backfilling with other than sand, protect wrap with an outer wrapping of Kraft paper; leave in place during backfill.

3.12 PIPING SYSTEM PRESSURE TESTING

A. General:

1. Perform operational tests under simulated or actual service conditions, including one test of complete plumbing installation with fixtures and other appliances connected.
2. Repair leaks and defects with new materials, and retest piping or portion thereof until satisfactory results are obtained.

B. Piping Systems: Test piping systems in accordance with the following requirements and applicable codes:

1. Authority having jurisdiction shall witness tests of piping systems.
2. Notify Architect at least seven days in advance of testing.
3. All piping shall be tested at completion of roughing-in, or at other times as directed by Architect.
4. Furnish necessary materials, test pumps, gases, instruments and labor required for testing.
5. Isolate from system equipment that may be damaged by test pressure.
6. Make connections to existing systems with flanged connection. During testing of new work, provide a slip-in plate to restrict test pressure to new systems. Remove plate and make final connection to existing system at completion of testing.

    a. Authority having jurisdiction shall witness final connection to system.

C. Test Schedule: No loss in pressure or visible leaks shall show after four hours at the pressures indicated.

D. Testing of Sanitary Sewer, Drain, Vent, and Storm Drain may be done in segments in order to limit pressure to within manufacturer’s recommendations. Test to 10 feet above highest point in the system.

System Tested	Test Pressure PSI	Test With
Sanitary Sewer, Drain, Vent	10 Ft. Hd.	Water

Storm Drain, Condensate Drains	10 Ft. Hd.	Water
Domestic Water	125	Water
Natural Gas (PE)	60	Air & Non-corrosive Leak Test Fluid
Natural Gas (Steel)	100	Air & Non-corrosive Leak Test Fluid

1. Flush deionized water lines with deionized water after test and approval.
2. Non-corrosive leak test fluid shall be suitable for use with piping material specified, and with the type of gas conveyed by the piping system.

3.13 TRACER WIRES

A. Provide tracer wire for non-metallic gas and water pipe in ground outside of buildings. Use AWG #14 tracer wire with low density high molecular weight polyethylene insulation, and lay continuously on pipe so that it is not broken or stressed by backfilling operations. Secure wire to the piping with tape at 18 inch intervals. Solder all joints. Tracer wire insulation shall be colored yellow for gas piping, blue for water piping.

B. Terminals: Precast concrete box and cast iron locking traffic cover, Brooks 3TL, or equal; cover marked with name of service; 6 inches of loose gravel below box. Plastic terminal board with brass bolts; identify line direction with plastic tags. Test for continuity between terminals, after backfilling, in presence of Inspector.

C. Alternate: Use electronically detectable plastic tape with metallic core, Terra Tape D, manufactured by Reef Industries, Inc., Seton, Inc., Marking Services, Inc., or equal; tape 2 inches wide, continuously imprinted "CAUTION WATER (GAS, etc.) LINE BELOW". Install, with printed side up, directly over pipe, 18 inches below finish grade. Backfill material shall be as specified for the particular condition where pipe is installed, but avoid use of crushed rock or of earth with particles larger than l/2 inch within the top 12 inches of backfill. Take precautions to insure that tape is not damaged or misplaced during backfill operations. Terminal boxes not required.

3.14 OPERATION OF SYSTEMS

A. Do not operate any plumbing equipment for any purpose, temporary or permanent, until all of the following has been completed:

1. Complete all requirements listed under “Check, Test and Start Requirements.”
2. Piping has been properly cleaned. Piping systems shall be flushed and treated prior to operation.
3. Filters, strainers etc. are in place.
4. Bearings have been lubricated, and alignment of rotating equipment has been checked.
5. Equipment has been run under observation, and is operating in a satisfactory manner.

B. Provide test and balance agency with one set of Contract Drawings, Specifications, Addenda, Change orders issued, applicable shop drawings and submittals and temperature control drawings.

3.15 CHECK, TEST AND START REQUIREMENTS

A. An authorized representative of the equipment manufacturer shall perform check, test and start of each piece of plumbing equipment. The representative may be an employee of the equipment manufacturer, or a manufacturer-certified contractor. Submit written certification from the manufacturer stating that the representative is qualified to perform the check test and start of the equipment.

1. As part of the submittal process, provide a copy of each manufacturer's printed startup form to be used.
2. Some items of specified equipment may require that check, test and start of equipment must be performed by the manufacturer, using manufacturer's employees. See specific equipment Articles in these Specifications for this requirement.
3. Provide all personnel, test instruments, and equipment to properly perform the check, test and start work.
4. When work has been completed, provide copies of reports for review, prior to final observation of work.

B. Provide copies of the completed check, test and start report of each item of equipment, bound with the Operation and Maintenance Manual.

C. Upon completion of the work, provide a schedule of planned maintenance for each piece of equipment. Indicate frequency of service, recommended spare parts (including filters and lubricants), and methods for adjustment and alignment of all equipment components. Provide a copy of the schedule with each operating and maintenance manual. Provide a copy of certification from the Owner's representative indicating that they have been properly instructed in maintenance requirements for the equipment installed.

3.16 PRELIMINARY OPERATIONAL REQUIREMENTS AND TESTS

A. Prior to observation to determine final acceptance, put all mechanical systems into service and check that work required for that purpose has been done, including but not limited to the following condensed check list. Provide indexed report to tabulating the results of all work.

1. All equipment has been started, checked, lubricated and adjusted in accordance with the manufacturer's recommendations.
2. Correct rotation of motors and ratings of overload heaters are verified.
3. Specified filters are installed and spare filters have been turned over to Owner.
4. All manufacturers' certificates of start-up specified have been delivered to the Owner.
5. All equipment has been cleaned, and damaged painted finishes touched up.
6. Missing or damaged parts have been replaced.
7. Flushing and chemical treatment of piping systems has been completed and water treatment equipment, where specified, is in operation.
8. Equipment labels, pipe marker labels, ceiling markers and valve tags are installed.
9. Valve tag schedules, corrected control diagrams, sequence of operation lists and start-stop instructions have been posted.
10. Preliminary test and balance work is complete, and reports have been forwarded for review.
11. Automatic control set points are as designated and performance of controls checks out to agree with the sequence of operation.

12. Operation and Maintenance Manuals have been delivered and instructions to the operating personnel have been made.

B. Prior to the observation to determine final acceptance, operate all mechanical systems as required to demonstrate that the installation and performance of these systems conform to the requirements of these specifications.

1. Operate and test all mechanical equipment and systems for a period of at least five consecutive 8 hour days to demonstrate the satisfactory overall operation of the project as a complete unit.
2. Commence tests after preliminary balancing and adjustments to equipment have been checked. Immediately before starting tests, install air filters and lubricate all running equipment. Notify the Architect at least seven calendar days in advance of starting the above tests.
3. During the test period, make final adjustments and balancing of equipment, systems controls, and circuits so that all are placed in first class operating condition.
4. Where Utility District rebates are applicable, demonstrate that the systems meet the rebate program requirements.

C. Review of Contractor's Tests:

1. All tests made by the Contractor or manufacturers' representatives are subject to observation and review by the Owner. Provide timely notice prior to start of each test, in order to allow for observation of testing. Upon the completion of all tests, provide a letter to confirm that all testing has been successful.

D. Test Logs:

1. Maintain test logs listing the tests on all mechanical systems showing dates, items tested, inspectors' names, remarks on success or failure of the tests.

E. Preliminary Operation:

1. The Owner reserves the right to operate portions of the plumbing system on a preliminary basis without voiding the guarantee.

3.17 CERTIFICATES OF INSTALLATION

A. Contractor shall complete applicable “Certificates of Installation” forms contained in the California Building Energy Efficiency Standards and submit to the authorities having jurisdiction for approval and issuance of final occupancy permit, as described in the California Energy Code.

3.18 DEMONSTRATION AND TRAINING

A. An authorized representative of the equipment manufacturer shall train Owner-designated personnel in maintenance and adjustment of equipment. The representative may be an employee of the equipment manufacturer, or a manufacturer-certified contractor. Submit written certification from the manufacturer stating that the representative is qualified to perform the Owner training for the equipment installed.

1. As part of the submittal process, provide a training agenda outlining major topics and time allowed for each topic.

2. Some items of specified equipment require that training must be performed by the manufacturer, using manufacturer's employees. See specific equipment Articles in these Specifications for this requirement.
3. Contractor shall provide three copies of certification by Contractor that training has been completed, signed by Owner's representative, for inclusion in Operation and Maintenance Manual. Certificates shall include:

    a. Listing of Owner-designated personnel completing training, by name and title.
    b. Name and title of training instructor.
    c. Date(s) of training.
    d. List of topics covered in training sessions.

4. Refer to specific equipment Articles for minimum training period duration for each piece of equipment.

END OF SECTION

SECTION 22 10 00

PLUMBING PIPING SYSTEMS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Pipe and fittings.
2. Valves.
3. Domestic water piping specialties.
4. Gas piping specialties.
5. Drain and waste piping specialties.

1.02 RELATED REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. Section 22 00 50 Basic Plumbing Materials and Methods.

1.03 ACTION SUBMITTALS

A. For additional requirements, refer to Section 22 00 50, Basic Plumbing Materials and Methods.

B. Product Data: Submit manufacturer's technical product data and installation instructions for plumbing piping systems materials and products.

1.04 INFORMATIONAL SUBMITTALS

A. For additional requirements, refer to Section 22 00 50, Basic Plumbing Materials and Methods.

B. Provide welding certificate for all gas pipe welders.

C. Gas Pipe Installer Qualifications: Provide evidence of current qualifications for individuals performing work requiring qualifications.

1.05 CLOSEOUT SUBMITTALS

A. For additional requirements, refer to Section 22 00 50, Basic Plumbing Materials and Methods.

B. Maintenance Data: Submit maintenance data and parts lists for plumbing piping systems materials and products. Include this data in Operation and Maintenance Manual.

1.06 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish to Owner, with receipt, one valve key for each key operated hydrant, bibb, or faucet installed.

1.07 QUALITY ASSURANCE

A. For additional requirements, refer to Section 22 00 50, Basic Plumbing Materials and Methods.

B. Gas Pipe Installer Qualifications: Individuals performing tasks requiring qualifications under Federal and State regulations shall be qualified by the gas utility supplying Project site. The qualifications shall be current at the time of performing the Work.

C. NFPA/ANSI Compliance: Fabricate and install natural gas systems in accordance with latest edition of NFPA 54/ANSI Z223.1 "National Fuel Gas Code."

D. Pipe Welding: Qualify procedures and operators according to ASME Boiler and Pressure Vessel Code.

E. Fabricate and install natural gas systems in accordance with California Plumbing Code.

F. Utility Compliance: Fabricate and install natural gas systems in accordance with local gas utility company requirements.

PART 2 - PRODUCTS

2.01 MATERIALS AND PRODUCTS

A. Provide piping materials and factory-fabricated piping products of sizes, types, pressure ratings, temperature ratings, and capacities as indicated. Provide materials and products complying with California Plumbing Code. Where more than one type of material or product is indicated, selection from materials or products specified is Contractor's option.

B. Potable-water piping and components shall comply with NSF 14, NSF 61, and NSF 372. Plastic piping components shall be marked with "NSF-pw."

2.02 PIPE AND FITTINGS ATTACHED TO AND BELOW BUILDINGS INCLUDING 5 FEET FROM BUILDINGS

A. Piping and fittings attached to covered walkways and corridors shall comply with the requirements of this article.

B. Drain and Waste Pipe Above Grade: Solvent weld PVC DWV pipe with belled end, and fittings, conforming to ASTM D2729 and so marked. Where installed exposed in ducts or plenums PVC pipe and fittings shall have a flame/smoke spread rating of not more than 25/50 in accordance with ASTM E84 or UL 723. Pipe and fittings shall be as manufactured by Charlotte, Westlake, or equal. Pipe and fittings shall be the products of a single manufacturer. Or, cast iron soil pipe and fittings, asphaltic coated, conforming to ASTM A888 and Cast Iron Soil Pipe Institute Standard (CISPI) 301 and so marked. Pipe and fittings shall be as manufactured by AB&I, Charlotte, Tyler Pipe, or equal. Pipe and fittings shall be the products of a single manufacturer. At Contractor’s option, vertical piping above

floor from lavatories, sinks, and drinking fountains may be Schedule 40 galvanized steel pipe with black cast iron drainage fittings, or DWV weld pipe and fittings.

1. Cast iron joints above grade: No-Hub pipe conforming to ASTM A888 and CISPI 301. Couplings conforming to ASTM 1277 and CISPI 310, with stainless steel bands. Provide products by ANACO-Husky, Tyler, Ideal or equal. Provide sway brace at 20'-0" maximum spacing for suspended pipe with No-Hub joints. Provide a brace on each side of a change in direction of 90 degrees or more. Brace riser joints at each floor and at 15 foot maximum intervals (also see Specification Section 22 00 50).

C. Drain and Waste Pipe Below Grade: Solvent weld PVC DWV pipe with belled end, and fittings, conforming to ASTM D2729 and so marked. Pipe and fittings shall be as manufactured by Charlotte, Westlake, or equal. Pipe and fittings shall be the products of a single manufacturer. Or, cast iron soil pipe and fittings, asphaltic coated, conforming to ASTM A888 and CISPI 301 and so marked. Pipe and fittings shall be as manufactured by AB&I, Charlotte, Tyler Pipe, or equal. Pipe and fittings shall be the products of a single manufacturer. At Contractor's option, hub and spigot cast iron soil pipe and fittings, asphaltic coated, conforming to ASTM A-74 and so marked, may be used.
   1. Cast iron joints below grade: ANACO-Husky SD 4000, Clamp-All 125, or equal couplings and No-Hub fittings, meeting the requirements of FM 1680, SD Class I and ASTM C1540.
   2. Cast iron joints below grade (hub and spigot option): Neoprene gaskets conforming to ASTM C564, as manufactured by Ty-Seal, Dual-Tite, or equal.

D. Vent Pipe:
   1. 3 inch and larger, above grade: Solvent weld PVC DWV pipe with belled end, and fittings, conforming to ASTM D2729 and so marked. Where installed exposed in ducts or plenums PVC pipe and fittings shall have a flame/smoke spread rating of not more than 25/50 in accordance with ASTM E84 or UL 723. Pipe and fittings shall be as manufactured by Charlotte, Westlake, or equal. Pipe and fittings shall be the products of a single manufacturer. Or, cast iron soil pipe and fittings conforming to ASTM A888 and Cast Iron Soil Pipe Institute Standard 301 and so marked. Joints in cast iron vent pipe shall be the same as specified for cast iron waste pipe above grade.
   2. 2-1/2 inch and smaller, above grade: Solvent weld PVC DWV pipe and fittings as specified for sizes 3" and larger. Or, cast iron soil pipe and fittings as specified for sizes 3 inch and larger, Schedule 40 galvanized steel pipe with black cast iron drainage fittings, or DWV copper pipe and fittings.
   3. Vent pipe below grade and to 6 inches above grade: Solvent weld PVC DWV pipe with belled end, and fittings, conforming to ASTM D2729 and so marked. Pipe and fittings shall be as manufactured by Charlotte, Westlake, or equal. Pipe and fittings shall be the products of a single manufacturer. Or, cast iron soil pipe and fittings conforming to ASTM A888 and Cast Iron Soil Pipe Institute Standard 301 and so marked. Joints in cast iron vent pipe shall be the same as specified for cast iron waste pipe below ground.

E. Type DWV copper tubing or No-Hub cast iron pipe and fittings may be used for concealed rainwater leaders. Where no-hub piping is used, the fittings and couplings shall match those used for waste piping.

F. Temperature and Pressure Relief Valve Piping: ASTM B88, Type L copper tubing, hard-temper, with wrought copper fittings. Provide full solder cup for all fittings. Capped or plugged outlets shall be Schedule 40 screwed brass.

G. Gas Pipe: Schedule 40 black steel conforming to ASTM A53, with malleable iron threaded fittings above grade for piping 2 inch and smaller; welded piping below grade and for above grade piping larger than 2 inches, with Class 150 welding fittings.
   1. Appliance Flexible Connectors for Indoor Equipment Without External Spring Isolation:
      a. Contractor may choose one of the following:
         1) Direct gas pipe connection.
         2) Appliance flexible connector:
            a) Comply with ANSI Z21.24.
            b) Polymer or hot-dipped PVC coated corrugated 304 stainless steel.
            c) Operating-Pressure Rating: 0.5 psig.
            d) End Fittings: Zinc-coated steel.
            e) Maximum Length: 30 inches.
            f) Manufacturers: Dormont, Series 30C, 31, 40C, 41, and 51, Brasscraft model ProCoat, or equal.

      b. Provide with end connections compatible with equipment and piping system.
      c. Equipment located in spaces normally accessible to building occupants, other than maintenance personnel, shall utilize direct gas pipe connection.
      d. Provide anti-microbial PVC coating for use with appliances located in kitchen areas.

   2. Flexible Gas Connector for Outdoor Equipment Without External Spring Isolation:
      a. Contractor may choose one of the following:
         1) Direct gas pipe connection.
         2) Corrugated stainless steel hose with 304 stainless steel braid covering, CSA certified. Metraflex model GASCT, Unisource Manufacturing series 400, or equal. Provide with end connections compatible with equipment and piping system.

   3. Flexible Gas Connector for Equipment with External Spring Isolation, Indoors and Outdoors:
      a. Where Drawings indicate installation of mechanical equipment on spring isolation rails spring mounted curbs, or spring hangers, provide metal flexible connectors, Metraflex Metraloop, or equal by Unisource Mfg. Co., or Flexicraft Industries, CSA certified for 4 inches of movement in all directions.

   4. Flexible Gas Connection System for Movable Gas-Fired Cooking Equipment:
      a. System shall include flexible PVC coated braided stainless steel hose, quick disconnect fitting, full port CSA certified ball valve, 2 swivel elbows, coiled steel restraining cable and mounting hardware. Assembly shall be certified per ANSI Z21.69/CSA 6.16, “Connectors for Movable Gas Appliances.” Size as required for appliance connection, 48” minimum hose length. Install per manufacturer’s instructions. Connectors shall be Dormont Safety System, T&S Safe-T-Link, or equal.

H. Condensate Drain Piping:
   1. Outside buildings provide Schedule 40 galvanized steel pipe and cast iron drain or vent fittings.
   2. Connect condensate drains to mechanical equipment per equipment manufacturer's recommendations; provide P-trap where required. Slope piping to drain, with 1 inch in 10 foot minimum pitch. Provide di-electric couplings or unions at connections to dissimilar materials.

3. Where Drawings indicate installation of mechanical equipment on spring isolation rails spring mounted curbs, or spring hangers, provide threaded metal connector at mechanical equipment, Metraflex Model SST, or equal by Unisource Mfg. Co., or Flexicraft Industries. Arrange flexible connection to ensure drainage of condensate, and support flexible connection at each end of connector, to ensure proper alignment.
4. Where condensate drain P-traps are required, install trap using Wye fitting on inlet and outlet of trap. Provide cap on top of each Wye, made removable for cleaning and inspection. Drill 1/8 inch diameter hole in cap at outlet of the trap to allow venting of the system. Minimum depth of trap should be 4 inches, or as recommended by the manufacturer in printed literature.
5. Provide cleanout tees or "Y" at each change in direction.

2.03 SITE PIPING AND FITTINGS TO 5 FEET FROM BUILDINGS

A. Buried Drain, Waste, and Vent Piping:
1. Install piping from street connection to the property line in accordance with local requirements.
2. 4 inches and larger: PVC, ASTM D3034 - SDR 35; use matching Ring Tite fittings.
3. 3 inches and smaller: Cast iron soil pipe and fittings, asphaltic coated, conforming to ASTM A888 and Cast Iron Soil Pipe Institute Standard 301 and so marked. Pipe and fittings shall be as manufactured by AB&I, Charlotte, Tyler pipe, or equal. Provide ANACO-Husky SD 4000, Clamp-All 125, or equal couplings and No-Hub fittings, meeting the requirements of FM 1680, SD Class I and ASTM C1540. Pipe and fittings shall be the product of a single manufacturer.

B. Water Service Piping:
1. Sizes 2 inches and larger (not under building): Gasket style PVC conforming to ASTM D2241-SDR21, Class 200 with gasket type fittings or ductile iron mechanical joint couplings. Gasket fittings shall be one piece injection molded PVC fittings, equal to Flo-Seal water main fittings for PVC pressure pipe, 200 psi, ASTM D-3139.
2. Sizes less than 2 inches: Type K copper tubing, hard temper, with wrought copper fittings. See Section 22 00 50 for pipe protection requirements for below grade copper piping.
3. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include the following, or equal:
   a. J.M. Eagle.
   b. P.W. Pipe.
   c. Ipex Series Pipe.

C. Water Service Piping Above Grade:
1. Piping 2-1/2 inches and smaller: Type K copper tubing, hard temper, with brazed wrought copper fittings.

D. Gas Piping Underground: Performance Pipe, "DriscoPlex" 6500 PE 2708 (yellow), Polypipe, Inc., "Polypipe", or equal, polyethylene gas distribution pipe, ASTM D2513, ASTM D3261, and ASTM D2683 fittings with fusion welded joints. Provide piping labeled for natural gas in accordance with CPC.
1. Electrically isolate underground ferrous gas piping from the rest of the gas system with listed or approved isolation fittings installed a minimum of six inches above grade.
2. Provide Central Plastics Corp., Perfection, or equal, anodeless, single seal riser for transition from below grade polyethylene to schedule 40 steel piping above grade. Minimum horizontal length shall be 30 inches. Minimum vertical length shall be 30 inches, or greater as required. Provide

fusion connection to polyethylene pipe below grade, and screwed connection to steel pipe above grade.

E. Gas Piping Aboveground to 30 inches Belowground: Schedule 40 black steel with beveled ends for welding, with Class 150 welding fittings. Mitering to form elbows or tees will not be permitted; where branch tee connections of welded piping are required, Bonney "Weldolet" Allied Pipe Fittings, or equal fittings may be used if the branch is one-half of the diameter of the main or less.

F. Drainage Pipe, Perforated or Un-perforated: J-M PVC, P.W. Pipe, or equal drainage pipe and fittings or non-reinforced concrete sewer pipe ASTM C14.

2.04 PIPE JOINING MATERIALS

A. Refer to piping Articles in this Section for special joining materials not listed below.

B. Pipe-Flange Gasket Materials: Suitable for chemical and thermal conditions of piping system contents.
1. ASME B16.21, nonmetallic, flat, asbestos-free, 1/8-inch (3.2-mm) maximum thickness unless thickness or specific material is indicated
   a. Full-Face Type: For flat-face, Class 125, cast iron and cast bronze flanges.
   b. Narrow-Face Type: For raised-face, Class 250, cast iron and steel flanges.
2. AWWA C111, rubber, flat face, 1/8-inch (3.2mm) thick, unless otherwise indicated; and full-face or ring type, unless other indicated.
3. Flange Bolts and Nuts: AWWA C111, carbon steel, unless otherwise indicated.
4. Plastic, Pipe-Flange Gasket, Bolts and Nuts: Type and material recommended by piping system manufacturer, unless otherwise indicated.

C. Solder Filler Metals: ASTM B 32, 100 percent lead free alloys. Include water-flushable flux according to ASTM B813.

D. Brazing Filler Metals: AWS A5.8, BCup-5 Series, copper-phosphorus unless otherwise indicated. Sil-Fos 15, or equal.

E. Welding Filler Metals: Comply with ASME B31.1 for welding materials appropriate for wall thickness and chemical analysis of steel pipe being welded.

F. Solvent Cements for Joining CPVC Piping: ASTM F 493.
1. CPVC solvent cement shall have VOC content of 490 g/L or less.
2. Adhesive primer shall have VOC content of 550 g/L or less.
3. Solvent cement and adhesive primer shall comply with testing and product requirements of South Coast Air Quality Management District, Rule 1168.

G. Solvent Cements for Joining PVC Piping: ASTM D 2564. Include primer according to ASTM F 656.
1. PVC solvent cement shall have VOC content of 510 g/L or less.
2. Adhesive primer shall have VOC content of 550 g/L or less.
3. Solvent cement and adhesive primer shall comply with testing and product requirements of South Coast Air Quality Management District, Rule 1168.

2.05 VALVES AND FITTINGS FOR POTABLE WATER SYSTEMS

A. General:
1. Provide valves and fittings conforming to lead-free requirements of California Health and Safety Code Section 11 68 75.
a. Provide valves listed to NSF/ANSI 61-G or NSF/ANSI 372 for valve materials for potable-water service.
1) Exception: Main distribution gate valves above 1-1/2 inches located underground outside building are not required to conform lead-free requirements of California Health and Safety Code Section 11 68 75.

B. Gate Valves:
1. General: Furnish valves in copper lines with adapters to suit valve/line requirements.
2. 1-1/2 inches and smaller: Minimum 200 psi CWP, bronze body, threaded bonnet, rising or non-rising stem, solid wedge, threaded or solder ends, conforming to MSS SP-80. Milwaukee UP148, UP149, Nibco T-113-LF, S-113-LF, or equal.
3. 2 inches through 3 inches: Minimum 200 psi CWP, bronze body, threaded bonnet, non-rising stem, solid wedge, threaded or solder ends, conforming to MSS SP-80. Nibco T-113-LF, S-113-LF, or equal.
4. Main distribution gate valves underground outside building above 1-1/2 inches:
a. Underground valves 2 inches thru 12 inches: 250 psi, iron body, Non-rising stem, bolted bonnet, resilient wedge valves, conforming to AWWA C509, equipped with operating nuts, Mueller Series 2360, Nibco F-619-RW-SON, or equal.
1) Underground valves 3 inches and smaller may be furnished with operating nuts or hand-wheels, and with Ring-Tite joint ends.
2) Furnish and deliver to Owner one wrench of each size required for operating underground valves.

C. Ball Valves:
1. 2 inches and smaller: 600 psi CWP, cast bronze or brass body, full port, two piece, threaded ends, and reinforced PTFE seal, conforming to MSS SP-110. Nibco T-685-80-LF, Milwaukee UPBA400, Apollo 77C-LF10, Kitz 868, or equal.
2. 2-1/2 inches: Apollo 77C-LF10, or equal.

D. Swing Check Valves:
1. Minimum 200 psi CWP, bronze or brass body, suitable for regrinding, threaded ends, conforming to MSS SP-80. Milwaukee UP509, Nibco T-413LF, Kitz 822T, or equal.

E. Butterfly Valves:
1. General: Tight closing, full lug type, with resilient seat suitable for minimum working pressure of 200 psig, conforming to MSS SP-67. Bi-direction dead end service with downstream flange removed.
2. Provide valves with the following:
a. Seats: suitable for 40 degrees F for cold water service and 250 degrees F for hot water service. Seats shall cover inside surface of body and extend over body ends.
b. Bodies: ductile iron or cast iron.
c. Discs: Bronze or stainless steel.

d. Stems or Shafts: Stainless steel. Install valves with stems horizontal.
e. Control Handles: Suitable for locking in any position or with 10 degree or 15 degree notched throttling plates to hold valve in selected position. Provide extended necks to compensate for insulation thickness. Provide gear operator for valves 5 inches and larger.

3. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include the following, or equal:
   a. 2 through 12 inches: Watts Regulator Co., model DBF-03.

2.06 VALVES AND FITTINGS FOR GAS SYSTEMS

A. Building Gas Shut-Off Valves:
   1. 2 inches and smaller: Provide 175 psi SWP ball valve, CSA listed, full port, lockwing type, with AGA painted grey finish. Jomar 175-LWN, or equal.
   2. Above 2 inches: Provide ReSun D-126, Key Port, or equal, lubricated plug cock, CSA listed, rectangular port, full pipe area, 125 psi SWP, flanged ends. Provide T-Handle socket wrench and adapter fittings as required for operation of valves. Provide one package of spare lubricant sticks, sizes as required for valve sizes. Lubricant shall be the product recommended by valve manufacturer for use with type of gas conveyed by the piping system.
   3. Provide valves same size as upstream piping. Make any reduction in size of gas piping downstream of shutoff valves.

B. Gas Shut-off Valve Above Grade:
   1. 2 inches and smaller: Provide Milwaukee BB2-100, Jomar T-100NE, or equal, ball valve, CSA listed, full port.
   2. Above 2 inches: Provide ReSun D-126, Key Port, or equal, CSA listed, rectangular port, full pipe area, 125 psi SWP, flanged ends. Provide T-Handle socket wrench and adapter fittings as required for operation of valves. Provide one package of spare lubricant sticks, sizes as required for valve sizes. Lubricant shall be the product recommended by valve manufacturer for use with type of gas conveyed by the piping system.
   3. Provide valves same size as upstream piping. Make any reduction in size of gas piping downstream of shutoff valves.

C. For Gas Service Below Grade:
   1. Lubricated plug cocks: ReSun Model D-126, Key Port, or equal, lubricated plug cock, CSA listed, rectangular port, full pipe area, 125 psi SWP, flanged ends. Provide extended lubrication stem, arranged to allow for lubrication of the valve from grade. The extension must be constructed to allow for lubrication of the valve and for operation of the valve from grade. Provide T-Handle socket wrench and adapter fittings as required for operation of valves. Provide one package of spare lubricant sticks, sizes as required for valve sizes. Lubricant shall be the product recommended by valve manufacturer for use with type of gas conveyed by the piping system.
      a. Provide flanged ends on valves installed below grade. Connect to polyethylene piping with flanges and stainless steel bolts.
      b. Anchor each valve flange to valve box with welded angle iron, or provide vertical stiff leg, minimum 18 inches into earth.
      c. Provide Central Double O Seal Transition Fittings, or equal, flanged style for connection between valve and piping system.

d. Wrap valve, flanges and exposed pipe with PASCO Specialty & Mfg., Inc., or equal tape wrap, installed in accordance with requirements listed under “Pipe Protection”.

2. Molded polyethylene body ball valves: Nordstrom Valves - Polyvalve II for sizes 1-1/4 inches to 2 inches, and Polyvalve for sizes 2 inches and larger, or equal. Valves 1 inch and smaller shall be listed lubricated plug cocks, with transition fittings..
   a. Provide stub ends to match SDR of the piping, arranged for butt fusion welding. Provide valve body material to suit the adjacent piping system.
   b. Provide wrench to suit the valve operator.

D. Seismic Gas Shut-Off Valves: Certified by State of California and compliant with ASCE 25. Provide standard or high pressure model as required to match site gas pressure. Provide unit arrangement per Drawings schedule and details.
   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
      a. Little Firefighter Corporation, models NAGV, VAGV, and AGV.
      b. Seismic Safety Products, LLC, Northridge series.

2.07 GAS PIPING SPECIALTIES

A. Gas Pressure Regulating Valves:
   1. Provide single-stage, spring-loaded, corrosion-resistant gas pressure regulators, with die-cast aluminum or cast iron body, complying with ANSI Z21.80. Unit shall be with atmospheric vent, internal relief overpressure protection, threaded ends for 2 inches and smaller, flanged ends for 2-1/2 inches and larger. For inlet and outlet gas pressures, specific gravity, and volume flow refer to Drawings schedule.
   2. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include the following, or equal:

Size	Manufacturer/Model
1/2 inch	Elster (American, Singer) model 1213B Itron (Actaris, Slumberger, Sprague) model B42R.
3/4 thru 1-1/4inches	Elster (American, Singer) model 1813C Sensus (Ivensys, Equimeter, Rockwell) model 143-80-12 Itron (Actaris, Slumberger, Sprague) models B42R, B57R, B58R
1-1/2 thru 2 inches	Elster (American, Singer) models 1813, 1813B Sensus (Ivensys, Equimeter, Rockwell) model 243 Itron (Actaris, Slumberger, Sprague) models B43SR, B34R, B38R

B. Gas and Air Outlets:

1. Gas Outlets: Deck mounted Chicago 982-907BC duplex, T&S Brass, or equal; deck mounted Chicago 980-907BC single, or equal, deck-mounted Chicago 984-907BC, four outlets, or equal. Provide integral check valve, and single lever handle in compliance with ADA requirements.
2. Air Outlets: Panel mounted Chicago 986-937CH; deck-mounted Chicago 980-937CH, T&S Brass, or equal. Provide integral check valve, and single lever handle in compliance with ADA requirements.
3. Air Hose Valve: Lincoln 815 coupler and 11659 nipple, Grover, or equal, with ball valve on inlet. Refer to drawing details for additional requirements. Provide Wilkerson Model CB6-04-000 air pressure regulator, or equal.
4. Hose Reels: Lincoln Model 85062, Grover or equal. Provide heavy-duty type with delivery hose, universal swivel, ball stop, shut-off valve, control valve and filter as required. Connect services to reels with ball valve.

2.08 DRAIN AND WASTE PIPING SPECIALTIES

A. Cleanouts:
1. General: Install cleanouts of same diameter as pipe (4 inch maximum) in all horizontal soil and waste lines where indicated and at all points of change in direction. Cleanouts shall be located not less than 18 inches from building construction so as to provide sufficient space for rodding. No horizontal run over 50 feet inside buildings or 100 feet outside buildings shall be without cleanout, whether shown on Drawings or not. Provide two-way cleanouts where indicated on drawings, and whenever sanitary sewer exits building. All two-way cleanouts shall have (2) risers, each in opposing directions.
   a. Provide cleanouts in waste drop from each sink and urinal.
   b. Provide one wrench for each size and type of cleanout used. Turn over to Owner at completion of the project, and obtain receipt. Place receipt in Operation and Maintenance Manuals.

2. Cleanouts in floor and in concrete sidewalks: Ducco Cast Iron with nickel bronze top, clamping collar and ABS plastic plug: Zurn ZN-1400-KC, or equal, with square or round top to suit floor construction.
3. Cleanouts in composition floors: Zurn ZN-1400-X-DX, or equal (nickel bronze top).
4. Cleanouts in concealed, aboveground cast-iron soil or waste lines: Zurn Z-1440A, or equal, with ABS plastic plug.
5. Cleanouts in walls: Zurn Z-1441 or Z-1443, or equal, with stainless steel cover. Provide long sweep elbow or combination wye at connection to riser and install with surface of cleanout within ½ inch of front face of finished wall.
   a. Where space does not permit the above installation, provide Zurn Z-1446, or equal, with stainless steel access cover, and vandal resistant screw.
   b. Install face of cleanout plug within 1/2 inch of front face of finished wall.

6. Cleanouts exterior to building in landscaped areas: Zurn Z-1449-BP, or equal, cleanout ferrule with tapered bronze plug. Where located at grade, provide 18 by 18 by 6 inch concrete pad; Trowel concrete smooth and edge; set flush with finished grade.
7. Cleanouts in drive areas: Zurn -1400-HD-KC, or equal, with heavy-duty top and ABS plastic plug.
8. Cleanouts in acid waste systems: Zurn ZN-1404, or equal, cleanout access housing, with ductile cast iron body and nickel bronze top. Extend acid waste piping within the cleanout, and terminate

with threaded cap. Secure acid waste pipe inside cleanout access housing with setscrews provided.

B. Floor Drains:

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine areas and conditions under which plumbing piping systems are to be installed. Do not proceed with Work until unsatisfactory conditions have been corrected in manner acceptable to Contractor.

B. Make all arrangements for the utilities required. Pay all costs involved in obtaining the services including gas service and meter, water meter, pressure reducing valve, access boxes, street work. Connect to site utilities. Verify the location of all services. No extra cost will be allowed if services are not as shown.

C. Determine sanitary sewer and storm drain location and elevation at all points of connection before installing any piping. Notify Architect immediately if indicated grades cannot be maintained.

D. At time of final connection, and prior to opening valve to allow pressurization of water and gas piping from existing systems, on site or off site, perform a pressure test to indicate static pressure of existing systems. If pressure on water piping is greater than 80 psi, or gas pressure is not as indicated on Contract Documents, inform Architect immediately. Do not allow piping systems to be pressurized without written consent of the Architect.

3.02 INSTALLATION OF WATER PIPING

A. Run all water piping generally level, free of traps or unnecessary bends, arranged to conform to the building requirements, and to suit clearance for other mechanical work such as ducts, flues, conduits, and other work. No piping shall be installed so as to cause unusual noise from the flow of water therein under normal conditions.

B. Provide manufactured water hammer arrestors, sized and installed in accordance with Plumbing and Drainage Institute Standard PDI WH201.
   1. Locate water hammer arrestors at every plumbing fixture, or, where fixtures are located in groups, at every group of fixtures, and as indicated on Drawings.
   2. Install water hammer arresters above accessible ceilings, or install access doors for service.

C. In freezing locations arrange water piping to drain as shown.

D. Install piping on room side of building insulation.

E. Check final location of rubber rings within couplings on PVC water piping with gauge or as recommended by manufacturer. Make connection to valves with cast iron adapters connected to water pipe with cast iron couplings. Furnish and install anchors or thrust blocks.

F. For all faucets, hose bibbs, or other water outlets delivering industrial hot and/or cold water, provide a sign, permanently mounted, indicating "CAUTION: NON-POTABLE WATER, DO NOT DRINK". Each sign shall be permanently engraved with black uppercase letters on a yellow background. Letters shall be minimum 1-1/4 inch high.

3.03 INSTALLATION OF SANITARY AND STORM DRAINAGE SYSTEMS

A. Make joints in PVC sewer pipe with PVC-type couplings and rubber rings.

B. Check final location of rubber rings within the couplings with gauge or as recommended by the manufacturer. Make joints between PVC pipe and cast iron pipe or fittings using cast iron adapter fittings, installed as recommended by the manufacturer.
   1. Ring-Tite cast iron pipe fittings may be used in lieu of standard fittings. Make connection to valves with cast iron adapters connected to the pipe with PVC couplings.

C. Sewer Piping: Run all horizontal sanitary drain piping inside of building on a uniform grade of not less than 1/4 inch per foot unless otherwise noted or later approved. Unless otherwise noted on the plans, piping shall have invert elevations as shown and slope uniformly between given elevations.

D. Storm Drain Piping: Run all horizontal storm drain piping inside of building on a uniform grade of not less than 1/4 inch per foot. Unless otherwise noted on the plans, piping shall have invert elevations as shown and slope uniformly between given elevations.

E. Install rainwater leader nozzles at exposed bottom of leaders where they spill onto grade.

F. Run all drainage piping as straight as possible and provide easy bends with long turns; make all offsets at an angle of 45 degrees or less.

G. Grade all vent piping so as to free itself quickly of any water condensation.

H. Where possible, join groups of vent risers together with one enlarged outlet through roof. Maintain minimum of 10 foot horizontal or 3 foot vertical clearance from air intakes.

I. Install drip pan under storm drain piping, sanitary drain piping, and vent piping that must be run over kitchen areas.

J. Hubless Cast Iron Joints: Comply with coupling manufacturer's installation instructions.

K. PVC DWV pipe and fittings shall be installed in accordance with ASTM D2321 and ASTM F1668.

L. Auger out all new gravity piping systems all the way out to the first manhole. Also applies to connection of new gravity piping systems to existing site utilities. Contractor to provide camera service and deliver to district video evidence of all new gravity piping systems being free and clear of any debris and/or obstructions.

3.04 INSTALLATION OF NATURAL GAS PIPING

A. Install natural gas piping in accordance with Division 22 Basic Plumbing Materials and Methods sections.

B. Use sealants on metal gas piping threads that are chemically resistant to natural gas. Use sealants sparingly, and apply to only male threads of metal joints.

C. Remove cutting and threading burrs before assembling piping.

D. Do not install defective piping or fittings. Do not use pipe with threads that are chipped, stripped, or damaged.

E. Plug each gas outlet, including valves, with threaded plug or cap immediately after installation and retain until continuing piping or equipment connections are completed.

F. Ground gas piping electrically and continuously within project, and bond tightly to grounding connection.

G. Install drip-legs in gas piping where indicated and where required by code or regulation.
   1. Install "Tee" fitting with bottom outlet plugged or capped at bottom of pipe risers.
   2. Where gas supply is connected to equipment with flexible connectors, install drip-leg in piping on downstream side of flexible connector, and install shut off valve on piping on upstream side of flexible connector.

H. Install piping with 1/64 inch per foot (1/8 percent) downward slope in direction of flow.

I. Install piping parallel to other piping.

J. Paint all gas piping installed in exposed exterior locations. For additional requirements, refer to Section 22 00 50, Basic Plumbing Materials and Methods, article, Painting.

K. Provide shutoff valve downstream of meter.

L. Provide exterior shutoff valve at each building. Provide sign affixed to wall at valve location reading: “Gas Shut-Off.” Size and location of the sign shall be as required by the Authority Having Jurisdiction. Where gas piping enters a building in more than one location, exterior shutoff valves shall have a permanently attached metal tag identifying the area served by that valve, in addition to sign on wall.

M. Provide watertight Schedule 40 PVC conduit to protect gas piping installed below covered walk, covered driveways, and where noted on Drawings. Extend sleeve at least 12 inches beyond any area where it is required to be installed, and terminate with valve box extended to grade, and marked “GAS”.

N. Maintain minimum of 12 inch clearance between gas piping and steam piping above 200 degrees F.

3.05 PIPE JOINTS AND CONNECTIONS

A. General:
   1. Cutting: Cut pipe and tubing square, remove rough edges or burrs. Bevel plain ends of steel pipe.
   2. Remove scale, slag, dirt and debris from inside and outside of pipe before assembly.
   3. Boss or saddle type fittings or mechanically extracted tube joints will not be allowed.

B. Threaded Pipe: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:
   1. Apply thread compound to external pipe threads: Rectorseal No. 5, Permatex No. 1, or equal.
   2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged.

C. Flanged Joints: Select appropriate asbestos-free, nonmetallic gasket material in size, type, and thickness suitable for domestic water service. Join flanges with gasket and bolts according to ASME B31.9.

D. Joint Construction for Solvent-Cemented Plastic Piping: Clean and dry joining surfaces. Join pipe and fittings according to the following:
   1. Comply with ASTM F 402 for safe-handling practice of cleaners, primers, and solvent cements. Apply primer.
   2. CPVC Piping: Join according to ASTM D 2846/D 2846M Appendix.
   3. PVC Piping: Join according to ASTM D 2855.

E. Copper Pipe and Tubing (Except pneumatic control piping): All joints shall be brazed according to ASME Section IX, Welding and Brazing Qualifications, except domestic water piping 1-1/4 inches and smaller when not buried in the ground or concrete and type DWV plumbing piping may be soldered.
   1. Soldered joints: Apply water-flushable flux to end of tube. Join copper tube and fittings according to ASTM B 828.

F. Cast Iron Soil Pipe:
   1. No-Hub fittings shall be made with a torque wrench.
   2. Hub joints shall be with Ty-Seal couplings.
   3. Wrought iron, steel, or copper pipe shall have a ring or part of a coupling screwed on to form a spigot end if caulked into a joint.
   4. Connect cast iron sewer piping to outside service pipe with cast iron or vitrified LOP reducers or increasers as required. Caulking of smaller pipe into the larger without a reducer or increaser will not be permitted.

G. Welded Pipe:
   1. Make up with oxyacetylene or electric arc process.
   2. All line welds shall be of the single "V" butt type. Welds for flanges shall be of the fillet type.
   3. Where the branch is two pipe sizes smaller than the main or smaller, Bonney Weldolets, Threadolets, Nibco, or equal, may be used in lieu of welding tees.

H. PVC Sewer and Drainage Pipe (outside building as allowed only): Four inches and larger shall be bell and spigot, assembled in accordance with manufacturer's recommendations. Joint shall be tested in

accordance with ASTM D3212. Solvent weld joints below 4 inches in size, schedule 40 PVC with matching fittings, assembled per manufacturer's instructions.

I. Polyethylene and Polypropylene Pipe: Assemble with fusion joints in strict accordance with manufacturer's instructions.

J. Make joints in PVC water pipe with PVC couplings and rubber rings, Manville Ring-Tite, PW Pipe, or equal. Check final location of rubber rings with the couplings with gauge or as recommended by the manufacturer. Make joints between PVC pipe and cast iron pipe or fittings using cast iron or PVC adapter fittings, installed as recommended by the manufacturer. Ring-Tite PVC or cast iron pipe fittings may be used in lieu of standard fittings. Make connection to valves with cast iron adapters connected to the water pipe with PVC couplings.

K. Flexible Connections:
   1. Furnish and install Thermo Tech., Inc. F/J/R, Metraflex, or equal, flexible couplings with limiter bolts on piping connections to all equipment mounted on anti-vibration bases, on each connection to each base mounted pump and where shown. Couplings shall be suitable for pressure and type of service.
   2. Anchor piping securely on the system side of each flexible connection.

3.06 INSTALLATION OF VALVES

A. Install valves as indicated on Drawings and in the following locations:
   1. Shutoff Valves: Install on inlet of each plumbing equipment item, and on inlet of each plumbing fixture, and elsewhere as indicated.
   2. Drain Valves: Install on each plumbing equipment item located to completely drain equipment for service or repair. Install at base of each riser, at base of each rise or drop in piping system, and elsewhere indicated or required to completely drain potable water system.
   3. Provide gate or globe valves on inlet and outlet of each water heater or pump.

B. General:
   1. Valves shall be full line size unless indicated otherwise on Drawings.
   2. Install horizontal valves with valve stem above horizontal, except butterfly valves.
   3. Install valves with unions or flanges at each piece of equipment arranged to allow service, maintenance, and equipment removal without system shutdown.
   4. Locate valves for easy access and provide separate support where necessary.
   5. Install valves in position to allow full stem movement.
   6. Install exposed polished or enameled connections with special care showing no tool marks or exposed threads.
   7. Butterfly valves conforming to the paragraph "Butterfly Valves" may be used in lieu of gate or globe valves for locations above grade.
   8. Ball valves conforming to the paragraph "Ball Valves" may be used in lieu of gate valves for locations above grade for services 2-1/2 inches and smaller.
   9. Valves 2-1/2 inches and smaller (except ball valves) in nonferrous water piping systems may be solder joint type with bronze body and trim.
   10. Rigidly fasten hose bibbs, hydrants, fixture stops, compressed air outlets, and similar items to the building construction.

C. Gate Valves:
   1. Furnish valves in copper lines with adapters to suit valve / line requirements.
   2. Underground gate valves:
      a. Underground valves 3 inches and smaller may be furnished with operating nuts or hand-wheels, and with Ring-Tite joint ends.
      b. Furnish and deliver to Owner one wrench of each size required for operating underground valves.

D. Gas Shut-Off Valves:
   1. Provide line size ball valve in gas line to each appliance.
   2. Provide line size ball valve in gas line, to be used as emergency shut-off for science classrooms. Install valve in locking box where indicated on the drawings.
   3. Provide line size electric solenoid gas valve in gas line to kitchen equipment (if not supplied with appliance) under Type 1 hood. Interlock with hood fire alarm system.

E. Valve Adjustment: Adjust or replace valve packing after piping systems have been tested and put into service but before final adjusting and balancing. Replace valves if persistent leaking occurs.

3.07 INSTALLATION OF CLEANOUTS

A. Cleanouts: Install in piping as indicated, as required by California Plumbing Code, at each change in direction of piping greater than 45 degrees. Install at maximum intervals of 50 feet for piping 4 inches and smaller and 100 feet for larger piping inside buildings, and at base of each conductor.

B. Flashing Flanges: Install flashing flange and clamping device with each cleanout passing through water resistant membrane.

3.08 INSTALLATION OF GAS PRESSURE REGULATING VALVES

A. Install as indicated; comply with utility requirements. In locations where regulators are installed in confined spaces, pipe atmospheric vent to outdoors, full size of outlet. Install gas shutoff valve upstream and downstream of each pressure-regulating valve.

3.09 GAS PIPING EQUIPMENT CONNECTIONS

A. Connect gas piping to each gas-fired equipment item, with union, drip leg and shutoff gas cock full size of supply line shown. Reduce only at connection to equipment. Comply with equipment manufacturer's instructions.
   1. Route gas vent and gas relief to outside.
   2. Gas shutoff valve shall be placed as close as possible to equipment in a location where it can be serviced. Distance from equipment to valve shall not exceed 6 feet.

3.10 EQUIPMENT CONNECTIONS

A. Piping Runouts to Fixtures: Provide hot and cold water piping runouts to fixtures of sizes indicated.

B. Mechanical Equipment Connections: Connect hot and cold water piping system and gas piping system to mechanical equipment as indicated, and provide with shutoff valve and union for each connection.

3.11 DOMESTIC WATER SYSTEM STERILIZATION

A. Clean and disinfect new or altered hot and cold water piping connected to domestic water systems using methods prescribed by the Health Authority. If the Health Authority does not prescribe methods, clean and disinfect new or altered hot and cold water piping using methods given in the California Plumbing Code.
   1. A water treatment company that has a current state EPA license to apply disinfectant chlorine in potable water shall perform the procedure.

3.12 CARE AND CLEANING

A. Repair or replace broken, damaged, or otherwise defective parts, materials, and work. Leave entire work in condition satisfactory to Architect. At completion, carefully clean and adjust equipment, fixtures, and trim that are installed as part of this work. Remove labels from stainless steel sinks, except 316 stainless steel sink labels should be retained to confirm that the correct material has been provided. Leave systems and equipment in satisfactory operating condition.

3.13 OPERATIONAL TESTS

A. Test each piece of equipment to show that it will operate in accordance with indicated requirements.

3.14 CLEANING UP

A. Upon completion of Work remove materials, equipment, apparatus, tools, and the like, and leave premises clean, neat, and orderly.

END OF SECTION

SECTION 31 00 00

EARTHWORK

PART 1 - GENERAL

1.01 SUMMARY

A. RELATED SECTIONS

1. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.
2. Section 01 50 00, Construction Facilities and Temporary Controls.
3. Section 01 57 13, Erosion Control
4. Section 31 23 33, Trenching and Backfilling.
5. Section 32 12 00, Asphalt Concrete Paving.
6. Section 32 16 00, Site Concrete.
7. Section 33 40 00, Site Drainage.

1.02 SUBMITTALS

A. Refer to Section 01 33 00.

B. Manufacturer's Data: Submit list and complete descriptive data of all products proposed for use. Include manufacturer's specifications, published warranty or guarantee, installation instructions, and maintenance instructions.

1.03 QUALITY ASSURANCE

A. Use only new materials and products, unless existing materials or products are specifically shown otherwise on the Drawings to be salvaged and re-used.

B. All materials, components, assemblies, workmanship and installation are to be observed by the Owner's Inspector of Record. Work not so inspected is subject to uncovering and replacement.

C. The representatives of the Owner’s testing lab will not act as supervisor of construction, nor will they direct construction operations. Neither the presence of the Owner’s testing lab representatives nor the testing by the Owner’s testing lab shall excuse the contractors or subcontractors for defects discovered in their work during or following completion of the project. Correcting of inadequate compaction or moisture content is the sole responsibility of the contractor.

D. Tests (See Part 3 for Compaction Testing).

E. Contractor shall be solely responsible for all subgrades built. Failures resulting from inadequate compaction or moisture content are the responsibility of the contractor. Contractor shall be solely responsible for any and all repairs.

1.04 WARRANTY

A. Refer to General Conditions and Section 01 78 36.

1.05 REFERENCES AND STANDARDS

A. Site Visitation: All bidders interfacing with existing conditions shall visit the site prior to bid to verify general conditions of improvements. Discrepancies must be reported prior to the bid for clarification.

B. ANSI/ASTM D698-e1 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3)).

C. ANSI/ASTM D1556-e1 - Test Method for Density of Soil in Place by the Sand-Cone Method.

D. ANSI/ASTM 698-12e2 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).

E. ANSI/ASTM D 3017-05 Test Methods for Moisture Content of Soils and Soil-Aggregate Mixture by Nuclear Methods (Shallow Depth).

F. ANSI/ASTM D 4318-10e1 Test Method for Liquid Limit, Plastic Limit, and Plasticity Limit.

G. CALTRANS Standard Specifications Section 17.

H. CAL-OSHA, Title 8, Section 1590 (e).

I. Any work within the street, highway or right-of-way shall be performed in accordance with the requirement of the governmental agencies having jurisdiction, and shall not begin until all of those governing authorities have been notified.

1.06 DELIVERY, STORAGE AND HANDLING

A. Transport, store and handle in strict accord with the local jurisdiction.

B. Make delivery to job when notified by Contractor verifying that the job is ready to receive the work of this Section and that arrangements have been made to properly store, handle and protect such materials and work.

1.07 PROJECT CONDITIONS

A. Existing civil, mechanical and electrical improvements are shown on respective site plans to the extent known. Should the Contractor encounter any deviation between actual conditions and those shown, he is to immediately notify the Architect before continuing work.

B. Excavation dewatering may be necessary. Contractor shall provide any and all tools, equipment and labor necessary for excavation dewatering no matter what the source. Dewatering shall be continuous until all site utilities are installed and backfilled.

1.08 EXISTING SITE CONDITIONS

A. Contractor shall acquaint himself with all site conditions. If unknown active utilities are encountered during work, notify Architect promptly for instructions. Failure to notify will make Contractor liable for damage to these utilities arising from Contractor's operations subsequent to discovery of such unknown active utilities.

1.09 ON SITE UTILITY VERIFICATION AND REPAIR PROCEDURES

A. Ground-breaking requirements:

1. All underground work performed by a Contractor must be authorized by the District's Construction Manager or the Low Voltage Consultant prior to start of construction.
2. The Contractor is to obtain and keep the original School's construction utility site plans on site during all excavation operations. Contractor can contact the District's Construction Manager, Facilities Manager, or the Low Voltage Consultant to procure the drawings.

B. Underground Utility Locating:

1. The contractor shall hire an Underground Utility Locating Service to locate existing underground utility pathways in areas affected by the scope of work for excavation.
2. Contractor must use an underground utility locator service with a minimum of 3 years' experience. The equipment operator must have demonstrated experience.
3. The Underground Utility Locator Service must have the use of equipment with the ability to locate by means of inductive clamping, induction, inductive metal detection, conductive coupling, or TransOnde (Radio detection) to generate signals, passive locating (free scoping) for "hot" electric, and metal detector.
4. The Underground Utility Locator Service must be able to locate existing utilities at a depth of at least 72".
5. The Underground Utility Locator Service must be able to locate but are not limited to locating the following types of utility pathways:
   a) All conduit pathways containing 110 volt or greater 50-60Hz electrical wire.
   b) All conduit pathways containing an active cable TV system.
   c) All conduit pathways containing wire or conductor in which a signal can be attached and generated without damaging or triggering the existing systems.
   d) All empty conduit pathways or pipe in which a signal probe or sonde (miniature transmitter) can be inserted.
   e) All conduit pathways containing non-conductive cables or wires in which a signal probe or sonde (miniature transmitter) can be inserted.
   f) All plastic and other nonconductive water lines in which a TransOnde Radio detection) or other "transmitter" can be applied to create a low frequency pressure waive (signal) without damaging or triggering the existing systems.
   g) All copper or steel waterlines and plastic or steel gas lines
6. All markings made by the Underground Utility Locator Service or other shall be clear and visible.
7. The contractor shall maintain all markings made by Underground Utility Locator Service or other throughout the entire length of the project.
8. The Underground Utility Locator Service shall provide the contractor with two sets of maps

showing the location of utilities and average depth. They will be referenced to permanent buildings. Contractor will deliver one copy to the district at no additional charge.

9. Contractor is responsible to contact Underground Service Alert (U.S.A. 800/227-2600) and receive clearance prior to any excavation operations.
10. Contractor shall inform the (District's Construction Manager) (Architect) (Owner) no later than five (5) days prior to the date scheduled for the utility locator service to be on site.

1.10 PROTECTION

A. Adequate protection measures shall be provided to protect workmen and passers-by on and off the site. Adjacent property shall be fully protected throughout the operations. Blasting will not be permitted. Prevent damage to adjoining improvements and properties both above and below grade. Restore such improvements to original condition should damage occur. Replace trees and shrubs outside building area disturbed by operations.

B. In accordance with generally accepted construction practices, the Contractor shall be solely and completely responsible for working conditions at the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and shall not be limited to normal working hours.

C. Any construction review of the Contractor's performance conducted by the Geotechnical Engineer is not intended to include review of the adequacy of the Contractor's safety measures, in, on, or near the construction site.

D. Provide shoring, sheeting, sheet piles and or bracing to prevent caving, erosion or gullying of sides of excavation.

E. Surface Drainage: Provide for surface drainage during period of construction in manner to avoid creating nuisance to adjacent areas. The contractor shall make a reasonable effort on a daily basis to keep all excavations and the site free from water during entire progress of work, regardless of cause, source, or nature of water.

F. Adjacent streets and sidewalks shall be kept free of mud, dirt or similar nuisances resulting from earthwork operations.

G. The site and adjacent influenced areas shall be watered as required to suppress dust nuisance. Dust control measures shall be in accordance with the local jurisdiction.

1.11 SEASONAL LIMITS

A. No fill material shall be placed, spread or rolled during unfavorable weather conditions. When work is interrupted by rains, fill operations shall not be resumed until field tests indicate that moisture content and density of fill are satisfactory.

B. Excessively wet fill material shall be bladed and aerated per section 3.08, B.

1.12 TESTING

A. General: Refer to Section 01 45 00 – Quality Requirements.

B. Geotechnical Engineer: Owner is retaining a Geotechnical Engineer to determine compliance of fill with Specifications, and to direct adjustments in fill operations. Costs of Geotechnical Engineer will be borne by Owner; except those costs incurred for re-tests or re-inspection will be paid by Owner and back charged to Contractor.

1. If Contractor elects to process or mine onsite materials for use as Suitable Fill, Aggregate Sub Base, Aggregate Base, Rock, Crushed Rock or sand the cost of all testing of this material shall be paid for by the Contractor.
2. Testing of import fill for compliance with Department of Toxic Substance Control (DTSC) shall be paid for by the Contractor.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Engineered Fill Materials: All fill shall be of approved local materials supplemented by imported fill if necessary. "Approved" local materials are defined as local soils tested and approved by Geotechnical Engineer free from debris, and concentrations of clay and organics; and contain rocks no larger than 3-inches in greatest dimension. The soil and rock should be thoroughly blended so that all rock is surrounded by soil. This may require mixing of the soil and rock with a dozer prior to placement and compaction. Clods, rocks, hard lumps or cobbles exceeding 3-inches in final size shall not be allowed in the upper 12 inches of any fill.

B. Imported Engineered Fill Material: Imported fill may be required to complete work. Proposed import fill material shall meet the above requirements; shall be similar to the native soils. Import fill shall meet the above requirements; shall have plasticity index of 12 or less; an Expansion Index of 20 or less; be free of particles greater than 3-inches in largest dimension; be free of contaminants and have corrosion characteristics within the acceptable limits. All import fill material shall be tested and approved by Soils Engineer prior to transportation to the site. Proposed fill material shall comply with DTSC guidelines to include Phase 1 environmental site assessment and related tests. Refer to the October 2001 DTSC Information Advisory for clean imported fill material.

1. DTSC TESTING: Site work contractor is to coordinate testing with an analytical lab, hired by the owner, licensed by the State of California for the DTSC testing. The costs associated with the testing will be paid by the contractor.
2. DTSC testing shall include documentation as to the previous land use, location, and history. Soils shall be analyzed for all compounds of concern to ensure the imported soil is uncontaminated and acceptable. Testing shall be performed per the recommendations included in DTSC Imported Fill Advisory http://www.dtsc.ca.gov/Schools/upload/SMP FS Cleanfill-Schools.pdf). Soils shall be tested prior to import to the project site.
   Lab shall determine geographically which tests and analysis comparison will be appropriate for the testing. (CAM 17 / Title 22); (RWQCB) Regional Water Quality Control Board; or (OEHHA) Office of Environmental Health Hazard Assessment.
3. Frequency of testing shall be conducted in accordance with DTSC's Imported Fill Advisory as

follows;

Fill Material Sampling Schedule

Area of Individual Borrow Area	Sampling Requirements
2 Acres or less	Minimum of 4 samples
2 to 4 Acres	Minimum of 1 sample every ½ Acre
4 to 10 Acres	Minimum of 8 Samples
Greater than 10 Acres	Minimum of 8 locations with 4 subsamples per location

Volume of Borrow Area Stockpile

Up to 1,000 Cubic Yards	1 sample per 250 cubic yards
1,000 to 5,000 Cubic Yards	4 samples for the first 1000 cubic Yards + 1 sample per each additional 500 cubic yards
Greater than 5,000 Cubic Yards	12 samples for the first 5,000 cubic yards + 1 sample per each additional 1,000 cubic yards

4. Reports/ Documentation

    a. Results of the testing analysis shall be sent to the Owner; Architect; Project Inspector, Project Civil Engineer, DTSC, and DSA. Letter shall reference DSA file and application numbers.

C. Landscape Backfill Material:

1. The top 3” of native topsoil stripped from the site may be used for landscape backfill material.

D. Water: Furnish all required water for construction purposes, including compaction and dust control. Water shall be potable.

E. Aggregate Base: Provide Class 2 3/4” Aggregate Base conforming to standard gradation as specified in Cal Trans Standard Specifications, Section 26,-1.02A.

PART 3 – EXECUTION

3.01 INSPECTION LAYOUT AND PREPARATION

A. Prior to installation of the work of this Section, carefully inspect and verify by field measurements that installed work of all other trades is complete to the point where this installation may properly commence

B. Layout all work, establish grades, locate existing underground utilities, set markers and stakes, setup and maintain barricades and protection facilities; all prior to beginning actual earthwork operations. Layout and staking shall be done by a licensed Land Surveyor or Professional Civil Engineer.

C. Verify that specified items may be installed in accordance with the approved design.

D. In event of discrepancy, immediately notify Owner and the Architect. Do not proceed in discrepant areas until discrepancies have been fully resolved.

3.02 PERFORMANCE

A. GENERAL:

1. General: Do all grading, excavating and cutting necessary to conform finish grade and contours as shown. All cuts shall be made to true surface of subgrade.
2. Archaeological Artifacts: Should any artifacts of possible historic interest be encountered during earthwork operations, halt all work in area of discovery and immediately contact the Architect for notification of appropriate authorities.
3. Degree of Compaction: Percentage of maximum density, hereinafter specified as degree of compaction required, means density equivalent to that percentage of maximum dry density determined by ASTM D1557 Compaction Test method, and such expressed percentage thereof will be minimum acceptable compaction for specified work.
4. Moisture Content: Moisture content shall be as noted below and as called for on the plans. Moisture content shall be maintained until subgrade is covered by surfacing materials.

3.03 DEMOLITION, DISPOSAL AND DISPOSITION OF UNDESIRABLE MAN-MADE FEATURES

A. All other obstructions, such as abandoned utility lines, septic tanks, concrete foundations, and the like shall be removed from site. Excavations resulting from these removal activities shall be cleaned of all loose materials, dish shaped, and widened as necessary to permit access for compaction equipment. Areas exposed by any required over-excavation should be scarified to a depth of 12", moisture-conditioned to (optimum) (2% above optimum) moisture content, and recompacted to at least 90% of the maximum dry density.

3.04 TESTING AND OBSERVATION

A. All grading and earthwork operations shall be observed by the Geotechnical Engineer or his representative, serving as the representative of the Owner.

B. Field compaction tests shall be made by the Geotechnical Engineer or his representative. If moisture content and/or compaction are not satisfactory, Contractor will be required to change equipment or procedure or both, as required to obtain specified moisture or compaction. Notify Geotechnical Engineer at least 48 hours in advance of any filling operation.

C. Earthwork shall not be performed without the notification or approval of the Geotechnical Engineer or his representative. The Contractor shall notify the Geotechnical Engineer at least two (2) working days prior to commencement of any aspect of the site earthwork.

D. If the Contractor should fail to meet the compaction or design requirements embodied in this document and on the applicable plans, he shall make the necessary readjustments until all work is deemed satisfactory, as determined by the Geotechnical Engineer or Architect/Engineer.

E. After each rain event Geotechnical Engineer shall test fill material for optimum moisture. Do not place

any fill material until desired moisture is achieved.

3.05 CLEARING AND GRUBBING

A. Prior to grading, remove all debris off-site. Remove trees and brush including the root systems. Holes resulting from tree and brush removal should be prepared and backfilled in accordance with paragraphs 3.07, 3.08, 3.09, and 3.10. This may require deepening and/or widening the holes to adequately remove disturbed soil and provide room for compaction equipment. Strip the surface of all organics. Stripping's meeting the requirements of Section 32 90 00 may be used in landscape areas only.

3.06 CUTTING

A. Building pads that are located within a cut/fill transition area will have to be overexcavated to provide a semi-uniform fill beneath the building pad. The portions of building pads located in cut areas shall be overexcavated to provide no more than 1 foot difference in fill placed in the same building pad.

B. Do all cutting necessary to bring finish grade to elevations shown on Drawings.

C. When excavation through roots is necessary, cut roots by hand.

D. Carefully excavate around existing utilities to avoid unnecessary damage. The contractor shall anticipate and perform hand work near existing utilities as shown on the survey, without additional claims or cost.

3.07 STRUCTURAL EXCAVATION

A. Unsuitable Ground: Any errors in structural excavation, soft ground, or clay soils found when excavating shall be reported to Architect. In no case shall work be built on any such soft or clayey unsuitable surface without direction from the Architect. Restore excavations to proper elevation with engineered fill material compacted to 90% of dry density.

3.08 SUBGRADE PREPARATION

A. Grade compact and finish all subgrades within a tolerance of 0.10' of grades as indicated on Drawings and so as not to pool water. Subgrade within building pads and concrete walks shall be within 0.05' of grades indicated.

B. After clearing, grubbing and cutting, subsurface shall be plowed or scarified to a depth of at least 12", until surface is free from ruts, hummocks or other uneven features and uniform and free from large clods. Moisture condition to 2% above optimum moisture content and recompact to at least 90% of the maximum dry density as determined by ASTM Test Method D1557. If the existing soils are at a water content higher than specified, the contractor shall provide multiple daily aerations by ripping, blading, and/or disking to dry the soils to a moisture content where the specified degree of compaction can be achieved. After seven consecutive working days of daily aerations, and the moisture content of the soil remains higher than specified, the contractor shall notify the architect. If the existing soils have a moisture content lower than specified, the contractor shall scarify, rip, water and blade existing soil to achieve specified moisture content. The contractor shall make proper

allowance in schedule and methods to complete this work.

C. Subgrade in areas to receive landscaping shall be compacted to 90%.

D. Where Contractor over-excavates building pads through error, resulting excavation shall be recompacted as engineered fill at Contractor's expense.

3.09 PLACING, SPREADING AND COMPACTING FILL MATERIAL IN BUILDING PAD AND PAVEMENT AREAS

A. Selected fill material shall be placed in layers which, when compacted, shall not exceed 6 inches in compacted thickness. Each layer shall be spread evenly and thoroughly mixed to insure uniformity in moisture content.

B. Selected fill material shall be moisture-conditioned to specified moisture content. Selected fill material shall be unfrozen. When moisture content of fill material is below that specified, add water until proper moisture content is achieved. When moisture content is above that specified, aerate by blading or other methods mentioned in 3.08 B until moisture content is satisfactory.

C. After each layer has been placed, mixed and spread evenly, it shall be thoroughly compacted to a minimum of 90% as determined by the ASTM D1557 Compaction Test. Compact each layer over its entire area until desired density has been obtained.

D. Recompaction of Fill in Trenches and Compaction of Fill Adjacent to Walls: Where trenches must be excavated, backfill with material excavated. Place in lifts that when compacted do not exceed 6”, moisture conditioned to 2% above optimum moisture content, and compact to a minimum of 90% relative compaction in building pad and paved areas, and to 90% relative compaction in landscape areas.

E. Jetting of fill materials will not be allowed.

3.10 FINAL SUBGRADE COMPACTION

A. Building Pads: Upper 12" of all final building pad subgrades shall be uniformly compacted at specified moisture content to at least 90% of maximum dry density, as determined by ASTM D1557 Compaction Test, regardless of whether final subgrade elevation is attained by filling, excavation, or is left at existing grade. After acceptance of final compaction test, contractor shall maintain the required moisture content of subgrade until concrete flatwork is placed.

B. Paved Areas: Upper 12" of all final subgrades supporting pavement sections and all other flatwork shall be brought to specified moisture content and shall be uniformly compacted to not less than 90% of maximum dry density, regardless of whether final subgrade elevation is attained by filling, excavation, or is left at existing grade. After acceptance of final compaction test, contractor shall maintain the required moisture content of subgrade until concrete flatwork is placed.

C. Other Fill and Backfill: Upper 12” of all other final subgrades or finish grades shall be compacted to 90% of maximum dry density.

D. Gravel Fill: Do not place compacted gravel fill until after underground work and foundations are in

place. Compact gravel fill with vibratory plate or similar equipment to preclude settlement.

3.11 PLACING, SPREADING, AND COMPACTION OF LANDSCAPE BACKFILL MATERIALS

A. All landscaped areas shall receive topsoil. After subgrade under landscape area has been scarified and brought to 90% maximum dry density, top soil shall be placed evenly to depth of 12" at 85% of maximum dry density.

B. Project Inspector must verify that materials are uniformly spread to minimum depth specified.

3.13 SLOPE CONSTRUCTION

A. Cut slopes shall be constructed to no steeper than 2:1 (horizontal:vertical). Fill slopes shall be constructed to no steeper than 2:1 (horizontal:vertical). Prior to placement of fill on an existing slope the existing slope shall be benched. The benches shall be in a ratio of 2 horizontal to 1 vertical. The face of the fill slopes shall be compacted as the fill is placed, or the slope may be overbuilt and then cut back to the design grade. Compaction by track walking will not be allowed.

3.14 FINISH GRADING

A. At completion of project, site shall be finished graded, as indicated on Drawings. Finish grades shall be “flat graded” to grades shown on the drawing. Mounding of finish grades will not be allowed unless otherwise directed on the landscape drawings. Tolerances for finish grades in drainage swales shall be +-0.05’. Tie in new and existing finish grades. Leave all landscaped areas in finish condition for lawn seeding. Landscaped planters shall be graded uniformly from edge of planter to inlets. If sod is used for turf areas the finish grade on which it is placed shall be lowered to allow for sod thickness.

B. All landscape areas shall be approved by Architect prior to any planting.

3.15 SURPLUS MATERIAL

A. Excavated material not required for grading or backfill shall be removed from site at contractor’s expense.

3.16 CLEANING

A. Refer to Section 01 74 00.

B. Remove from fill all vegetation, wood, form lumber, casual lumber, and shavings, in contact with ground; buried wood will not be permitted in any fill.

END OF SECTION

SECTION 31 13 16

TREE PROTECTION

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:

1. Tree protection: complete as shown and as specified.

B. Related Sections:

1. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.
2. Section 02 41 00 – SITE DEMOLITION.
3. Section 32 80 00 – IRRIGATION.
4. Section 32 90 00 – LANDSCAPING.

1.02 SUBMITTALS

A. Contractor shall submit Tree Protection Area plan to Architect outlining all trees and plants listed by number to be protected and their groupings. All trees and plants shall be grouped in their own Fenced Tree Protection Areas as shown in Drawings.

B. Contractor shall submit to Landscape Architect in writing a schedule including any and all activity inside Fenced Tree Protection Areas. This schedule to include but not limited to the dates fences are initially installed, altered and dates of fence replacement. Intent of these provisions is that the Tree Protection Zone (TPZ) are fenced for the entire duration with only exceptions of short intervals or specifically defined construction activity needs. Revise schedule as directed by Architect.

C. Provide a Mediation Plan to keep existing trees and planting irrigated during construction.

1.03 WARRANTY

A. Guarantee all workmanship and materials hereunder against defective workmanship and materials, including damage by leaks and settlement of irrigation trenches, for the duration specified in Division 01 of these Specifications. (The Contractor is not responsible for vandalism or theft after date of final acceptance.)

PART 2 – PRODUCTS

2.01 MATERIALS

A. Use materials as specified; any deviation from the Specifications must first be approved by the Owner's Representative in writing. All material containers or certificates shall be clearly marked

by manufacturer as to contents for inspection.

B. Trunk Protection constructed of:

1. 20-foot long 2x6 wood boards or length needed to protect the trunk if tree trunk is shorter than 20'.
2. Metal wire. Gauge strong enough to tie the boards around the trunk of the tree.

C. Tree Protection Zone Fencing:

1. 4-foot-tall snow fencing or 6-foot-tall metal chain link construction fencing per the discretion of the Landscape Architect or District Representative.

D. Bark Mulch: Untreated, shredded cedar.

PART 3 – EXECUTION

3.01 PREPARATION

A. Maintain pre-existing moisture levels.

B. Maintain areas inside the fenced tree protection area including lawn mowing, leaf removal, operation and repair of irrigation.

C. Protect root systems from flooding, erosion, excessive watering and drying resulting from dewatering or other operations:

D. Prohibitions - DO NOT:

1. Allow run off or spillage of damaging materials in vicinity of root systems,
2. Rinse tools or equipment under trees,
3. Store materials, stockpile soil, park or drive vehicles within drip lines or in areas with plants,
4. Cut, break skin or bark, bruise roots or branches,
5. Allow fires under and adjacent trees and plants,
6. Discharge exhaust under foliage,
7. Secure cable, chain, or rope to trees,
8. Change grade within drip line of trees without Landscape Architect's approval,
9. Lime shall not be used.

3.02 INSTALLATION

A. Tree Trunk Protection

1. Conform to requirements for trees and plants to be retained, per 3.01, above.
2. Install boards vertically around tree and bind together with wire to protect the bark 360 degrees around the entire tree prior to start of any demolition and construction. Boards are not to dig into bark.
3. Major scaffold limbs may require plastic fencing or straw waddles to be wrapped around

them to protect them.

B. Tree Dripline Protection

1. The Tree Protection Zone (TPZ) is a restricted area around the base of the tree with a radius of one foot (1') for every inch of tree trunk diameter or ten feet, which is greater, enclosed by tree protection zone fencing.
2. Signage designating the protection zone and penalties for violations shall be secured in prominent location on each protection fence.

C. Requirements for Trees to be Protected

1. Duration: Tree protection shall be erected before demolition, grading, or any construction begins and remain in place until final inspection of the project.
2. Conform to requirements for trees and plants to be retained, per 3.01, above.
3. Architect shall give final review of Tree Protection before construction to begin. Revise schedule as directed by Architect.
4. Vehicle movement within the TPZ will only be allowed for construction equipment.

    a. Within dripline, apply 10-inch layer of mulch over geotextile fabric.

5. Perform trenching operations within the TPZ of the tree so that:

    a. Digging shall be by hand using narrow trenching shovel,
    b. No roots larger than 2" diameter are cut and utilities are routed around or below them,
    c. Roots smaller than 2" diameter are cut with sharp tools, saws, loppers- not torn, chopped or broken.

6. Where roots are exposed:

    a. Do not allow the roots to dry out,
    b. On the same day the excavation is made, provide temporary backfill to original grade at tree roots,
    c. Or cover roots with 4 layers of wet untreated burlap, made wet each day, including weekends.

7. Roots larger than 3" in diameter are not to be cut without review and approval of Arborist.

3.03 REPAIR/RESTORATION:

A. It shall be the responsibility of Contractor to repair or replace any damaged trees.

B. Repair trees damaged by operations:

1. within 24 hours of damage,
2. to satisfaction of Landscape Architect,
3. to ISA Pruning Standards.

C. Replace repaired trees where repair has not restored them to health or aesthetics:

1. within 6 months of request to replace,
2. to the satisfaction of Landscape Architect,
3. with replacement plants of a size and variety matching those that were removed

D. Replaced trees and plants shall be the responsibility of Contractor to maintain in good health and aesthetics for the duration of the project from installation.

1. Contractor shall submit to Landscape Architect comprehensive maintenance plan for replacement tree, including but not limited to provisions for irrigation system independent of existing system.

E. Where suitable replacement of trees and plants are not available:

1. Contractor shall provide affidavits to Landscape Architect that they are not available.
2. Contractor shall provide compensation to the State at the following rates:

a. $2000 for each caliper inch of any tree or plants removed under 12 inches.
b. $4000 for each caliper inch of any tree or plants removed 12 inches or more.
c. Caliper of trees and plants measured at 6 inches above grade.
d. Caliper defined here as thickness of diameter, measured in inches.

F. Soil Contamination:

1. Contractor shall remove soil that has been contaminated during the performance of the Work by oil, solvents, and other materials which could be harmful to trees and plants, and replace with good soil, at Contractor's expense.

END OF SECTION

SECTION 31 23 33

TRENCHING AND BACKFILLING

PART 1 - GENERAL

1.01 SUMMARY

A. RELATED SECTIONS

1. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.
2. Section 01 50 00, Construction Facilities and Temporary Controls.
3. Section 01 57 13, Erosion Control
4. Section 31 23 33, Trenching and Backfilling.
5. Section 32 12 00, Asphalt Concrete Paving.
6. Section 32 16 00, Site Concrete.
7. Section 33 40 00, Site Drainage.

1.02 QUALITY ASSURANCE

A. Use only new materials and products, unless existing materials or products are specifically shown otherwise on the Drawings to be salvaged and re-used.

B. All materials, components, assemblies, workmanship and installation are to be observed by the Owner's Inspector of Record. Work not so inspected is subject to uncovering and replacement.

C. Contractor / Installer shall have been in business for five (5) years providing/finishing similar size projects and complexity.

1.03 SUBMITTALS

A. Refer to Section 01 33 00.

B. Submit Manufacturers data and shop drawings.

1.04 WARRANTY

A. Submit fully executed warranty for work and materials in this section per 01 78 36.

1.05 REFERENCES AND STANDARDS

A. California Building Code current edition.

B. California Plumbing Code current edition.

1.06 DELIVERY, STORAGE AND HANDLING

A. Transport, store and handle in strict accord with the local jurisdiction.

B. Make delivery to job when notified by Contractor verifying that the job is ready to receive the work of this Section and that arrangements have been made to properly store, handle and protect such materials and work.

1.07 PROJECT CONDITIONS

A. Contractor shall acquaint himself with all existing site conditions. If unknown active utilities are encountered during work, notify Architect promptly for instructions. Failure to notify will make Contractor liable for damage to these utilities arising from Contractor's operations subsequent to discovery of such unknown active utilities.

B. Field verify that all components, backing, etc. by others are installed correctly to proceed with installation of products as herein specified.

C. Trench dewatering may be necessary. Contractor shall provide any and all tools, equipment and labor necessary for trench dewatering no matter what the source. Dewatering shall be continuous until all site utilities are installed and backfilled.

1.08 PROTECTION

A. Adequate protection measures shall be provided to protect workers and passers-by on and off the site. Adjacent property shall be fully protected throughout the operations. Blasting will not be permitted. Prevent damage to adjoining improvements and properties both above and below grade. Restore such improvements to original condition should damage occur. Replace trees and shrubs outside building area disturbed by operations. Repair all trenches in grass areas with new sod (seeding not permitted) and "stake-off" for protection.

B. Contractor shall be solely and completely responsible for working conditions at the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and shall not be limited to normal working hours.

C. Any construction review of the Contractor's performance conducted by the Architect or Owner is not intended to include review of the adequacy of the Contractor's safety measures, in, on or near the construction site.

D. Provide shoring, sheeting, sheet piles and or bracing to prevent caving, erosion or gullying of sides of excavation.

E. Surface Drainage: Provide for surface drainage during period of construction in manner to avoid creating nuisance to adjacent areas. Keep all excavations free from water during entire progress of work, regardless of cause, source or nature of water.

F. Adjacent streets and sidewalks shall be kept free of mud, dirt or similar nuisances resulting from earthwork operations.

G. The site and adjacent influenced areas shall be watered as required to suppress dust nuisance.

H. Trees: Carefully protect existing trees which are to remain.

1.09 TRENCH SAFETY PROVISIONS

A. General Contractor shall be solely responsible for safety design, construction and coordination with agencies having jurisdiction. If such plan varies from shoring system standards established by Construction Safety Orders, plan shall be prepared by registered civil or structural engineer.

B. Nothing herein shall be deemed to allow use of shoring, sloping or protective system less effective than that required by Construction Safety Orders of California State Division of Industrial Safety.

C. When trenching through paved surface, provide steel trench plates to cover open trenches daily until trenches are backfilled.

1.10 SEASONAL LIMITS

A. No backfill material shall be placed, spread or rolled during unfavorable weather conditions. When work is interrupted by heavy rains, full operations shall not be resumed until field tests indicate that moisture content and density of fill are satisfactory.

B. Material above optimum moisture shall be processed per section 310000, 3.08, B.

1.11 TESTING

A. General: Refer to Section 01 45 00 – Quality Requirements.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Backfill materials: Pipeline and conduit trench backfill as shown on the plans and as specified below.

1. ¾ inch crush rock.
2. Native Materials: Soil native to Project Site, free of wood, organics, and other deleterious substances. Rocks shall not be greater than 3-inches.
3. Sand: Fine granular material, free of organic matter, mica, loam or clay.
4. Lean Mix Concrete/Controlled Density Backfill: 2 sacks cement slurry.
5. Class 2 aggregate base, ¾” rock, per Caltrans section 26-1.02B

B. Water: Furnish all required water for construction purposes, including compaction and dust control. Water shall be potable.

C. Provide other bedding and backfill materials as described and specified in Section 31 00 00, Section 33 40 00 and Divisions 15 and 16.

PART 3 – EXECUTION

3.01 INSPECTION

A. Verification of Conditions:

1. Examine areas and conditions under which work is to be performed.
2. Identify conditions detrimental to proper or timely completion of work and coordinate with General Contractor to rectify.

3.02 COORDINATION

A. General Contractor shall coordinate work as herein specified, in accordance with drawings and as required to complete scope of work with all related trades.

3.03 INSTALLATION

A. Perform work in accordance with pipe manufacturer's recommendations, as herein specified and in accordance with drawings.

3.04 TRENCHING

A. Make all trenches open vertical construction with sufficient width to provide free working space at both sides of trench around installed item as required for caulking, joining, backfilling and compacting; not less than 12 inches wider than pipe or conduit diameter, unless otherwise noted.

B. Carefully excavate around existing utilities to avoid unnecessary damage. The contractor shall anticipate and perform hand work near existing utilities as shown on the survey, without additional claims or cost.

C. Trench straight and true to line and grade with bottom smooth and free of edges or rock points.

D. Where depths are not shown on the plans, trench to sufficient depth to give minimum fill above top of installed item measured from finish grade above the utility as follows:

1. Sewer pipe: depth to vary
2. Storm drain pipe: depth to vary
3. Water pipe - Fire Supply: 36 inches
4. Water pipe – Domestic Supply: 30 inches

E. Where trench through existing pavement saw cut existing pavement in straight lines. Grind existing asphalt on each side of trench 3" wide x ½ the depth of the section. Apply tact coat to vertical surfaces before installing new asphalt. Replace asphalt and concrete pavement sections to matched existing conditions. In concrete pavement provide expansion and control joints to match existing joint layout.

3.05 BACKFILL

A. Pipe Trench Backfill is divided into three zones:

1. Bedding: Layer of material directly under the pipe upon which the pipe is laid.
2. Pipe Zone: Backfill from the top of the bedding to 6 inches (compacted) over the top of the pipe.
3. Upper Zone: Backfill between top of Pipe Zone and to surface of subgrade.

B. Bedding: Type of material and degree of compaction for bedding backfill shall be as defined in the Details and Specifications.

C. Pipe Zone and Upper Zone Backfill:

1. Type of material and degree of compaction Pipe Zone and Upper Zone Backfill shall be as required by Drawings, Details, & Specifications.
2. Upper Zone Backfill shall not be placed until conformance of Bedding and Pipe Zone Backfill with specified compaction test requirements has been confirmed.
3. Backfill shall be brought up at substantially the same rate on both sides of the pipe and care shall be taken so that the pipe is not floated or displaced. Material shall not be dropped directly on pipe.

D. Backfill Compaction:

1. Backfill shall be placed in layers which, when compacted shall not exceed 6 inches in thickness. Each layer shall be spread evenly and thoroughly mixed to insure uniformity. Do not backfill over, wet, frozen or soft subgrade surfaces. Employ a placement method that does not disturb or damage foundation walls, perimeter drainage, foundation damp-proofing, waterproofing or protective cover.
2. When moisture content of fill material is below that required to achieve specified density, add water until proper moisture content is achieved. When moisture content is above that required, aerate by blading or other methods until specified moisture content is met, see section 310000, 3.08, B.
3. After each layer has been placed, mixed and spread evenly, it shall be thoroughly compacted to 90% of maximum dry density while at specified moisture content. Compact each layer over its entire area until desired density has been obtained.
4. The top 12 inches of subgrade compaction under pavement or building shall be per Earthwork section 31 00 00.
5. Compaction: All backfill operations shall be observed by the Inspector of Record and/or Geotechnical Engineer. Field density tests shall be made to check compaction of fill material. If densities are not satisfactory, Contractor will be required to change equipment or procedure or both, as required to obtain specified densities. Notify Inspector and Architect at least 24 hours in advance of any operation.

E. Backfill in Areas Previously Lime or Cement Treated

1. If trenching is necessary in areas that have been previously lime treated the contractor shall backfill the trench with class 2 aggregate base, with minimum section equal to the lime treated section and compacted to 95%.

3.06 TRENCH AND SITE RESTORATION

A. Finished surface of trenches shall be restored to a condition equal to, or better than the condition as existed prior to excavation work.

3.07 PROTECTION

A. Protect existing surfaces, structures, and utilities from damage. Protect work by others from damage. In the event of damage, immediately repair or replace to satisfaction of Owner.

B. Repair existing landscaped areas to as new condition. Replant trees, shrubs or groundcover with existing materials if not damaged or with new materials if required. Replace damaged lawn areas with sod, no seeding will be permitted.

C. Replace damaged pavement with new compatible matching materials. Concrete walks to be removed to nearest expansion joint and entire panel replaced. Asphalt to be cute neatly and replaced with new materials.

D. Any existing materials removed or damaged due to trenching to be returned to new condition.

3.08 SURPLUS MATERIAL

A. Remove excess excavated material, unused materials, damaged or unsuitable materials from site.

3.09 CLEANING

A. Refer to Section 01 74 00.

B. Contractor will keep the work areas in a clean and safe condition so his rubbish, waste, and debris do not interfere with the work of others throughout the project and at the completion of work.

C. After completion of work in this section, remove all equipment, materials, and debris. Leave entire area in a neat, clean, acceptable condition.

END OF SECTION

SECTION 32 12 00

ASPHALT CONCRETE PAVING

PART 1 - GENERAL

1.01 SUMMARY

A. SECTION INCLUDES:

1. Asphalt paving mix designs.
2. Aggregate Base Course.
3. Asphalt Overlay.
4. Seal Coat and Striping.

B. RELATED SECTIONS

1. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.
2. Section 01 50 00, Construction Facilities and Temporary Controls.
3. Section 31 00 00, Earthwork.

1.03 QUALITY ASSURANCE

A. Use only new materials and products, unless existing materials or products are specifically shown otherwise on the Drawings to be salvaged and re-used.

B. All materials, components, assemblies, workmanship and installation are to be observed by the Owner's Inspector of Record. Work not so inspected is subject to uncovering and replacement.

C. The representatives of the Owner’s testing lab will not act as supervisor of construction, nor will they direct construction operations. Neither the presence of the Owner’s testing lab representatives nor the testing by the Owner’s testing lab shall excuse the contractors or subcontractors for defects discovered in their work during or following completion of the project. Correcting inadequate compaction is the sole responsibility of the contractor.

D. Contractor shall provide verification that asphalt mix temperature meets the requirements of this specification at time of application.

E. Contractor shall be solely responsible for all subgrades built. Any repairs resulting from inadequate compaction are the responsibility of the contractor.

F. Sieve analysis from testing laboratories identifying rock/sand percentages within the asphalt mix shall have a testing date within 90 days of contract signing.

G. Sieve analysis from a testing laboratory identifying rock/sand percentages within the class 2 aggregate base rock shall have a testing date within 90 days of contract signing.

1.04 SUBMITTALS

A. Refer to Section 01 33 00.

B. Manufacturer's Data: Submit list and complete descriptive data of all products proposed for use. Include manufacturer's specifications, published warranty or guarantee, installation instructions, and maintenance instructions.

1.05 WARRANTY

A. Refer to General Conditions and Section 01 78 36.

1.06 REFERENCES AND STANDARDS

A. ANSI/ASTM D698-00 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5 lb (2.49 Kg) Rammer and 12 inch (304.8 mm) Drop.

B. ANSI/ASTM D1556-00 - Test Method for Density of Soil in Place by the Sand-Cone Method.

C. ANSI/ASTM D1557-02 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb. (4.54 Kg) Rammer and 18 inch (457 mm) Drop.

D. ANSI/ASTM D 3017-05 Test Methods for Moisture Content of Soils and Soil-Aggregate Mixture by Nuclear Methods (Shallow Depth).

E. ANSI/ASTM D 4318-05 Test Method for Liquid Limit, Plastic Limit, and Plasticity Limit.

F. CALTRANS Standard Specifications.

G. CAL-OSHA, Title 8, Section 1590 (e).

H. Any work within the street, highway or right-of-way shall be performed in accordance with the requirement of the governmental agencies having jurisdiction, and shall not begin until all of those governing authorities have been notified.

1.07 DELIVERY, STORAGE AND HANDLING

A. Transport, store and handle in strict accord with the local jurisdiction.

B. Make delivery to job when notified by Contractor verifying that the job is ready to receive the work of this Section and that arrangements have been made to properly store, handle and protect such materials and work.

1.08 PROJECT CONDITIONS

A. Environmental Requirements:

1. Base Course: Do not lay base course on muddy subgrade, during wet weather, or when

atmospheric temperature is below 40 degrees F.

2. Asphalt Surfacing: Do not apply asphaltic surfacing on wet base, during wet weather, or when atmospheric temperature is below 50 degrees F.

B. Contractor shall acquaint himself with all site conditions. If unknown active utilities are encountered during work, notify Architect promptly for instructions. Failure to notify will make Contractor liable for damage to these utilities arising from Contractor's operations subsequent to discovery of such unknown active utilities.

C. Adequate protection measures shall be provided to protect workmen and passers-by on and off the site. Adjacent property shall be fully protected throughout the operations. Blasting will not be permitted. Prevent damage to adjoining improvements and properties both above and below grade. Restore such improvements to original condition should damage occur. Replace trees and shrubs outside building area disturbed by operations.

D. In accordance with generally accepted construction practices, the Contractor shall be solely and completely responsible for working conditions at the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and shall not be limited to normal working hours.

E. Any construction review of the Contractor's performance conducted by the owner’s representative is not intended to include review of the adequacy of the Contractor's safety measures, in, on, or near the construction site.

F. Surface Drainage: Provide for surface drainage during period of construction in manner to avoid creating nuisance to adjacent areas. The contractor shall make a reasonable effort on a daily basis to keep all excavations and the site free from water during entire progress of work, regardless of cause, source, or nature of water.

G. Adjacent streets and sidewalks shall be kept free of mud, dirt or similar nuisances resulting from earthwork operations.

H. The site and adjacent influenced areas shall be watered as required to suppress dust nuisance. Dust control measures shall be in accordance with the local jurisdiction.

I. No fill material shall be placed, spread or rolled during unfavorable weather conditions. When work is interrupted by rains, fill operations shall not be resumed until field tests indicate that moisture content and density of fill are satisfactory.

1.09 TESTING

A. General: Refer to Section 01 40 00 – Quality Requirements.

B. Geotechnical Engineer: Owner is retaining a Geotechnical Engineer to determine compliance of fill with Specifications, and to direct adjustments in fill operations. Costs of Geotechnical Engineer will be borne by Owner; except those costs incurred for re-tests or re-inspection will be paid by Owner and backcharged to Contractor.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Sterilant: Soil sterilizer shall be Esplanade 200 SC or approved equal.

1. Soil sterilizer shall be applied in strict accordance with manufacturer's instructions.

B. Base Course Aggregate: State Specifications, Section 26, Class 2 aggregate base (3/4" max.).

C. Asphalt Binder: Steam-refined paving asphalt conforming to State Specifications, Section 92, viscosity grade PG 64-10. Asphalt binder additives for HMA per Caltrans approved list of manufacturer's.

D. Liquid Asphalt Tack Coat: Per CALTRANS section 94.

E. Surface Course Aggregate: Mineral aggregates for Type "B" asphalt concrete, conforming to State Specifications 39-2.02, Type B, ½" maximum, medium grading. 3/8" maximum grading at Playcourt.

F. Seal Coat: shall be a pre-mixed asphalt emulsion blended with select fillers and fibers such as:

1. "Park-Top No. 302", Western Colloid Products.
2. "OverKote", Reed and Gram.
3. "Drivewalk", Conoco Oil.

G. Wood Headers and Stakes: Pressure treated.

H. Pavement Marking: Colors as directed by Architect. Colors of painted traffic stripes and pavement markings must comply with ASTM D 6628.

1. Waterborne traffic line - colors white, yellow and red, State specification PTWB-01R3.
2. Waterborne traffic line for the international symbol of accessibility and other curb markings – blue, red and green, Federal specification TT-P-1952F.

I. Precast Concrete Bumpers: 3000 psi at 28 day minimum strength; 48" length unless otherwise indicated; provide with steel dowel anchors and concrete epoxy.

J. Pavement Epoxy; K-Lite; Ktepx-590; Ennis Epoxy HPS2 or an approved equal.

K. Crack Filler;

1. Cracks up to ½": QPR model CAR08, 10oz asphalt crack filler; Star STA-FLEX Trowel Grade crack filler or approved equal.
2. Cracks ¼" – 1": "Docal 1100 Viscolastic, distributed by Conoco, Inc., Elk Grove, CA, (916) 685-9253, or approved equal.
3. Cracks greater than 1": Hot Mix, Topeka.

L. Reclaimed Asphalt Paugment (RAP). HMA Type A or Type B may be produced using RAP providing it does not exceed 15% of the aggregate blend.

2.02 MIXES

A. General: Plant mixed conforming to State Specifications, Section 39, Type B, ½" maximum, medium grading. 3/8" maximum grading shall be used at hardcourt.

B. Temperature of Hot Mix Asphalt: Not less than 275 degrees F nor more than 325 degrees F when added to aggregate.

C. Temperature of Hot Mix Aggregate: Not less than 250 degrees F nor more than 325 degrees F when asphalt is added.

D. Temperature of Hot Mix Asphalt Concrete: Asphalt shall be not less than 285 degrees at time of application, nor more than 350 degrees. Asphalt not meeting the required temperature shall not be used.

E. Temperature of Warm Mix Asphalt: Mixing and placement; Per the approved manufactures heat range recommendations for mixing and placement.

PART 3 - EXECUTION

3.01 EXAMINATION OF CONDITIONS

A. Conditions of Work in Place: Subsurfaces which are to receive materials specified under this Section shall be carefully examined before beginning work hereunder, and any defects therein shall be reported, in writing, to the Architect. Work shall not be started until such defects have been corrected. Starting of work shall imply acceptance of conditions as they exist.

3.02 PREPARATION

A. Sub-Grade: Clean, shape and compact to hard surface free from elevations or depressions exceeding 0.05’ in 10' from true plan. Compact per Section 31 00 00. Compaction and moisture content shall be verified immediately prior to placement of aggregate base. Proof roll subbase in presence of geotechnical engineer prior to placement of aggregate base.

B. Cleaning: Existing surfaces and new surface shall be clean of all dirt, sand, oil or grease. All cracks shall be cleaned and free of all debris and vegetation. Hose down entire area with a strong jet of water to remove all debris.

3.03 INSTALLATION

A. Headers:

1. General: Install as edging to asphalt paving, except where adjoining existing pavement, concrete curbs, walks or building.
2. Existing Headers: Remove existing headers where new paving will join existing. Saw cut existing asphalt to provide clean edge.
3. Lines and Levels: Install true to line and grade. Cut off tops of stakes 2-inches below top of header

so they will not be visible on completion of job.

B. Asphalt Paving:

1. Base Course: Install in accord with State Specifications, Section 26. Compact to relative compaction of not less than 95%, ASTM D1557. The material shall be deposited on the subgrade in such a manner as to provide a uniform section of material within five percent tolerance of the predetermined required depth. Deposition will be by spreader box or bottom dump truck to prevent segregation of the material. The material so deposited on the subgrade shall have sufficient moisture which, in the opinion of the Architect is adequate to prevent excessive segregation. It shall then be immediately spread to its planned grade and cross section. Undue segregation of material, excessive drifting or spotting of material will not be permitted. If in the opinion of the site geotechnical engineer, the material is unsuitably segregated, it shall be removed or completely reworked to provide the desired uniformity of the material.
   a. Moisture content and compaction of base material shall be tested immediately prior to placement of asphalt paving.

2. Sterilant: Apply specified material at manufacturer's recommended rate. Applicator of sterilant material shall be responsible for determining location of all planter areas. Apply specified material over entire base course area just prior to application of asphalt. Follow manufacturer's printed directions.
3. Liquid Asphalt Tack Coat: Apply as "tack coat" to all vertical surfaces of existing paving, curbs, walks, and construction joints in surfacing against which paving is to be placed.
4. Asphalt Concrete Surface Course:
   a. Comply with State Specifications, 39-6 except as modified below.
      1) Final gradation shall be smooth, uniform and free of ruts, humps, depressions or irregularities, with a minimum density of 91% of the theoretical maximum specific gravity determined by California Test Method #309. Maximum variation 1/8 inch in 10' when measured with steel straightedge in any one direction. Test paved areas for proper drainage by applying water to cover area. Correct portions that do not drain properly by patching with plant mix. In no case shall accessible parking spaces or loading and unloading areas exceed 2% slope in any direction.
      2) Asphalt material shall be delivered to the project site in a covered condition to maintain acceptable temperature. Onsite inspector shall verify temperature of asphalt upon truck arrival to the site.

5. Placement and adjustment of Frames, Covers, Boxes and Grates: The Contractor shall set and adjust to finish grade all proposed and existing frames, covers, boxes, and grates of all manholes, drop inlets, drain boxes, valves, cleanouts, electrical boxes and other appurtenant structures prior to placement of asphaltic concrete.
6. Water Testing: All paved areas shall be water tested, to check drainage, in the presence of the project inspector prior to placement of seal coat. The surface of asphalt paving shall not vary more than 1/8 inch above or below the grade established on the plans. If variations in grade are present, they will be corrected by overlaying paving and/or pavement removal and replacement as directed by the Architect.
7. Patching: Cut existing paving square and plumb at all edges to be joined by new paving. In trenches; grind existing asphalt on each side of trench 3” wide x ½ the depth of the section. Apply tact coat to vertical surfaces before installing new work. Warp carefully to flush surface, with seal

over joints, and feather edge. Sawcut, remove and patch existing paving where cutting is necessary for installation of piping or conduits under Divisions 2, 15 and 16.

C. Seal Coat:

1. Seal coat shall be applied no sooner than 30 days from time of asphalt placement, no exceptions.
2. Surface Preparation: surface and cracks shall be clean of all dirt, sand, oil or grease. All cracks shall be filled to a level condition after curing. Make multiple fill applications until a level condition is achieved. Failure to do so will be the reason for rejection. Hose down entire area with a strong jet of water to remove all debris. Remove soft, loose, or otherwise damaged areas of asphalt concrete to full depth of damage and replace with compacted hot mix asphalt concrete as specified herein. Minor holes and imperfections may be patched using hot mix asphalt or mastic using sand/SS-1-H. Use wire brush for removal of oil and grease; prime with shellac or synthetic resin as recommended by manufacturer of pavement sealer material.
3. Seal Coat Seal Application: Thoroughly mix materials and apply in the presence of the onsite inspector. Failure to do so will be cause for rejection. Apply in accordance with manufacturer's written instructions.
    a. The minimum application rate for each applied coat shall be 30gals per 1000 sq. ft. Two coats of sealcoat will be required.
    b. Clean-Up and Precautions: As recommended by pavement sealer material manufacturer.

D. Asphalt Concrete Overlay Paving:

1. Comply with State Specifications, 39-6 except as modified below.
2. Grind or remove existing asphalt concrete paving at limits of overlay paving to provide a minimum 1 1/2" overlay thickness. Limits of grinding or removal shall be field verified to insure that finished paving surface will have a one percent minimum slope.
3. Thoroughly clean surface to remove vegetation, dirt, sand, gravel and water from surface and from cracks. Vegetation shall be treated 7 days prior to removal with an herbicide.
4. Cracks greater than 1 inch shall be filled with hot mix asphalt and rolled and compacted. Cracks less than one inch shall be filled with crack filler. Potholes shall be filled with hot-mix rolled and compacted. Contractor shall have Engineer approve crack and pothole repair prior to overlay. Provide leveling courses of hot mix asphalt as required to achieve finish grades shown on the drawings.
    a. Cracks less than one inch in width shall be level after curing. Contractor shall make multiple filling applications as necessary to achieve a level condition.
5. Place overlay when ambient air temperature is 40 degrees F. and rising, and when pavement is dry.
6. An asphalt tack coat shall be applied to existing surface area at a rate of 0.20 gallons per square yard. Application width shall be width of fabric plus 2 to 6 inches.
7. Place, spread and compact asphalt overlay to provide a minimum density of 95% of maximum theoretical unit weight as determined by California Test Method #304. Maximum variation 1/8" in 10' when measured with steel straight edge in any one direction. Test paved areas for proper drainage by applying water to cover area. Correct portions that do not drain properly by patching with plant mix. Minimum compacted overlay thickness 1 1/2 inches.

E. Pavement Marking: pavement markings shall be done only after the seal coat has thoroughly dried.

Existing surfaces to be striped with traffic paint shall be cleaned of dust, dirt, grime, oil, rust or other contaminants which will impair the quality of work or interfere with proper bond of paint coats. Surfaces shall be thoroughly cleaned by whatever means necessary that will satisfactorily accomplish the purpose without damage to asphalt concrete. Provide measured layouts, temporary markings, templates, and other means necessary to provide required marking. Prepare and apply paint in accordance with manufacturer's instructions; paint shall be applied by spray and shall achieve complete coverage free from voids and thin spots. Where indicated on the Drawings, paint parking stall strips, lettering, arrows, accessible symbols, playfield markings, etc. on asphalt concrete paving. Paint strips shall be 4 inches wide (except otherwise indicated) and applied with two (2) coats of herein specified Traffic Line Paint; white (except as otherwise specified or indicated).

1. Paints shall be delivered to the site in unopened containers.
   a. Paint shall not be diluted, or watered down.
   b. Paint shall be applied in 10-12 wet mil thickness (4-6 mil dried). Each coat thickness shall be verified by the project inspector.

2. International Accessible Symbol: Symbol shall be white figures on a blue background. Blue shall be equal to PMS 293C. Lines and symbols shall be accurately formed and true to line and form; lines shall be straight and uniform in width. Painted edges shall be clean cut and free from raggedness, and corners shall be cut sharp and square. Tolerances: Apply striping within a tolerance 1/2 inch in 50 feet. Apply markings and striping to widths indicated with a tolerance of 1/4 inch on straight sections and 1/2 inch on curved sections.

F. Colors: As directed by Architect

G. Precast Concrete Bumpers: Install in location where shown, using steel rebar dowels, and epoxy.

3.04 DEFECTIVE ASPHALT:

Defective asphalt is as described below.

A. Exposed rock pockets on the finished surface that lack the # 8- #200 fines that is required per the sieve analysis.

B. Asphalt not placed to the design grades.

C. Asphalt that ponds water.

D. Asphalt that was compacted below the minimum required temperature and is cracked.

E. Asphalt that fails to meet the minimum compaction requirements.

F. Asphalt that lacks the minimum thickness required per plan.

G. New asphalt contaminated by a petroleum product, or spilled paint.

H. Asphalt that has depressions, cracks, scored divits from dumpster wheels, heavy equipment use, heavy construction products,

I. Asphalt placed on pumping, unstable sub-grades.

3.05 CLEANING

A. Refer to Section 01 74 00.

B. Upon completion of work of this Section promptly remove from the working area all scraps, debris and surplus material of this Section.

C. Clean excess material from surface of all concrete walks and utility structures.

END OF SECTION

SECTION 32 16 00

SITE CONCRETE

PART 1 - GENERAL

1.01 SUMMARY

A. SECTION INCLUDES:

1. The Section describes the requirements for providing portland cement concrete paving, including accessibility ramps, sidewalks, accessible routes of travel, vehicular travel, drain structures, sewer structures, thrust blocks and for other non-structural or non-vehicular applications.

B. RELATED SECTIONS

1. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.
2. Section 01 50 00, Construction Facilities and Temporary Controls.
3. Section 31 00 00, Earthwork.

1.02 REFERENCES AND STANDARDS

A. California Building Code, latest edition.

B. ACI Standards, ACI 301-20.

C. ASTM C94, Specification for Ready-Mixed Concrete.

D. Concrete Reinforcing Steel Institute (CRSI) Manual of Standard Practice (latest edition).

E. ASTM – American Society for Testing and Materials.

1.03 SUBMITTALS

A. Refer to Section 01 33 00.

B. Manufacturer's Data: Submit list and complete descriptive data of all products proposed for use. Include manufacturer's specifications, published warranty or guarantee, installation instructions, and maintenance instructions.

C. Materials list: Submit to the Architect a complete list of all materials proposed to be used in this portion of the work. Submitted items should include but are not limited to sand, gravel, admixtures, surface treatments, coloring agents, sealers, fibers, cast-in-place accessories, forming and curing products and concrete mix designs.

D. With concrete submittal, provide documented history of mix design performance.

1.04 QUALITY ASSURANCE

A. Use only new materials and products.

B. Use materials and products of one manufacturer whenever possible.

C. All materials, components, assemblies, workmanship and installation are to be observed by the Owner's Inspector of Record. Work not so inspected is subject to uncovering and replacement.

D. Sieve analysis from testing laboratories identifying rock/sand percentages within the concrete mix; or class 2 aggregate base shall have the current project name and project location identified on the report. Outdated analytical reports greater than 90 days old will not be accepted

1.05 DELIVERY, STORAGE AND HANDLING

A. Deliver undamaged products to job in manufacturer's sealed containers and/or original bundles with tags and labels intact.

B. Store materials in protected, dry conditions off of ground and in areas so as to not interfere with the progress of the work.

C. Transport, store and handle in strict accord with the manufacturer's written recommendations.

D. Make delivery to job when notified by Contractor verifying that the job is ready to receive the work of this Section and that arrangements have been made to properly store, handle and protect such materials and work.

E. Store cement in weather tight building, permitting easy inspection and identification. Protect from dampness. Lumpy or stale cement will be rejected.

F. Aggregates: Prevent excessive segregation, or contamination with other materials or other sizes of aggregate. Use only one supply source for each aggregate stock pile.

1.06 WARRANTY

A. Refer to General Conditions and Section 01 78 36.

1.07 TESTING

A. General: Refer to Section 01 40 00 – Quality Requirements.

B. Cement and Reinforcing shall be tested in accordance with CBC Section 1910A. Testing of reinforcing may be waived in accordance with Section 1910A.2 when approved by the Structural Engineer and DSA.

1.08 ADEQUACY AND INSPECTION

A. Design, erect, support, brace and maintain formwork and shoring to safely support all vertical and lateral loads that might be applied until such loads can be carried by concrete.

B. Notify Inspector, Architect and DSA at least 48 hours prior to placing of concrete.

1.09 PROTECTION

A. Finish surfaces shall be protected at all times from concrete pour. Inspect forming against such work and establish tight leak-proof seal before concrete is poured. Finish work damaged, defaced or vandalized during the course of construction shall be replaced by contractor at contractor expense.

1.10 FIELD MEASUREMENTS

A. Make and be responsible for all field dimensions necessary for proper fitting, slopes and completion of work. Report discrepancies to Architect before proceeding.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Cement: Portland cement, ASTM C150, Type II, per ACI 301-20.

B. Concrete Aggregates: Normal weight aggregates shall conform to ASTM C33, except as modified by this section. Combined grading shall meet limits of ASTM C33. Lightweight aggregate shall conform to ASTM C330, suitably processed, washed and screened, and shall consist of durable particles without adherent coatings.

C. Water: Clean and free from deleterious amounts of acids, alkalis, scale, or organic materials and per ACI 301-20.

D. Fly Ash: Western Fly Ash, conforming to ASTM C618 for Class N or Class F materials (Class C is not permitted). Not more than 15% (by mass) may be substituted for portland cement.

E. Water Reducing Admixture: Admixture to improve placing, reduce water cement ratio, and ultimate shrinkage may be used. Provide WRDA 64 by Grace Construction Products or approved equal. Such admixture must receive prior approval and shall be included in original design mix.

F. Air-entraining Admixture: Daravair 1000 by Grace Construction Products or approved equal. Admixture must conform to ASTM C260 and ACI 318-14, section 26.4.1.4.

G. Surface Retarder (for exposed aggregate finishes): Rugasol-S by Sika Corporation or approved equal.

H. Form Coating: Material which will leave no residue on concrete surface that will interfere with surface coating, as approved by the Architect.

I. Reinforcement Bars: New billet steel deformed bars conforming to requirements of ASTM A615 or ASTM A706; Grade 60. Dowels for installation through expansion joints or construction joints to existing sidewalks or concrete features shall be smooth or shall be sleeved on one end for slippage.

J. Reinforcing supports: Galvanized metal chairs or spacers or metal hangers, accurately placed 3'-0" O.C.E.W. Staggered and each support securely fastened to steel reinforcement in place. Bottom bars in footings may be supported with 3" concrete blocks with embedded wire ties. Concrete supports without wire ties will not be allowed.

K. Truncated Domes: Vitrified Polymer Composite (VPC), Cast-In-Place Detectable/Tactile Warning Surface Tiles; "Armor-Tile", "Access Tile Tactile Systems", or approved equal. Tiles shall comply with Americans with Disabilities Act and the California Code of Regulations (CCR) Title 24, Part 2, Chapter 11B (dome spacing shall be 2.35"). Install tiles as recommended by manufacturer. Color, federal yellow (FS 33538).

L. Curing Compound (for exterior slabs only): Burke Aqua Resin Cure by Burke by Edoco, 1100 Clear by W.R. Meadows or accepted equal. Water based membrane-forming concrete curing compound meeting ASTM C 309 and C1315.

M. Concrete Bonding Agent: Weld-Crete by Larson Products Corp., Daraweld C by Grace Construction Products or accepted equal.

N. Patching Mortar: Meadow-Crete GPS, one-component, trowel applied, polymer enhanced, shrinkage-compensated, fiber reinforced, cementitious repair mortar for horizontal, vertical and overhead applications as manufactured by W.R. Meadows or accepted equal.

O. Non-shrink Grout: Masterflow 713 Plus by Master Builders or approved equal. Premixed,non-metallic, no chlorides, non-staining and non-shrinking per CRD-C621, Corps of Engineers Specification and ASTM C 1107, Grades B and C.

P. Aggregate Base: Class 2 AB per Caltrans specification section 26-1.02A.

Q. Expansion Joint Material: Preformed 3/8" fiber material, full depth of concrete section, with bituminous binder manufactured for use as concrete expansion joint material, as accepted by the Architect.

R. Joint sealant for expansion joints: Single component silicone sealant, Type S, ASTM D5893.

1. Reference Standard: ASTM C920, Grade P, Class 25, Use T.
2. Dow Corning 890-SL (self-leveling) Silicone, or accepted equal.
3. Dow Corning 888-NS (non-sagging) Silicone, at slopes exceeding 5%. May not be used at asphalt surfaces.
4. Color: Custom color as selected by Architect.

S. Pre- Formed plastic Expansion Joint; W.R. Meadows 3/8" "Snap Cap", Tex-Trude expansion joint cap, or an approved equal.

T. Adhesive Anchoring (Epoxy): Simpson SetXP, or approved equal.

2.02 CONCRETE DESIGN AND CLASS

A. Class “B”: Concrete shall have 1" max. size aggregate, shall have 3000 psi min. at 28 day strength with a maximum water to cementitious ratio no greater than 0.50. Use for exterior slabs, including walks, vehicular paved surfaces, manhole bases, poured-in-place drop inlets, curbs, valley gutters, curb & gutter and other concrete of like nature.

B. Slump Limits: Provide concrete, at point of final discharge, of proper consistency determined by Test Method ASTM C143 with a slumps of 4" plus or minus 1".

C. Mix Design: All concrete used in this work will be designed for strength in accordance with provisions of ASI 318-14 Section 26.4. Should the Contractor desire to pump concrete, a modified mix design will need to be submitted for review. Fly ash may be used in concrete to improve workability in amounts up to 15% of the total cementitious weight.

D. Air Entrainment; Per the Local Jurisdiction minimum requirements, or 3% minimum.

2.03 MIXING OF CONCRETE

A. Conform to requirements of CBC, Chapter 19A.

B. All concrete shall be mixed until there is uniform distribution of material and mass is uniform and homogenous; mixer must be discharged completely before the mixer is recharged.

C. Concrete shall be Ready-mixed Concrete.

1. Placement of concrete shall occur as rapidly as possible after batching and in a manner which will assure that the required quality of the concrete is maintained. In no case may concrete be placed more than 90 minutes from batch time.

2. Water may be added to the mix only if neither the maximum permissible water-cement ratio nor the maximum slump is exceeded. In no case shall more than 10 gallons of water shall be added to a full 9 yard load, or 1 gal. per yard on remaining concrete within the drum providing load tag indicates at time of mixing at plant will allow for additional water.

2.04 MATERIALS TESTING

A. Testing of concrete shall be performed per article 3.12 of this specification.

2.05 EQUIPMENT

A. Handling and mixing of concrete: Project Inspector may order removal of any equipment which in his opinion is insufficient or in any way unsuitable.

PART 3 - EXECUTION

3.01 APPROVAL OF FORMS AND REINFORCEMENTS

A. Forms and reinforcements are subject to approval by the Project Inspector, and notice of readiness to place first pour shall be given 48 hours prior to placement of concrete. Before placing concrete, clean tools, equipment and remove all debris from areas to receive concrete. Clean all reinforcing and other embedded items off all coatings oil, and mud that may impair bond with concrete.

B. All reinforcing steel shall be adequately supported by approved devices on centers close enough to prevent any sagging.

C. All reinforcing bar lap splices shall be staggered a minimum of 5 ft.

D. Additional reinforcing steel shall be placed around all utility boxes, valve boxes, manhole frames and covers that are located within the concrete placements.

1. The bars shall be placed so that there will be a minimum of 1 ½" clearance and a maximum of 3" clearance. The reinforcing steel shall be placed mid-depth of concrete slab.

E. At all right angles or intersections of concrete walks, additional 2'x2' #5, 90 degree bars shall be added at all inside corners for additional crack control. The bars shall be placed 2" from concrete forms and supports at mid-depth of slab.

3.02 PROTECTION

A. Protect work and materials of this Section prior to and during installation, and protect the installed work and materials of other trades.

B. In the event of damage, make all repairs and replacements necessary to the approval of the Architect at no additional cost to the Owner.

C. Sub-Grade in vehicular concrete paved areas: Subgrade shall be clean, shaped and compact to hard surface free from elevations or depressions exceeding 0.05' in 10' from true plan. Compact per Section 31 00 00. Compaction and moisture content shall be verified immediately prior to placement of concrete. Proof roll subbase in presence of geotechnical engineer prior to placement of aggregate base.

3.03 CLEANING

A. Reinforcement and all other embedded items at time of placing concrete to be free of rust, dirt oil or any other coatings that would impair bond to concrete.

B. Remove all wood chips, sawdust, dirt, loose concrete and other debris just before concrete is to be poured. Use compressed air for inaccessible areas. Remove all standing water from excavations.

3.04 FORMING

A. Form material shall be straight, true, sound and able to withstand deformation due to loading and effects of moist curing. Materials which have warped or delaminated, or require more than minor patching of contact surfaces, shall not be reused.

B. Build forms to shapes, lines, grades and dimensions indicated. Construct form work to maintain tolerances required by ACI 301. Forms shall be substantial, tight to prevent leakage of concrete, and properly braced and tied together to maintain position and shape. Butt joints tightly and locate on solid backing. Chamfer corners where indicated. Form bevels, grooves and recesses to neat, straight lines. Construct forms for easy removal without hammering, wedging or prying against concrete.

C. Space clamps, ties, hangers and other form accessories so that working capacities are not exceeded by loads imposed from concrete or concreting operations.

D. Build openings into vertical forms at regular intervals if necessary to facilitate concrete placement, and at bottoms of forms to permit cleaning and inspection.

E. Build in securely braced temporary bulkheads, keyed as required, at planned locations of construction joints.

F. Slope tie-wires downward to outside of wall.

G. Brace, anchor and support all cast-in items to prevent displacement or distortion.

H. During and immediately after concrete placing, tighten forms, posts and shores. Readjust to maintain grades, levels and camber.

I. Concrete paving, Curbs, Curb and Gutters, Ramps:

1. Expansion Joints: Install at locations indicated, and so that maximum distance between joints is 20’ for exterior concrete unless otherwise shown. Expansion joint material shall be full depth of concrete section. Recess for backer rod and sealant where required. Expansion joints shall not exceed ¼ inch depth measured from finish surface to top of felt or sealant, and ½ inch width.
2. Curbs, Valley Gutter, and Curb & Gutter: Install expansion joints at 60’ on center, except when placing adjacent to concrete walks, the expansion joints shall align with the expansion joints shown for the concrete walks. Expansion joint material shall be full depth of concrete section. Recess for backer rod and sealant will be required.
3. Isolation Joints: 3/8” felt between walls and exterior slabs or walks so that paved areas are isolated from all vertical features, unless specifically noted otherwise on plans.
4. Exterior Concrete Paving: Install expansion joints at 20’ on center maximum, both directions, unless shown otherwise on plans.
5. Ramps; whether shown or not all ramps shall have control joints and expansion joints.

    a. Control joints on ramps shall be aligned and be placed in between with the vertical posts for the handrails. The curbs, if required shall have control joints that align with the handrail posts.
    b. Expansion joints shall be placed at the upper, intermediate, and bottom landings.

3.05 FORM COATING

A. Before placement of reinforcing steel, coat faces of all forms to prevent absorption of moisture from concrete and to facilitate removal of forms. Apply specified material in conformance with manufacturer's written directions.

B. Before re-using form material, inspect, clean thoroughly and recoat.

C. Seal all cut edges.

3.06 INSTALLATION

A. General: Reinforcement shall be accurately placed at locations indicated on the drawings within required tolerances and providing required clearances. Reinforcement shall be secured prior to placement of concrete such that tolerances and clearances are maintained. Coverage shall be in accordance with Section 1907 of the CBC. Keep a person on the job to maintain position of reinforcing as concrete is placed. Reinforcement must be in place before concreting is begun. Install dowels as shown on drawings. Give notice whenever pipes, conduits, sleeves, and other construction interferes with placement; obtain method of procedure to resolve interferences. All expansion and construction joints in concrete shall have dowels of size and spacing as shown, or as approved by Architect.

B. Placing Tolerances:

1. Per ACI 301-20 Recommended Practice for Placing Reinforcing Bars, unless otherwise shown.

C. Splices:

1. General: Unless otherwise shown on drawings, splice top reinforcing at midspan between supports, splice bottom reinforcing at supports and stagger splices at adjacent splices 5 foot minimum. Bar laps shall be wired together. Reinforcing steel laps shall be as follows:
   a. Lap splices in concrete: Lap splice lengths shall not be less than 62 bar diameter for No. 5 bar, 56” minimum for No. 6 bars. No. 4 bar shall have a minimum of 24” splice. 93 bar diameters for No. 7 bars and larger.
   b. All splices shall be staggered at 5 feet minimum.

3.07 INSPECTION

A. Approval of reinforcing steel, after installation, must be received from Inspector. Architect, Structural Engineer and DSA must be notified 48 hrs. in advance of beginning of concrete placement operations.

B. Slope of concrete forms and finish condition shall be checked with a two foot (2’) digital level.

3.08 PLACING OF CONCRETE

A. Adjacent finish surfaces shall be protected at all times during the concrete pour and finishing. Verify that all formwork is tight and leak-proof before concrete is poured. Finish work defaced during the

concrete pour and finishing shall be replaced at no extra cost to the owner.

B. Transport concrete from mixer to place of final deposit as rapidly as practicable by methods which will prevent separation or loss of ingredients. Deposit as close as practicable in final position to avoid re-handling or flowing. Partially hardened concrete must not be deposited in work. Concrete shall not be wheeled directly on top of reinforcing steel.

C. Placing: Once started, continue concrete pour continuously until section is complete between predetermined construction joints. Prevent splashing of concrete onto adjacent forms or reinforcement and remove such accumulation of hardened or partially hardened concrete from forms or reinforcement before work proceeds in that area. Free fall of concrete shall not to exceed 4'-0" in height. If necessary, provide lower openings in forms to inject concrete and to reduce fall height.

D. Remove form spreaders as placing of concrete progresses.

E. Place footings as monolithic and in one continuous pour.

F. Keep excavations free of standing water, but moisture condition sub-grade before concrete placement.

G. Compacting: All concrete shall be compacted by mechanical vibrators. Concrete shall be thoroughly worked around reinforcement and embedded fixtures and into corners of forms. Vibrating shall not be applied to concrete which has already begun to initially set nor shall it be continued so long as to cause segregation of materials.

H. Concrete Flatwork:

1. All flatwork shall be formed and finished to required line and grades. Flatwork shall be true and flat with a maximum tolerance of 1/8" in 10’ for flatness. Flatwork which is not flat and are outside of the maximum specified tolerances shall be made level by the Contractor at no additional expense to the Owner.
2. Thoroughly water and soak the flatwork subgrade as required to achieve required moisture content prior to the concrete pour. Provide damming as required to keep water within the formed area and to allow for proper saturation of the subgrade.
3. Concrete vibrator shall be used to assist concrete placement. Contractor shall have spare concrete vibrator on site during concrete placement.

I. Placing in hot weather: Comply with ACI 305R-10. Concrete shall not exceed 85 degrees F at time of placement. Concrete shall be delivered, placed and finished in a sufficiently short period of time to avoid surface dry checking. Concrete shall be kept wet continuously after tempering until implementation of curing compound procedure in accordance with this specification.

J. Placing in cold weather: Comply with ACI 306R-16. Protect from frost or freezing. No antifreeze admixtures are permitted. When deposited concrete during freezing or near-freezing weather, mix shall have temperature of at least 50 degrees F but not more than 90 degrees F. Concrete shall be maintained at temperature of at least 50 degrees F for not less than 72 hours after placing or until it has thoroughly hardened. Provide necessary thermal coverings for any flat work exposed to freezing

temperatures.

K. Horizontal construction joint: Keep exposed concrete face of construction joints continuously moist from time of initial set until placing of concrete; thoroughly clean contact surface by chipping entire surface not earlier than 5 days after initial pour to expose clean hard aggregate solidly embedded, or by approved method that will assure equal bond, such as green cutting. If contact surface becomes contaminated with soil, sawdust or other foreign matter, clean entire surface and re-chip entire surface to assure proper adhesion.

3.09 CONCRETE FINISHES

A. Concrete Slab Finishing: Surface shall be free from trowel marks, depressions, ridges or other blemishes. Tolerance for flatness shall be 1/8" in 10'. Provide final finish as follows:

1. Flatwork, medium broom finish: Typical finish to be used at all exterior walks and stairs.
2. Ramps, heavy broom finish: Concrete surfaces with slope greater than 5% including all ramps. Brooming direction shall run perpendicular to slope to form non-slip surface
3. Under no circumstances can water be added to the top surface of freshly placed concrete.

B. Curb Finishing: Steel trowel.

C. Joints and Edges: Mark-off exposed joints, where indicated, with ¼” radius x 1” deep jointer or edging tool. Joints to be clean, cut straight, parallel or square with respect to concrete walk edge. Tool all edges of exposed expansion and contraction joints, walk edges, and wherever concrete walk adjoins other material or vertical surfaces.

1. The expansion joints shall be full depth as shown in the plan details. Failure to do so will result in non-compliance and shall be immediately machine cut by the contractor at his expense.

D. Exposed Concrete Surface Finishing (not including top surface of flatwork): Remove fins and rough spots immediately following removal of forms from concrete which is to be left exposed. Damaged and irregular surfaces and holes left by form clamps and sleeves shall be patched with grout. Tie wires are to be removed to below exposed surface and holes pointed up with neat cement paste similar to procedure noted under "Patching" below. Removal of tie wires shall extend to distance of 2" below established grade lines. Ends of tie wires shall be cut off flush at all other, unexposed locations. Care shall be taken to match adjacent finishes of exposed concrete surface. After patching, all concrete that is to remain exposed, shall be sacked with a grout mixture of 1-part cement, 1 1/2- parts fine sand and sufficient water to produce a consistency of thick paint. After first wetting the concrete surface, apply mixture with a brush and immediately float entire surface vigorously using a wood float. Keep damp during periods of hot weather. When set, excess grout shall be scraped from wall with edge of steel trowel, allowed to set for a time, then wiped or rubbed with dry burlap. Entire finishing operation of any area shall be completed on the same day. This treatment shall be carried to 4" below grade, and all patching and sacking shall be done immediately upon removal of the forms.

3.10 CURING

A. Flatwork/Variable Height Curbs, Curb and gutter, Valley Gutter: Cure utilizing Curing Compound. If applicable, the Contractor shall verify that the approved Curing Compound is compatible with the approved colorant system. Upon completion of job, wash clean per manufacturer's recommendations.

1. Curing compound shall be applied in a wet puddling application. Spotty applications shall be reason for rejection and possibly concrete removal and replacement at the contractor's expense with no compensation from the owner.

B. No Curing Compound shall be applied to areas scheduled to receive resilient track surface including, curbs, ramps, run ways, etc.

3.11 DEFECTIVE CONCRETE

A. Determination of defective concrete shall be made by the Architect or Engineer. His opinion shall be final in identifying areas to be replaced, repaired or patched.

B. The Owner reserves the right to survey the flatwork, if it is determined to be outside of the maximum tolerance for flatness. If the flatwork is found to be out of tolerance, then the Contractor will be required to replace concrete. The Contractor will be responsible for reimbursing the Owner for any surveying costs incurred. Determination of flatwork flatness, surveying and any remedial work must be completed far enough in advance so that the project schedule is maintained, delays are avoided and the new flatwork or flatwork repairs are properly cured.

C. As directed by Architect, cut out and replace defective concrete. All defective concrete shall be removed from the site. No patching is to be done until surfaces have been examined by Architect and permission to begin patching has been provided.

D. Permission to patch any area shall not be considered waiver of right, by the Owner, to require removal of defective work, if patching does not, in opinion of Architect, satisfactorily restore quality and appearance of surface.

E. Defective concrete is:

1. Concrete that does not match the approved mix design for the given installation type.
2. Concrete not meeting specified 28-day strength.
3. Concrete which contains rock pockets, voids, spalls, transverse cracks, exposed reinforcing, or other such defects which adversely affect strength, durability or appearance.
4. Concrete which is incorrectly formed, out of alignment or not plumb or level.
5. Concrete containing embedded wood or debris.
6. Concrete having large or excessive patched voids which were not completed under Architect's direction.
7. Concrete not containing required embedded items.
8. Excessive Shrinkage, Traverse cracking, Crazing, Curling; or Defective Finish. Remove and

replace if repair to an acceptable condition is not feasible.

9. Concrete that is unsuitable for placement or has set in truck drum for longer than 90 minutes from the time it was batched.
10. Expansion joint felt that is not isolating the full depth of the concrete section, and recessed as required for backer rod and sealant where required.
11. Concrete that is excessively wet or excessively dry and will not meet the minimum or maximum slump required per mix design.
12. Finished concrete with oil stains from equipment use, and or rust spots that cannot be removed.
13. Control joints (weakened planed joints) that do not meet the required minimum depth shown on the drawings.

F. Patching: Install specified Patching Mortar per manufacturer's recommendations. REPAIRS TO DEFECTIVE CONCRETE WHICH AFFECT THE STRENGTH OF ANY STRUCTURAL CONCRETE MEMBER OR COMPONENT ARE SUBJECT TO APPROVAL BY THE ARCHITECT AND DSA.

3.12 CONCRETE TESTING

A. Comply with CBC Section 1903A, 1905A.1.16, 1910A and 1705A.3 and as specified in B. below. Costs of tests will be borne by the Owner.

B. Four identical cylinder samples for strength tests of each class of concrete placed each day shall be taken not less than once a day, or not less than once for each 50 cubic yards of concrete, or not less than once for each 2,000 square feet of surface area for slabs or walls. In addition, samples for strength tests for each class of concrete shall be taken for seven-day tests at the beginning of the concrete work or whenever the mix or aggregate is changed.

C. Strength tests will be conducted by the Testing Lab on one cylinder at seven (7) days and two cylinders at twenty-eight (28) days. The fourth remaining cylinder will be available for testing at fifty-six (56) days if the 28-day cylinder test results do not meet the required design strength.

D. On a given project, if the total volume of concrete is such that the frequency of testing required by paragraph B. above would provide less than five strength tests for a given class of concrete, tests shall be made from at least five randomly selected batches or from each batch if fewer than five batches are used.

E. Cost of retests and coring due to low strength or defective concrete will be paid by Owner and back-charged to the Contractor.

F. Each truck shall be tested for slump before concrete is placed.

3.13 REMOVAL OF FORMS

A. Remove without damage to concrete surfaces.

B. Sequence and timing of form removal shall insure complete safety of concrete structure.

C. Forms shall remain in place for not less than the following periods of time. These periods represent cumulative number of days during which temperature of air in contact with concrete is 60 degrees F and above.

1. Vertical forms of foundations, walls and all other forms not covered below: 5 days.
2. Slab edge screeds or forms: 7 days.
3. Concrete columns and beam soffits: 28 days.

D. Concrete shall not be subjected to superimposed loads (structure or construction equipment) until it has attained its full design strength and not for a period of at least 21 days after placing. Concrete systems shall not be subjected to construction loads in excess of design loads.

3.14 CLEANING

A. Refer to Section 01 74 00.

B. Upon completion of work of this Section promptly remove from the working area all scraps, debris and surplus material of this Section.

C. Clean excess material from surface of all concrete walks and utility structures.

D. Power wash all concrete surfaces to remove stains, dried mud, tire marks, and rust spots.

END OF SECTION

SECTION 32 80 00

IRRIGATION

PART 1 – GENERAL

Construction Documents and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to this section.

1.01 SUMMARY

A. DESCRIPTION

1. Scope of Work: Furnish all labor, materials, tools, equipment, and transportation required to perform and complete the installation of an automatic sprinkler irrigation system, including all piping, sprinkler heads, controls, connections, testing, etc. as shown on the Drawings and as specified herein. The source of water for this project is potable water.
2. Utilize and accept as standards manufacturer's recommendations and/or installation details for any information not specifically detailed on the Drawings.

B. RELATED SECTIONS

1. General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.
2. Section 03 10 00 - Concrete Forming.
3. Division 26 – Electrical.
4. Section 31 00 00 – Earthwork.
5. Section 32 16 00 - Site Concrete.
6. Section 32 90 00 – Landscaping.

1.02 SUBMITTALS

A. Comply with requirements of Section 01 33 00 – Submittal Procedures.

B. Product names are used as standards; provide proof as to equality of any proposed material and do not use other materials or methods unless approved in writing by the Owner's Representative. Submit no more than one request for substitution for each item. The decision of the Owner's Representative is final.

C. Use equipment capacities specified herein as the minimum acceptable standards.

D. List materials in the order in which they appear in Specifications; include substitutions. Submit the list for approval by the Owner's Representative.

E. Make any mechanical, electrical, or other changes required for installation of any approved, substituted equipment to satisfaction of Owner's Representative and without additional cost to Owner. Approval by Owner's Representative of substituted equipment and/or dimensional drawing does not waive these requirements.

F. Do not construe approval of material as authorization for any deviations from Specifications unless attention of Owner's Representative has been directed to specified deviations.

G. Record Drawings: Upon completion of work, and as a precedent to final payment, deliver to Owner's Representative one complete set of reproducible originals of Drawings showing work exactly as installed

1. Regularly update plans of the system and any changes made to the system throughout the project. Record all changes on this plan before trenches are backfilled.
2. Record the as-built information on reproducible plans provided by the Architect. Complete and submit the Record Drawings to the Architect before applying for payment for work installed.
3. As-built drawings are to be completed electronically with a pdf editing software or computer aided drafting software. As-built drawing done by hand will not be accepted for final submittal.
4. Show the following on the Record Drawings accurately to scale and dimensioned from two permanent points of reference:

a. Distance of mainline from nearby hardscape.
b. Location of automatic control valves, quick couplers, and gate valves.
c. Location and size of all sleeves.
d. Location of automatic control wires and spares.

H. Operation Manuals: Deliver two complete sets of manufacturer's warranties, Contractor guarantees, instruction sheets, parts lists and operation manuals to the Architect before requesting final acceptance of the project. Do not request final inspection until the sets are approved.

1.03 QUALITY ASSURANCE

A. Qualifications of Contractor: Work must be completed by a licensed Landscape Contractor. Provide proof of five years of continuous experience in landscaping and irrigation of projects of similar size (+\- 20% of the construction cost) and scope for education campuses. Contractor to have a minimum of two projects either completed or in construction in the last five years.

B. Work Force: Ensure that an experienced foreman is present at all times during installation. Keep the same foreman and workers on the job from commencement to completion.

C. Reviews: Specifically request reviews of all items listed below in "Inspection Requirements" prior to progressing to the next level of work.

D. Certification: Ensure that the contractor installing the Central Control System is trained and certified in the installation of the Central Control System. The training and certification must have been completed within two years prior to the installation date.

E. Standards:

1. Provide work and material in full accordance with the rules and regulations of the

California Electric Code; the California Plumbing Code; and other applicable state or local laws or regulations.

2. Furnish, without extra charge, additional material and labor required to comply with these rules and regulations, though the work may not be specifically indicated in the Specifications or Drawings.
3. Where the Specification requirements exceed those of the above-mentioned codes and regulations, comply with the requirements in the Specifications.

F. Comply with the requirements of Section 01 77 00 – Closeout Procedures.

G. Inspection Requirements

1. Request and hold a pre-construction meeting prior to beginning the work of this Section. Parties required to be in attendance are the Landscape Contractor, Project Inspector, Owner's Representative, and the Landscape Architect.
2. Prior to commencement of the work of this Section, obtain written verification from the project Civil Engineer that the rough grade in landscape areas is in conformance with Section 31 00 00 - Earthwork.
3. Obtain verification from Project Inspector for the following at the appropriate times during construction and prior to further progression of work in this Section:

    a. Pressure testing of all mainlines and lateral lines (See "Hydrostatic Tests – Open Trench" in Part 3.05 of this Section),
    b. Trench depth,
    c. Sleeves under pavement,
    d. Flushing of all mainlines and lateral lines,
    e. Installation of mainline thrust blocks,
    f. Installation of Leemco joint restraints and bolts,
    g. Backfill and pipe bedding,
    h. Layout of heads,
    i. Operation of system and coverage adjustments (with Landscape Architect) after system is fully automated and operational, backfill of trenching is completed, and surface has been restored to original grades.

4. In case of failure to obtain any verification by the Project Inspector as required above, remove and replace work as necessary to obtain the verification at no additional cost to the Owner.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Use all means necessary to protect irrigation system materials before, during, and after installation and to protect related work and material.

B. Handle plastic pipe carefully, especially protecting it from prolonged exposure to sunlight. Store pipe on beds that are the full length of the pipe, and keep pipe flat and off the ground with blocks.

1.05 PROJECT/SITE CONDITIONS

A. Information on Drawings relative to existing conditions is approximate. During progress of construction, make deviations necessary to conform to actual conditions, as approved by Owner's Representative, without additional cost to Owner. Accept responsibility for any damage caused to existing services. Promptly notify Owner's Representative if services are found which are not shown on Drawings.

B. Protect existing utilities within construction area. Repair damages to utility lines that occur as a result of operations of this work.

C. Verify dimensions at building site and check existing conditions before beginning work. Make changes necessary to install work in harmony with other crafts after receiving approval by Owner's Representative.

1.06 WARRANTY

A. Guarantee all workmanship and materials hereunder against defective workmanship and materials, including damage by leaks and settlement of irrigation trenches, for the duration specified in Division 01 of these Specifications. (The Contractor is not responsible for vandalism or theft after date of final acceptance.)

1.07 SYSTEM STARTUP

A. Booster Pump:

1. Order booster pump as soon as possible to avoid delays in the project.
2. After booster pump and electrical connections have been installed, power has been made available, the downstream irrigation system has been pressure-tested, heads have been set, and trenches have been backfilled and compacted, request that the booster pump manufacturer's technician participate in and/or direct the start-up of the booster pump. Start-up shall include all testing and settings for the following:

    a. Flow
    b. Pressure
    c. Connections
    d. Electrical currents
    e. Wire connections
    f. Pump installation

3. Upon successful completion of testing by the booster pump technician, request that a checklist/certification be completed and signed by the technician. Deliver copies of the certification to both the Owner's Representative and the Landscape Architect prior to the commencement of the landscape maintenance period.

B. Central Control System

1. Install controllers, master valves, flow sensors, ground system, wiring, cables, Ethernet

and any other components not shown on the Drawings.

2. Request that the manufacturer's representative participate and/or direct the start-up of the Central Control System. Start-up shall include all testing and settings for the following:

    a. Flow sensor
    b. Grounding
    c. Wire connections
    d. Pump start
    e. Bypass
    f. Overall instruction

3. Upon successful completion of testing by the technician from [enter technician company], request that a checklist/certification be completed and signed by the technician. Deliver copies of the certification to both the Owner's Representative and the Landscape Architect prior to the commencement of the landscape maintenance period.
4. Run the system; record the flows per valve and report them to the Owner's Representative.

1.08 CLOSEOUT & MAINTENANCE

A. Furnish three complete sets of operating maintenance instructions bound in a hardback binder and indexed. Start compiling data upon approval of list of materials. Do not request final inspection until booklets are approved by Owner's Representative.

B. Incorporate the following information in these sets:

1. Complete operating instructions for each item of irrigation equipment.
2. Typewritten maintenance instructions for each item of irrigation equipment.
3. Manufacturer's bulletins which explain installation, service, replacement parts, and maintenance.
4. Service telephone numbers and/or addresses posted in an appropriate place as designated by Owner's Representative.

C. Comply with requirements of Section 32 01 90 – Landscape Maintenance.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Use materials as specified; any deviation from the Specifications must first be approved by the Owner's Representative in writing. All material containers or certificates shall be clearly marked by manufacturer as to contents for inspection.

B. Automatic Controller: As indicated on Drawings.

C. Master Valves and Flow Sensors: As indicated on Drawings

D. Automatic Control Valves: As indicated on Drawings

E. Automatic Drip Control Valve Kit:. As indicated on Drawings

F. Gate Valve: As indicated on Drawings

G. Pipe and Fittings:

1. PVC pipe: for all mainline and lateral lines, PVC schedule 40 up to 3” size and PVC Class 200 for 4” and larger.
2. PVC fittings three-inch (3”) size and smaller: High impact, standard weight, Schedule 40, molded PVC as manufactured by George Fischer, Lasco, Spears, or approved equal. LEEMCO APPLICATION - PVC fittings for mainline two inches (2”) and smaller and all lateral lines: High impact, standard weight, Schedule 40, molded PVC as manufactured by George Fischer, Lasco, Spears, or approved equal.
3. PVC fittings four-inch (4”) size and larger: High impact, standard weight, Class 200 gasketed, molded PVC as manufactured by George Fischer, Lasco, Spears, or approved equal. LEEMCO APPLICATION - Ductile iron fittings for all mainline fittings two and one-half inches (2 ½”) and larger: Leemco joint restraint fittings or approved equal.
4. All plastic pipe and fittings: Continuously and permanently marked with manufacturer's name, type of material, IPS size, schedule, NSF approval, and code number.
5. Threaded PVC pipe and nipples: IPS Schedule 80 when necessary to use threaded connections to gauges, valves, or control valves. Threaded adapters may be used in place of nipples when making pipe to valve connections.
6. Use 45-degree fittings for changes in depth of pipe, and at transition from main line to automatic control valves.
7. Piping above ground: Schedule 40 galvanized steel with cast-iron fittings.
8. Piping used for electrical purposes to be Schedule 40 PVC Rigid Nonmetallic Conduit electrical conduit.

H. Booster Pump: As indicated on Drawings

I. PVC Primer: Weld-On P-70 Purple Primer or approved equal.

J. PVC Glue: Weld-On 711 Gray heavy bodied PVC Cement or approved equal.

K. PVC Glue for connections to Flexible PVC: Weld-On 795 Blue Flex PVC Cement or approved equal. Do not use the 795 clear color.

L. Sprinkler Heads: As indicated on Drawings

M. Quick Coupler Valves: As indicated on Drawings

N. All Valve Boxes and Covers:

1. Turf and Hardscape Areas: Concrete manufactured with steel checker plate lid with “Irrigation” permanently embossed on cover. Christy or approved equal.
2. Shrub Areas: Plastic manufactured with “Irrigation-Non-Potable” permanently embossed on cover.

O. Reduced Pressure Backflow Preventer: . As indicated on Drawings

P. Automatic Sprinkler Control Wire:

1. Connections between remote control valves and controller: 14 AWG direct burial plastic polyethylene (PE) insulated wire, Paige Electric P7079D or approved equal. Common wire to be white, and lead wire to be colored. If multiple controllers are used, a different color is to be used for each controller's lead wire. (Use red for the first controller). Spare wires are to be yellow.
2. UL Listed waterproof sealing pack for wire connections: 3M DBR/Y-6, or approved equal.
3. Provide adequate working space around electrical equipment in compliance with local codes and ordinances.
4. Electrical, other than low voltage, such as power wiring, conduit, fuses, thermal overloads and disconnect switches, is included under Division 26 of these Specifications.

Q. Automatic Sprinkler Control Decoder Cable [For expansion of existing two-wire systems only]:

1. Connections between remote control valve decoders and controller: Hunter Jacketed Decoder Cable, Paige Electric P7354D. If multiple controllers are used, a different color jacket is to be used for each controller.
2. UL Listed waterproof sealing pack for wire connections: 3M DBR/Y-6, or approved equal.
3. Provide adequate working space around electrical equipment in compliance with local codes and ordinances.
4. Electrical, other than low voltage, such as power wiring, conduit, fuses, thermal overloads and disconnect switches, is included under Division 26 of these Specifications.

R. Single Station Decoder: match existing two-wire system decoder. [For expansion of existing two-wire systems only]

S. Trace Wire:

1. Direct burial #12 AWG Solid, steel core soft drawn tracer wire, 250# average tensile break load, 30 mil high molecular-high density polyethylene jacket complying with ASTM-D-1248, 30-volt rating. Color shall be green.
2. Connectors: UL Listed waterproof sealing pack for wire connections: 3M DBR/Y-6, or approved equal.

T. Master Valve and Flow Sensor Wire:

1. Master valve wires are to be 14 AWG direct burial plastic polyethylene (PE) insulated wire, Paige Electric P7079D or approved equal. Wire color to be blue for the lead and white for the common. If there are two master valves, the second master valve wire is to be blue/white striped for the lead and white for the common.
2. Flow sensor wires are to be 14 AWG direct burial plastic polyethylene (PE) insulated wire, Paige Electric P7079D or approved equal. Wire color to be black for the lead and white for the common. If there are two flow sensors, the wires leading to each flow sensor is to be a different color.

U. Unions And Flanges:

1. Steel unions and flanges two inches (2") and smaller: 150 lb. screwed black (brass to iron seat) or galvanized malleable iron (ground joint).
2. Steel unions and flanges two and one-half inches (2 ½") and larger: 150 lb. black flange union, flat-faced, full gasket.
3. Gaskets: One-sixteenth inch (1/16") thick rubber Garlock No. 122, Johns-Manville or approved equal.
4. Flange Bolts: Open-hearth bolt steel, square heads with cold pressed hexagonal nuts, cadmium plated in ground. Provide copper-plated steel bolts and nuts or brass bolts and nuts for brass flanges.

V. Pipe Supports: Adjustable saddle support type support.

W. Valve Identification Tags: Christy's irrigation ID tags, standard yellow color or approved equal.

X. Sand for Trench Backfill: Natural sand, free of roots, bark, sticks, rags, or other extraneous material.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Locations of existing utilities and other improvements shown on the Drawings are approximate. Verify existing conditions and, should any utilities be encountered that are not indicated on the plans, notify the Owner's Representative immediately. Accept responsibility for any damages caused to existing services.

3.02 PREPARATION

A. Scheduling: Notify the Project Inspector prior to commencing and/or continuing the work of this Section. Remove and replace, at no cost to Owner, any work required as a result of failure to give the appropriate notification.

B. Examination: Examine conditions of work in place before beginning work; report defects.

C. Measurements: Take field measurements; report variance between plan and field dimensions.

D. Protection: Maintain warning signs, shoring and barricades as required. Prevent injury to, or defacement of, existing improvements. At no additional cost to Owner, repair or replace items damaged by installation operations.

E. Existing Tree Protection:

1. Avoid unnecessary root disturbance, compaction of soils within drip line, or limb breakage.
2. Do not store material or dispose of any material other than clean water within the drip line.

3. Provide adequate irrigation during construction.
4. Replace any tree damaged during construction with a tree of equal size and value at no additional cost to Owner.
5. Adjust trench locations in field to minimize damage to existing elements and plant roots of trees-to-remain at no additional cost to Owner.

F. Surface Preparation: Prior to beginning sprinkler irrigation work, complete placement of topsoil as specified in Section 31 00 00 – Earthwork. Notify Project Inspector of irregularities if any.

3.03 INSTALLATION

A. Automatic Controller

1. Automatic Controller: Install system and components as per Drawings and manufacturer's recommendations. All wiring connections shall be neatly accomplished within the controller cabinet. Connect Ethernet and grounding system as per manufacturer's recommendations.
2. Connect automatic control valves to controller(s) in sequence as shown on Drawings.
3. Install all exposed wires to a minimum of twenty-four inches (24") beyond controller within a UL approved rigid conduit.

B. Master Valves and Flow Sensor

1. Master Valve: Install as per manufacturer's recommendation. Connect master valve wiring to the automatic controller. Install wire in a conduit. Wire is not to have any splices between the valve and the controller.
2. Connect Master Valve to decoder cable using a single-station line decoder.
3. Flow Sensor: Install as per manufacturer's recommendation. When using a "saddle" installation, install at the correct depth in the pipe and orientate the paddle properly for accurate reading of flow. Connect flow sensor wire to the automatic controller. Install wire in a conduit. The wire is not to have any splices between the valve and the controller.
4. Connect Flow Sensor to decoder cable using a sensor decoder.

C. Reduced-Pressure Backflow-Prevention Device

1. Install where shown, per code, and per manufacturer's specification and written instructions.
2. Provide pipe supports and accessories as necessary to properly secure the assembly.

D. Booster Pump Assembly

1. Booster Pump: Install as per manufacturer's directions and as detailed on Drawings. Lay out piping in field for exact locations and/or connections.
2. Booster Pump Pad: Install on a level, raised utility pad so booster pump is set level. Encase anchor bolts in the concrete pad.
3. Piping Assembly: Lay out system plumb and level. Paint entire assembly, including the pipe supports. Use metal pipe for all exposed pipe and extend below the ground to the horizontal main line pipe.

4. Coordination: Lay out conduit for electrical components to minimize conduit above grade.

E. Control Wires

1. General: Install control wires beneath sprinkler main line whenever possible; tape wires to mainline pipe. Provide one spare wire for each controller.
2. Slack Wire: Provide eighteen inches (18”) of slack wire for each wire connected to automatic control valve. Slack wire shall be coiled and left in the valve box. Tape wires in bundles every ten feet (10’); do not tape wires in sleeves.
3. Expansion and Contraction: Snake wire in trench to allow for contraction of wire.
4. Wire Passing Under Existing or Future Paving or Construction: Encase in PVC Schedule 40 or galvanized steel conduit extending at least twelve inches (12”) beyond edges of paving or construction.
5. Wire Connections: Install wire connections in a waterproof sealing pack.
6. Wire Splicing: Permit splicing only on runs exceeding 500 feet. Locate all splices within valve boxes.
7. Wire Termination: Install wire in a valve box with eighteen inches (18”) of slack wire coiled and individually capped with approved waterproof sealing pack.
8. Spare Wire: Install two (2) spare wires along each wire path. If there is more than one wire path from the controller, the contractor to install two (2) spare wires per path. Provide eighteen inches (18”) of slack wire at each automatic control valve.

F. Decoder Cable

1. General: Install control wires beneath sprinkler main line whenever possible.
2. Slack Cable: Provide eighteen inches (18”) of slack cable at each automatic control valve. Slack cable shall be coiled and left in the valve box.
3. Expansion and Contraction: Snake cable in trench to allow for contraction of cable.
4. Cable Passing Under Existing or Future Paving or Construction: Encase in PVC Schedule 40 or galvanized steel conduit extending at least twelve inches (12”) beyond edges of paving or construction.
5. Connections: Install cable connections in a waterproof sealing pack.
6. Splicing: Permit splicing only on runs exceeding 500 feet. Locate all splices within valve boxes.
7. Cable Termination: Install cable in a valve box with eighteen inches (18”) of slack cable coiled and individually capped with approved waterproof sealing pack. Ground cable at all cable terminations.

G. Trace Wire

1. General: Install trace wire above sprinkler main line whenever possible; tape wire to mainline pipe at 10’ intervals to ensure the wire remains adjacent to the pipe.
2. Wire Connections: Install wire connections in a waterproof sealing pack.
3. Trace wire access points shall be accessible at all automatic control valves.
4. At all mainline end caps, a minimum of six feet (6’) of tracer wire shall be coiled and secured to the cap for future connections. The end of the tracer wire shall be spliced to the wire of a six-pound zinc anode and is to be buried at the same elevation as the irrigation mainline.

5. Testing: The contractor shall perform a continuity test on all trace wires in the presence of the client. If the trace wire is found to be not continuous after testing, Contractor shall repair or replace the failed segment of the wire.

H. Automatic Control Valves and Quick Coupler Valves

1. Install where shown and where practical; place no closer than twelve inches (12”) to walk edges, building walls, or fences. Refer to detail for example.
2. Thoroughly flush mainline before installing valve.
3. Install valves in ground cover areas where possible. Valves shall be installed with lid flush to finish grade of soil. Upon acceptance of 90-day maintenance period, contractor shall cover boxes with bark mulch.

I. Piping

1. General: Install in conformance with reference standards, manufacturer’s written directions, as shown on Drawings and as herein specified.
2. Workmanship:

a. General: Install sprinkler irrigation equipment in planted areas throughout the site.
b. Coordination: Organize location of sleeves with other trades as required.

3. Pipeline Assembly:

a. General:

1.) Cutting: Cut pipe square; remove rough edges or burrs.
2.) Solvent-welded Connections: Use materials and methods recommended by the pipe manufacturer.
3.) Brushes: Use non-synthetic brushes to apply solvents and primer.
4.) Cleaning: Clean pipe and fittings of dirt, moisture, and debris prior to applying solvent or primer.
5.) Assembly: Allow pipe to be assembled and welded on the surface or in the trench.
6.) Expansion and Contraction: Snake pipe from side to side of trench to allow for expansion and contraction.
7.) Location: Locate pipes as shown on Drawings except where existing supply valves, utilities or obstructions prohibit or where slight changes are approved to better suit field conditions.

b. Elastomeric Seal (Gasket) Joints:

1.) General: Assemble in strict conformance with the pipe manufacturer’s instruction.
2.) Rubber Rings: Use rubber rings specific for water service systems.

3.) Cleaning: Thoroughly clean ring and groove of dirt, moisture and debris using a clean, dry cloth. Do not use solvents, lubricants, cleaning fluids or other material for cleaning.
4.) Seating: Properly seat ring in groove.
5.) Spigot: Clean spigot-end of pipe as in "Cleaning" above prior to applying lubricant recommended by pipe manufacturer. Insert spigot into bell and seat to full depth required.

c. Connections:

1.) Threaded Plastic Pipe Connection:

a) Use Teflon tape or pipe joint compound.
b) When assembling to threaded pipe, take up joint no more than one full turn beyond hand-tight

2.) Metal Valves and Plastic Pipe: Use threaded plastic male adapters.
3.) Metal to Metal Connections:

c) Use specific joint compound or gasket material for type of joint made. Where pipe of dissimilar metals are connected, use dielectric fittings.
d) Where assembling, do not allow more than three full threads to show when joint is made up.

4.) Where assembling soft metal (brass or copper) or plastic pipe, use strap-type friction wrench only; do not use a metal-jawed wrench.
5.) Threading:

a) Do not permit the use of field-threading of plastic pipe or fittings. Use only factory-formed threads.
b) Use factory-made nipples wherever possible. Permit the use of field-cut threads in metallic pipe only where absolutely necessary. When field-threading, cut threads accurately on axis with sharp dies.
c) Use pipe joint compound for all threaded joints. Apply compound to male thread only.

d. Sleeves and conduits:

1.) Use sleeves of adequate size to accommodate retrieval for repair of wiring or piping and extend a minimum of twelve inches (12") beyond edges of walls or paving.
2.) Provide removable, non-decaying plug at end of sleeve to prevent entrance of soil.

e. Unions: Locate unions for easy removal of equipment or valve.
f. Joint Restraints: Install per manufacturer's recommendations.
g. Capping: Plug or seal opening as lines are installed to prevent entrance materials that would obstruct pipe. Leave in place until removal is necessary for completion of installation.
h. Drip Irrigation Tubing: Install as per Drawings.

J. Sprinkler Heads

1. Sprinkler heads: Locate as shown on the Drawings except where existing conditions prohibit, or slight changes are approved to achieve as good or better coverage under the same conditions. Do not allow sprinkler head spacing to exceed the maximum shown on the Drawings. Plumb heads.
2. Handling, Assembly of Pipe, Fittings, and Accessories: Allow only skilled tradesmen to handle and assemble pipe, fittings and equipment. Keep interior of pipes, fittings and accessories clean at all times. Close ends of pipe immediately after installation; leave closure in place until removal is necessary for completion of installation. Do not permit bending of pipe.
3. Flushing: Remove end heads and operate system at full pressure until all rust, scale, and sand is removed. Divert water to prevent ponding or damage to finished work.
4. Coverage: Accept responsibility for full and complete coverage of irrigated areas to satisfaction of Landscape Architect and make necessary adjustments to better suit field conditions at no additional costs to Owner.

3.04 CONSTRUCTION

A. Grading

1. Install all irrigation features to their finished grade and at depths indicated. Complete and /or accommodate all rough grading and/or finish grading before commencing with trenching.

B. Layout

1. Lay out work as accurately as possible to Drawings. Drawings are generally diagrammatic to extent that swing joint offsets and fittings are not shown. Record all changes on the Record Drawings.
2. Do not willfully install the irrigation system as shown on Drawings when it is obvious, in the field, that obstructions or other discrepancies exist which may not have been considered in the design. Notify Owner’s Representative of discrepancies before proceeding.

C. Excavating And Trenching

1. General: Perform excavations as required for installation of work included under this Section, including shoring of earth banks to prevent cave-ins. Restore surfaces, existing underground installations, etc., damaged or cut as result of this work to their original condition and in a manner approved by the Landscape Architect.
2. Width:

   a. Make trenches wide enough to allow a minimum of six inches (6”) between parallel pipelines and three inches (3”) between side of pipe and side of trench. Do not allow stacking of pipe within trench.
   b. When second spare mainline is installed alongside the first mainline, allow for a minimum of twelve inches (12”) horizontally between the two pipes.

c. Allow a minimum clearance of twelve inches (12”) in any direction from parallel pipes of other trades.

3. Preparation of Excavations: Remove rubbish and rocks from trenches. Bed pipe on a minimum of three inches (3”) of clean, rock-free soil to provide a firm, uniform bearing for entire length of pipeline. Cover pipe with a minimum of three inches (3”) of clean, rock-free soil. If clean, rock-free soil is not available, use sand for pipe bedding and three inches (3”) of backfill above the pipe. The remainder of the trench backfill material can be native soil. Do not allow wedging or blocking of pipe.
4. Minimum depth of cover: Unless shown otherwise, provide the following minimums:

   a. Mainline: twenty-four inches (24”) cover.
   b. Lateral line: twelve inches (12”) cover for spray heads, and eighteen inches (18”) cover for rotor heads.

5. Conflicts with other trades:

   a. Hand-excavate trenches where potential conflict with other underground utilities exist.
   b. Where other utilities interfere with irrigation trenching and piping work, adjust the trench depth as instructed by Owner’s Representative.

D. Thrust Blocks

1. To resist system pressure on ring-tite PVC pipe and PVC fittings, provide thrust blocks at any change of direction, change of size, dead end, and/or valves at which thrust develops when closed. See thrust block details for examples.
2. Use cast-in-place concrete and size thrust blocks based on an average soil-safe bearing load of 700 lbs. per square foot.
3. Form thrust blocks in such a manner that concrete comes in contact only with the fittings. Place thrust block between adequately compacted soil and the fitting.
4. Thrust blocks are to be constructed of concrete with a minimum of 2500psi.
5. Thrust blocks are to be free, separate, and independent of adjacent or nearby thrust blocks.

E. Backfill And Compacting

1. General: Do not begin until hydrostatic tests are completed. When system is operating and after required tests and inspections have been made, backfill trenches under paving areas to the compaction rate specified in Section 31 00 00 – Earthwork.
2. Place backfill in six-inch (6”) layers and compact with an acceptable mechanical compactor.

   a. Compact backfill material in landscape areas to eighty-five percent (85%) maximum dry density of the soil.
   b. If settlement occurs along trenches, make adjustments in pipes, valves, and sprinkler heads, soil, sod or paving as necessary to bring the system, soil, sod or

paving to the proper level or the permanent grade, without additional cost to the Owner.

3. Excess Soil: Remove all rocks, debris, and excess soil that results from sprinkler irrigation trenching operations, landscape planting, and soil preparation operations off site at no additional cost to the Owner. If soil meets topsoil requirements in Section 31 00 00 – Earthwork, it may be used for finish grading.
4. Finishing: Dress-off areas to eliminate construction scars.

F. Flushing Lines

1. Thoroughly flush lines prior to installing valves, performing hydrostatic testing, or installing sprinklers. Divert water to prevent washouts.

G. Concrete Work

1. Underground anchors and pads for valves boxes are included under this Section of Specifications. Concrete shall have a minimum strength of 2500 psi. The slump test shall be a four inch (4”) maximum slump. At twenty-eight days, the concrete shall have a minimum strength of 2500 psi. Use materials and mix in accordance with ASTM C 94. Refer to Section 32 16 00 - Site Concrete.

3.05 FIELD QUALITY CONTROL

A. Visual Inspection: Verify that all pipe is homogenous throughout and free from visual cracks, holes, or foreign materials. Inspect each length of pipe. All materials are subject to impact test at the discretion of the Landscape Architect.

B. Hydrostatic Tests – Open Trench:

1. Center-load piping with a small amount of backfill to prevent arching or slipping under pressure.
2. Request the presence of the Project Inspector in writing at least forty-eight hours in advance of testing.
3. At no additional cost to Owner, test in the presence of the Project Inspector.
4. Apply continuous static water pressure of 100 psi when welded plastic joints have cured at least twenty-four hours, and with the risers capped, as follows: test main lines and submains for four hours; test lateral lines for two hours.
5. Repair leaks resulting from tests; and repeat tests.
6. Test to determine that all sprinkler heads function according to manufacturer's data and give full coverage according to intent of Drawings. Replace any sprinklers not functioning as specified with ones that do, or otherwise correct system to provide satisfactory performance.

C. Continuity Testing: Test locating device and control wires for continuity prior to and after back-filling operations.

3.06 ADJUSTING

A. Adjusting System: Prior to acceptance, satisfactorily adjust and regulate entire system. Set watering schedule on controller appropriate to types of plants and season of year. Adjust remote control valves to operate sprinkler heads at optimum performance based on pressure and simultaneous demands through supply lines.

B. System Layout: Provide reduced prints of Record Document irrigation plans, laminated in four (4) mil. plastic, of size to fit controller door. Enlarge remote-control valve designations as necessary for legibility. Color-code areas covered by each station. Affix plans to inside of controller door.

C. Instructions: Upon completion of work, instruct maintenance personnel on operation and maintenance procedures for entire system.

D. Flow Charts: Record and prepare an accurate flow-rate chart for each automatic control valve.

3.07 CLEANING

A. Remove debris resulting from work of this Section.

END OF SECTION

SECTION 32 90 00

LANDSCAPING

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Scope of Work: Furnish all labor, materials, tools, equipment, and transportation required to perform and complete the following work as specified herein:
2. Soil Preparation and Fertilization
3. Hydroseeding
4. Weed Control
5. Clean-up
6. Guarantee
7. Work not included in this Section: Landscape elements such as concrete walks, fencing, outdoor lighting, rough grading, and clearing are not a part of this Section unless shown on the landscape Drawings.

B. Related Sections:

1. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.
2. Section 31 00 00 – Earthwork.
3. Section 32 80 00 – Irrigation.

1.02 SUBMITTALS

A. See Section 01 33 00 – Submittal Procedures for additional requirements.

B. Plant Material: Within fifteen (15) days after award of contract, locate plant materials required for construction. Ensure that trees and shrubs are contract- grown from a certified nursery. Notify Owner's Representative of plant material "tied off" for review at selected nursery. If specified material is not obtainable, submit the following to Owner's Representative: proof of non-availability, proposal for use of equivalent material, photographs of alternative choices of plant material. Include clear, written description of type, size, condition, and general character of plant material.

C. Data Sheets: Provide product data for each type of landscape material indicated in the Drawings and Specifications.

D. Samples: Submit samples of the following materials to Landscape Architect for approval:

1. Soil amendment: (3) one-quart zip-locked plastic bags.
2. Bark Mulch: (3) one-quart zip-locked plastic bags.
3. Imported Topsoil: (3) one-quart zip-locked plastic bags. (if needed)
4. Baseball Infield Mix: (3) one-quart zip-locked plastic bags.

5. Decomposed Granite: (3) one-quart zip-locked plastic bags.

E. Provide soils analysis reports prepared by a qualified soils laboratory in compliance with the Soil Testing Requirements under “Soil Testing” in Part 3.02 of this Section.

F. Prior to planting, submit copies of all trucking or packaging tags for all soil amendment, fertilizer and other additives to Landscape Architect so the quantities can be verified.

G. Record Drawings: Upon completion of work, and as a precedent to final payment, deliver to Owner’s Representative one complete set of reproducible originals of Drawings showing work exactly as installed.

1.03 QUALITY ASSURANCE

A. Qualifications: Work must be completed by a licensed Landscape Contractor. Provide proof of five years of continuous experience in landscaping and irrigation of projects of similar size (+\-20% of the construction cost) and scope for education campuses. Contractor to have a minimum of two projects either completed or in construction in the last five years.

B. Contractor shall be a certified installer of DuraEdge infield mix.

C. Work Force: Ensure that an experienced foreman is present at all times during installation. Keep the same foreman and workers on the job from commencement to completion.

D. Reviews: Specifically request reviews of all items listed below in “Inspection Requirements” prior to progressing to the next level of work. The Owner’s Representative reserves the right to inspect and reject material, both at place of growth and at site, before and/or after planting, for compliance with requirements for name, variety, size and quality.

E. Reference Standards: Meet or exceed Federal, State and County laws requiring inspection of all plants and planting materials for plant disease and insect control.

F. Delivery, Storage, and Handling:

1. Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of conformance with state and federal laws if applicable.
2. Bulk Materials:

a. Do not dump or store bulk materials near structures, utilities, walkways or pavements, or on existing turf areas or plants.
b. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
c. Accompany each delivery of bulk fertilizers and soil amendments with appropriate certificates.

G. Plant Material:

1. Conform to the current edition of Horticultural Standards for quality of Number 1 grade nursery stock as adopted by the American Association of Nurserymen. Conform to sizes specified on plant legend. Select plants which have a natural shape and appearance.
2. Select only plants that are true to name, and tag one of each bundle or lot with the name of the plant in accordance with the standards of practice of the American Association of Nurserymen. In all cases, botanical names shall take precedence over common names.
3. Tag each plant of a patented variety with the variety and identification number, where applicable, as it is delivered to the job site.
4. Select only plants which have been nursery-grown in accordance with good horticultural practices and which have been grown under climatic conditions similar to those in the locality of the project for at least one year.
5. Select only plants which are typical of their species or variety; have normal habits of growth; are sound, healthy, vigorous, well-branched and densely-foliated when in leaf; are free of disease, insect pests, eggs or larvae; and have a healthy and well-developed root system.
6. Select only container stock that has been grown in the containers in which delivered for at least six (6) months, but not over two (2) years. Provide samples to show that there are no root-bound conditions.
7. Do not use plants that are severely pruned or headed-back to meet size requirements.
8. Do not plant container-grown plants that have cracked or broken balls of earth when taken from the container. Remove canned stock carefully from cans after containers have been cut on two sides with tin snips or other approved cutter.
9. Coordinate a time for the Landscape Architect to inspect the plants upon their delivery to the project site.
10. At any time prior to final acceptance, be prepared to replace any plants that are rejected by the Owner's Representative because of physical damage to the plant.
11. Do not remove container-grown stock from containers before time of planting.
12. Be prepared to replace plants which are rejected by the Owner's Representative for the following reasons:

    a. Trunk bark damage caused by sunburn,
    b. Trunk bark wounds caused by rubbing stakes or ties,
    c. Trunk bark damage caused by ties that have girdled the tree,
    d. Tree head development that is lopsided and not symmetrical in form,
    e. Tree branches that cross or touch,
    f. Tree branches with double leaders (unless multi-trunk trees are specified).

13. Stake shrubs with one-inch by one-inch by eighteen-inch (1"x1"x18") stakes in such manner that the stakes are not visible, and tie to upright position if they lean and/or are not growing in a vertical position.
14. Furnish quantities necessary to complete the work as shown on the Drawings and, if necessary, make up for any discrepancies in the quantities given in the Plant List at no additional cost to Owner.

H. Decomposed Granite with Binder Mock-up:

1. Install 4 ft wide x 10 ft long mock-up of decomposed granite with Stabilizer additive at location as directed by owner's representative for review and acceptance prior to

placement of decomposed granite.

I. Comply with the requirements of Section 01 77 00 – Closeout Procedures.

1.04 INSPECTION REQUIREMENTS

A. Landscape Architect reserves the right to examine and reject plant material both at place of growth and at site, before and after planting, for compliance with requirements of name, variety, size, and quality.

B. Request and hold a pre-construction meeting prior to beginning the work of this Section. Parties required to be in attendance are the Landscape Contractor, Project Inspector, Owner's Representative, and Landscape Architect.

C. Obtain verification from Project Inspector for the following at the appropriate times during construction and prior to further progression of work in this Section:

1. Rough grading is to tolerances specified in Section 31 00 00 – Earthwork.
2. The placement of landscape backfill material is as specified in this Section.
3. Prior to the commencement of the work specified in this Section, the coverage and operation of the sprinkler irrigation system are as specified in Section 32 80 00 - IRRIGATION.
4. The soil amendment does not include any metal fragments. (Obtain a letter from the manufacturer stating that the material submitted for use on this project has no metal or foreign objects. Submit this letter as part of the Data Sheet submittal package [see "Submittals and Substitutions" in this Section])
5. Required Test: For each load of soil amendment delivered to the site, spread at least two cubic yards (2 cy) of material onto a paved surface approximately two inches (2") deep. Pass a magnetic rake over the material in two directions. If any metal is found, test the entire load in the same manner. Perform all testing in the presence of the Project Inspector.
6. Soil amendments, fertilizer, bark mulch and materials used for hydroseeding have been delivered to the site by the supplier, the invoices from the supplier indicate the project name and quantities delivered, and the Project Inspector has received copies of all such documents.
7. Prior to planting, amendments and conditioners have been incorporated as per pre-planting recommendations, and planting areas have been made ready to receive planting.

D. In case of failure to obtain any verification by the Project Inspector as required above, remove and replace work as necessary to obtain the verification at no additional cost to the Owner.

E. Beginning of Maintenance Period: Verify all work is complete, then request and hold a meeting to include the Landscape Architect, Project Inspector, Architect and Owner's Representative for authorization to begin the landscape maintenance period.

F. End of Maintenance: Verify that all work is complete and acceptable, and that the maintenance has been completed per specifications; and continue to provide landscape maintenance until the Owner's Representative has accepted the work.

1.05 PROJECT/SITE CONDITIONS

A. Provide protection for persons and property throughout progress of work. Use temporary barricades as required. Proceed with work in such manner as to minimize spread of dust and flying particles and to provide safe working conditions for personnel. Store materials and equipment where directed.

B. Existing Construction: Execute work in an orderly and careful manner to protect paving, work of other trades, and other improvements.

C. Existing Utilities: Provide protection for existing utilities within construction area. At no additional cost to Owner, repair any damages to utility lines that occur as a result of this work.

D. Landscaping: Protect landscape work and materials from damage due to landscape operations, operations by other contractors and trades, and trespassers. Maintain protection during installation and maintenance periods.

E. Paving: Maintain cleanliness of paving areas and other public areas used by equipment, and immediately remove spillage; remove rubbish, debris, and other material resulting from landscaping work, leaving site in a safe and clean condition.

F. Planting Schedule / Environmental Requirements

1. Install, establish, and maintain all lawn areas for a minimum of ninety (90) days prior to date of substantial completion. Coordinate schedule with other work and overall project schedule. Failure to install lawn areas by this date shall result in assessment of liquidated damages.
2. Proceed with work in an orderly and timely manner to complete installation of landscaping within contract limits.
3. Planting Season Limits: Do not plant when grounds are wet or temperature is below 25° F. Do not proceed with any soil preparation and fertilization if all planting cannot be completed within Planting Season Limit.

1.06 WARRANTY

A. The guarantee period for lawn and plant material shall be the duration of the landscape maintenance period, from commencement until final acceptance of the work of this Section. See Division 01 for other applicable guarantee requirements.

B. During the guarantee period, repair and/or replace plants and lawn not in satisfactory growing condition, as determined by Owner’s Representative, without additional cost to Owner. Plants are to be replaced as per Section 32 01 90 – Landscape Maintenance.

C. DuraEdge Infield Mix installation shall be warrantied for 5 years.

1.07 MAINTENANCE

A. Refer to Section 32 01 90 – Landscape Maintenance

PART 2 - PRODUCTS

2.01 MATERIALS

A. Use material in new and perfect condition as specified. Any deviations or substitutions from the Specification and Drawings must first be approved by Owner's Representative in writing prior to use.

B. Topsoil: Fertile; friable; natural loam surface soil; reasonably free of subsoil, clay lumps, brush, weeds and other litter; and free of roots, stumps, stones/rocks, and other extraneous or toxic matter harmful to plant growth.

C. Soil Amendment: One-percent nitrogen-impregnated bark product with a ninety-percent (90%) bark base and zero to one-quarter inch (0-1/4") particle size, or approved equivalent. Do not spread until testing requirements have been satisfied.

D. Fertilizer/Soil Conditioner: Gro-Power Plus or approved equal.

E. Fertilizer for Trees and Shrubs: Seven-gram Gro-Power Planting Tablets (12-8-8 NPK) or approved equal.

F. Vitamin B-1: "Superthrive", "Liquinox Start", "Cal-Liquid", or approved equal.

G. Bark Mulch: Untreated, shredded cedar.

H. Tree-staking System: As indicated on Drawings.

I. Pre-Emergent Weed Control: Oxadiazon, "Treeflan", "Ronstar 2G", "Surflan" (Elano Products Company), or approved equal.

J. Decomposed Granite:

1. Reddish-brown in color.
2. A mixture of fines to three-eighths inch (3/8") size particles with no clods.
3. Free of vegetation, other soils, debris and rocks, and of such nature that it can be compacted readily under watering and rolling.

K. Decomposed Granite Binder: Shall be Stabilizer by Stabilizer Solutions.

L. Infield Mix: DuraEdge Classic Infield Mix, or approved equal.

M. Infield Topdressing: DuraEdge Play Ball, or approved equal.

N. Fieldstones: As indicated on Drawings.

O. River Cobble: As indicated on Drawings.

P. Erosion Control Blankets: The erosion control/re-vegetation blanket shall be lightweight and comprised primarily of straw, excelsior, virgin wood fiber, jute or coconut fibers. It shall conform

easily to the soil surface allowing vegetation to emerge unimpeded, contain no growth-inhibiting additives and shall be free of weed-seed and other contaminants. The blanket shall be designed to be left in place to degrade. Include manufacturer's recommended biodegradable staples, six inches (6") long.

Q. Jute Mesh: Shall be of a uniform, open, plain weave, flame-retardant mesh, made from unbleached single jute yarn. The shall be of loosely twisted construction and shall not vary in thickness by more than one-half its normal diameter. Jute mesh shall be furnished in rolled strips and shall meet the following requirements.

1. Width: 48 inches, with a tolerance of +/- one inch.
2. 78 warp ends per width, 41 weft ends per yard.
3. Weight shall average 1.22 pounds per linear yard, with a tolerance of +/- 5%.
4. Jute Mesh staples: 18" long, #10 steel wire.

R. Weed Fabric: As indicated on Drawings.

S. Header Boards: As indicated on Drawings.

T. Root Barrier: As indicated on Drawings.

U. Nonwoven Geotextile Filter Fabric: Polypropylene or polyester fabric, three ounces per square yard (3 oz/sq. yd.) (101 g./sq. m.) minimum, composed of fibers formed into a stable network so that fibers retain their relative positions. Fabric shall be inert to biological degradation and resistant to naturally-encountered chemicals, alkalis, and acids.

V. Nursery Plant Stock:

1. As indicated on Drawings. Do not remove container-grown stock from containers until planting time. Plants shall be true to name.
2. Healthy, shapely, well-rooted, not pot-bound, free from insect pests or plant diseases and properly "hardened off" before planting. Replace plants that are not alive or are not in satisfactory growing condition, as determined by the Landscape Architect, without additional cost to Owner. The Landscape Architect may reject plants before and/or after planting.
3. Labeled. Label at least one tree and one shrub of each species with a securely-attached, waterproof tag bearing legible designation of botanical and common name.

W. Lawn Sod:

1. April 1st thru September 30th Installation: One Hundred percent (100%) Hybrid Bermuda.
2. October 1st thru March 31st Installation: One Hundred percent (100%) Hybrid Bermuda, overseeded with rye grass.

X. Lawn Hydroseed: Premium, new crop seed, delivered to site in original, unopened containers bearing a dated guaranteed analysis. Hydroseed may be installed April 15 thru July 31st only. Hydroseed mixture shall be as follows:

1. Seed: Double Play Bermuda Grass seed blend
2. Starter Fertilizer: 16-20-0 with biosolids or approved equal.
3. Wood Fiber Mulch: As manufactured by Conwed or approved equal.
4. Soil Binding Agent: Polyacrylamide or approved equal.
5. Herbicide: Tenacity or approved equal.

Y. Bermuda Sprigs: Healthy lateral living stems, rhizomes, or stolons, four to six inches (4" - 6") long with leaves or a minimum of two nodes and attached roots free of soil.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine the site, verify grade elevations, and observe conditions under which work is to be performed. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to the Owner's Representative.

B. Proceed with complete landscape work as rapidly as portions of the site become available, working within seasonal limitations for each kind of landscape work required.

C. Determine location of underground utilities and perform work in a manner which will avoid possible damage. Hand-excavate, as required, to minimize possibility of damage to underground utilities. Maintain grade stakes set by others until removal is mutually agreed upon by parties concerned.

D. When conditions detrimental to sod or plant growth are encountered, such as rubble fill, adverse drainage condition, or other obstructions, notify the Owner's Representative before planting.

3.02 PREPARATION

A. Soil Testing

1. Coordinate soil testing in an expeditious and timely manner as required for on-site topsoil materials. Contract with a soil laboratory and include cost of sampling and testing in contract price. Take one (1) sample for every 5,000 square feet of landscape area up to a maximum of six (6) samples under the direction of and in the presence of the Owner's Representative.
2. Submit each sample, according to the quantity of soil required by testing laboratory, to a competent laboratory approved by the Owner's Representative.
3. Provide analysis of soil samples for pH, salinity, ammonia, phosphate, potassium, calcium, magnesium, boron, and sodium levels. Provide appraisal of chemical properties, including particle size determination, and recommendations for types and quantities of amendments and fertilizers.

B. Clearing of Vegetation:

1. If live perennial weeds exist on site at the beginning of work, spray with a non-selective systemic contact herbicide as recommended and applied by an approved licensed

landscape pest control advisor and applicator. Leave sprayed plants intact for at least 15 days.

2. Clear and remove existing weeds by mowing or grubbing off all plant parts at least one-quarter inch (¼") inch below surface of soil over entire areas to be planted.

C. Soil preparation:

1. Loosen soil in all planting areas, and on slopes flatter than 3:1 gradient, to a depth of six to eight inches (6" - 8") below finish grade. All debris, foreign matter, and stones shall be removed prior to the placing of any fertilizers or conditioners. Soil preparation is for all shrub planting beds, lawn hydroseeded areas and sodded lawn areas.
2. Conduct the required soil tests and instruct the lab to include a minimum of the following soil improvements in the recommendation on the soils report.

    a. Soil Amendment: Two cubic yards (2 cy) per 1,000 square feet.
    b. Gro-Power Plus: One hundred fifty pounds (150 lbs) per 1,000 square feet.
    c. If the lab recommends less than six cubic yards (6 cy) of soil amendment, the excess bid amount shall be applied to the cost of any additional recommended soil improvements, or returned to the Owner as a credit

3. Apply amendments as follows, using rates recommended by the soils testing laboratory (the rates of amendments shown below are for bidding purposes only):

    a. Fertilizer/Soil Conditioner: Broadcast 150 pounds of Gro Power Plus per 1,000 square feet in all planting areas and rototill to a depth of six to eight inches (6" - 8"). Remove from the site any rock and debris brought to the surface by cultivations. "Cultipack" all areas to receive sod or hydroseed.
    b. Apply soil amendment to all planting areas at the rate of six cubic yards (6 cy) per 1,000 sf and rototill into the top six to eight inches (6" – 8").

4. Upon completion of finish grading, request a review and obtain approval of Landscape Architect prior to commencement of planting or hydroseeding.

D. Finish Grading for all Planting areas

1. Refer to Earthwork Specification Section for Rough Grading.
2. Grade to elevations and contours shown on Drawings. Fill low spots with landscape backfill material and grade to surface drain in manner indicated on Drawings.
3. Finish-grade so that the entire area within the contract lines has a natural and pleasing appearance as specified and as directed by Landscape Architect.
4. Adjust sprinkler heads flush to finish grade in preparation to receive hydroseeding or one-half inch above finish grade in preparation to receive sod. Reset sprinkler heads flush to grade after turf has germinated.
5. Flag the sprinkler heads and valve markers.

E. Planting Pits for Trees:

1. Excavate pits with vertical sides and with bottom of excavation slightly raised at center to

provide proper drainage.

2. Set container-grown stock in center of pit on earth pedestal. Separate roots and/or prune roots as directed by Landscape Architect. In hot weather, pre-wet pit. Loosen outside roots from sides and bottom of root ball. When set, place additional backfill around base and sides of root ball. Work each layer to settle backfill and eliminate voids and air pockets. Water after placing final layer of backfill.
3. Loosen hard subsoil in bottom of excavation. Extend excavation as required to insure proper drainage from plant pits.
4. Fill excavated planting pits with water to half the depth of pit. Pits should drain within four hours (4 hrs). If planting pits do not drain, notify Project Inspector immediately. Do not proceed with planting until Landscape Architect has resolved a method to provide drainage.

F. Planting Pits for Shrubs/Groundcover:

1. Excavate pits and trenches with vertical sides and with bottom of excavation slightly raised at center to provide proper drainage.
2. Loosen hard subsoil in bottom of excavation. Extend excavation as required to insure proper drainage from plant pits.
3. Fill excavated planting pits with water to half the depth of pit. Pits should drain within four hours (4 hrs). If planting pits do not drain, notify Project Inspector immediately. Do not proceed with planting until Landscape Architect has resolved a method to provide drainage.

3.03 INSTALLATION

A. Root Barrier

1. Root barriers location are specifically shown on the plan. If a tree is moved during construction to a location where root barrier is not shown on the plan, the following minimum requirements are to be met:

    a. Install root barrier where trees are planted within sixty inches (60”) of paving or other hardscape elements, such as walls, curbs, and walkways.
    b. Install root barrier continuously for a distance of five feet (5’) in each direction from the tree trunk, for a total distance of ten feet (10’) per tree. If trees are spaced closer, use a single continuous piece of root barrier.

2. Align root barrier vertically and run it linearly along and adjacent to the paving or other hardscape elements to be protected from invasive roots.
3. Position top of root barrier just below the top of adjacent hardscape element but above finish grade of the soil so that is visible.
4. If there are concrete spoils or overpour that is impeding the root barrier from being installed directly adjacent to the hardscape element, the contractor is to remove the extra concrete in a manner that does not damage the integrity of the hardscape element.
5. Do not distort or bend root barrier during construction activities.
6. Do not install root barrier surrounding the root ball of tree.

B. Lawn Hydroseeding:

1. Do not begin hydroseeding until finish-grading has been checked by Landscape Architect. If work is rejected due to failure to obtain Landscape Architect's approval prior to hydroseeding, redo rejected work at no additional cost to Owner.
2. General: Hydroseeding is an artificial planting process which provides vegetation to an area by using a mixture of soil conditioner/fertilizer, seed, binder, and wood fiber mulch. This mixture should be of such character that it will disperse into a uniform slurry when mixed with water in a mechanical mixer.
3. Equipment: Use a standard hydraulic mulching machine with a continuous agitation system that keeps material in uniform suspension throughout mixing and distribution cycles and with a minimum mixing tank capacity of 500 gallons (3,000+ sq. ft. of coverage).
4. Mix per 1,000 square feet:

a.	Lawn Seed	5 lbs.
b.	Starter Fertilizer	25.0 lbs.
c.	Wood Fiber Mulch:	45 lbs.
d.	Soil Binding Agent:	3 oz.
e.	Herbicide:	0.7 oz.

5. Application: Spray the slurry mix, under pressure, uniformly over the soil surface in a one-step operation. Protect adjacent paving, building walls, etc.
6. Clean any overspray from surfaces at end of each day's work.
7. Permit slurry to "set" approximately twenty-four hours (24 hrs.) before watering. Once watering has begun, do not allow newly hydroseeded areas to dry out.

C. Irrigated Bio-Swale Hydroseeding:

1. Do not begin hydroseeding until finish-grading has been checked by Landscape Architect. If work is rejected due to failure to obtain Landscape Architect's approval prior to hydroseeding, redo rejected work at no additional cost to Owner.
2. General: Hydroseeding is an artificial planting process which provides vegetation to an area by using a mixture of soil conditioner/fertilizer, seed, binder, and wood fiber mulch. This mixture should be of such character that it will disperse into a uniform slurry when mixed with water in a mechanical mixer.
3. Equipment: Use a standard hydraulic mulching machine with a continuous agitation system that keeps material in uniform suspension throughout mixing and distribution cycles and with a minimum mixing tank capacity of 500 gallons (3,000+ sq. ft. of coverage).
4. Mix per 1,000 square feet:

a.	Lawn Seed	3.25 lbs.
b.	Starter Fertilizer	20.0 lbs.
c.	Wood Fiber Mulch:	75.0 lbs.

5. Application: Spray the slurry mix, under pressure, uniformly over the soil surface in a one-step operation. Protect adjacent paving, building walls, etc.
6. Clean any overspray from surfaces at end of each day's work.
7. Permit slurry to "set" approximately twenty-four hours (24 hrs.) before watering. Once

watering has begun, do not allow newly hydroseeded areas to dry out.

D. Non-Irrigated Bio-Swale Hydroseeding:

1. Do not begin hydroseeding until finish-grading has been checked by Landscape Architect. If work is rejected due to failure to obtain Landscape Architect's approval prior to hydroseeding, redo rejected work at no additional cost to Owner.
2. General: Hydroseeding is an artificial planting process which provides vegetation to an area by using a mixture of soil conditioner/fertilizer, seed, binder, and wood fiber mulch. This mixture should be of such character that it will disperse into a uniform slurry when mixed with water in a mechanical mixer.
3. Equipment: Use a standard hydraulic mulching machine with a continuous agitation system that keeps material in uniform suspension throughout mixing and distribution cycles and with a minimum mixing tank capacity of 500 gallons (3,000+ sq. ft. of coverage).
4. Mix per 1,000 square feet:

a.	Lawn Seed	3.25 lbs.
b.	Starter Fertilizer	20.0 lbs.
c.	Wood Fiber Mulch:	75.0 lbs.

5. Application: Spray the slurry mix, under pressure, uniformly over the soil surface in a one-step operation. Protect adjacent paving, building walls, etc.
6. Clean any overspray from surfaces at end of each day's work.

E. Lawn Sod:

1. Cultivate all lawn areas to a depth of six inches (6"). If cultivation does not break lumps, pull a spike-toothed harrow over the area behind the tractor.
2. Give all lawn areas that are to be sodded a smooth finish to prevent pockets. Do not allow any abrupt changes of surface. Prior to installation of sod, roll the grade with a 200-pound water-ballast roller. Request that the lawn grade be inspected and approved by the Landscape Architect prior to sodding to determine its suitability for planting. Obtain such approval prior to commencing sodding operations.
3. Do not take heavy objects (except lawn rollers) over lawn areas after they have been prepared for planting.
4. Completely lay the sod within twelve hours (12 hrs.) of delivery. Do not leave sod on pallets in the hot sun longer than necessary.
5. Unroll sod carefully. Lay sod tight without any visible open joints, and without overlapping; stagger end joints twelve inches (12") minimum. Do not stretch or overlap sod pieces. Do not place sod in pieces smaller than twenty-four inches (24") in length by width of roll.
6. When new sod is to match existing turf, cut the edge of the existing turf in a series of straight lines that will accept new sod rolls in full width of the sod roll. Make the transition of grade between existing turf and new sod to be seamless with no change in elevation.
7. Immediately after laying sod, roll lawn areas with a 200-pound water-ballast roller.
8. Trim sod to conform to lawn shapes designated in Drawings.
9. On slopes of six inches (6") per foot and steeper, lay sod perpendicular to slope and secure every row with wooden pegs at a maximum of two feet (2') on center. Drive pegs flush

with soil portion of sod.

10. Ensure that finished appearance is that of one continuous lawn.
11. Do not lay whole lawn before watering. When a conveniently large area has been sodded, water lightly to prevent drying. Continue to lay sod and to water until installation is complete.
12. All sod areas must be approved by Landscape Architect.
13. Water the complete lawn surface thoroughly. Moisten soil at least eight inches (8”) deep. Repeat sprinkling at regular intervals to keep sod moist at all times until rooted. After sod is established, decrease frequency and increase amount of water per application as necessary.

F. Lawn Bermuda Sprigging: Plant freshly shredded sod sprigs after finish grade is properly prepared and thoroughly soaked a day in advance. Plant sprigs at a rate of [rate] deep. Place individual sprigs with roots and portions of stem in moistened soil [rate] apart in rows [rate] apart, and fill furrows without covering growing tips. Lightly roll and firm soil around sprigs after planting. Water thoroughly and keep soil moist. Weed by hand or hoe. Do not treat sprig area with herbicide.

G. Trees, Shrubs, and Groundcover:

1. Lay out individual tree and shrub locations and areas for multiple plantings. Stake the locations, outline the areas, and secure the Owner’s Representative's acceptance before beginning the planting work. Make minor adjustments as requested.
2. Scarify root ball prior to planting. Plant in holes twice the diameter of the root ball and to a depth equal to the container’s height. Place the shrub and/or groundcover so the top of the root ball is one inch (1”) higher than the surrounding grade; place the tree so that the crown of the trunk is two inches (2") higher than the surrounding grade. Set container-grown stock in center of pit. In hot weather, pre-wet the pit. When set, place additional backfill around base and sides of root ball. Work each layer to settle backfill and eliminate voids and air pockets. Thoroughly compact lower half of backfill in plant pit. See staking or guying detail. Water after planting. Provide a berm or watering basin for each tree. Add Vitamin B-1, in the proper solution as recommended by the manufacturer, to the second watering of the basin.
3. Place fertilizer planting tablets in root zone and alongside each plant. Follow manufacturer's instructions for number of tablets to use for each container size.
4. See Drawings for additional information.
5. Grooming and Staking of Trees:

    a. Prune, thin-out and shape trees in accordance with standard horticultural practice. Prune trees to retain required height and spread. Unless otherwise directed by Landscape Architect, do not cut tree leaders, and remove only injured or dead branches from flowering trees.
    b. Paint cuts over one-half inch (½”) in size with standard tree paint or compound, covering exposed, living tissue. Use paint that is waterproof, antiseptic, adhesive, elastic and free of kerosene, coal tar, creosote, and other substances harmful to plants. Do not use shellac.
    c. Stake or guy trees immediately after planting, as indicated on Drawings.

6. Grooming of Shrubs:

a. Prune, thin-out and shape shrubs in accordance with standard horticultural practice. Prune shrubs to retain natural character and to accomplish their use in landscape design. The required plant size is its size after pruning.
b. Remove and replace excessively pruned or malformed new plants resulting from improper pruning.

7. Request review by the Landscape Architect after locating, but prior to planting all trees. Under the direction of the Landscape Architect, make slight adjustments to plant material location as necessary to reflect original intention of Drawings.

H. Weed Control

1. Apply pre-emergent weed control to all planting areas (except lawn) after completion of all planting and one complete watering. Follow manufacturer's directions. To prevent washing away of weed control, do not over-water after its application. Do not allow any weed control into lawn areas. Treat any existing noxious weeds, such as Johnson grass, with Roundup in successive treatments until all roots are destroyed, then remove all grass and roots. Notify Owner’s Representative of time of installation for verification of application.

I. Bark Mulch

1. Apply mulch at the rate of three inches (3") deep to all planting areas, exclusive of lawn, after the planting and weed control are completed. Twelve inches (12”) from planter edges, taper full depth of mulch to meet adjacent grades. Do not place mulch within three inches (3”) of trunk or stems.

J. Decomposed Granite

1. Prepare all areas to receive decomposed granite, and treat sub-grade with weed control.
2. Install a two-inch (2") lift, and wet and roll to compact to ninety percent (90%).
3. Install the remaining material to achieve the required thickness when it is wet and rolled.
4. Remove all weed grass and re-compact the surface by the end of the landscape maintenance period.

K. Decomposed Granite With Binder

1. General: Prepare all areas to receive decomposed granite, and treat sub-grade with weed control.
2. Placement:

a. Do not install during rainy conditions or below 40 degree Fahrenheit and falling.
b. After pre-blending, place the Stabilized decomposed granite on prepared sub-grade. Level to desired grade and cross section.
c. Water heavily for full-depth moisture penetration of the Stabilized pathway profile, 25 to 45 gallons of water per 1-ton must be applied. During water application randomly test for depth using a probing device, which reaches full depth.

3. Compaction:

    a. Upon thorough moisture penetration, compact aggregate screening to 85% relative compaction by equipment such as; a 2 to 4-ton double drum roller or a 1,000-lb. single drum roller. The roller size will depend on the depth of the pathway. DO NOT use a vibratory plate compactor or vibration function on roller as vibration separates large aggregate particles. Do not begin compaction for 6 hours after placement and up to 48 hours.
    b. If surface aggregate dries significantly quicker than subsurface material, lightly mist surface before compaction.
    c. Take care in compacting decomposed granite when adjacent to planting and irrigation systems. Hand tamping with an 8” or 10” hand tamp recommended.

4. Inspection:

    a. Finished surface of pathway shall be smooth, uniform and solid. There shall be no evidence of chipping or cracking. Cured and compacted pathway shall be firm throughout profile with no spongy areas. Loose material will not be present on the surface after installation, but may appear after use and according to environmental conditions. Pathway should remain stable underneath the loose granite on top. Any significant irregularities in path surface shall be repaired to the uniformity of entire installation.

5. Repairs:

    a. Excavate damaged area to the depth of the stabilized decomposed granite and square off sidewalls.
    b. If area is dry, moisten damaged portion lightly.
    c. Pre-blend the dry required amount of Stabilizer powder with the proper amount of decomposed granite in a concrete mixer.
    d. Add water the pre-blended decomposed granite and stabilizer. Thoroughly moisten mix with 25 to 45 gallons per 1-ton of pre-blended material or to approximately 10% moisture content.
    e. Apply moistened pre-blended decomposed granite to excavated area to finish grade.
    f. Compact with an 8”-10” hand tamp or 250 to 300-pound roller. Keep traffic off area for 12 to 48 hours after repair has been completed.

6. Upon end of landscape maintenance period, all weed/grass shall have been removed and surface re-compacted.

L. Infield Mix

1. See section 1.03, Quality Assurance, for contractor qualifications.
2. Contractor shall layout the infield, identifying home plate, all bases, and pitching rubber. Install home plate, base pins and pitching rubber. If equipment is not specified locations to be marked with a ¾” diameter x 12” long galvanized pipe. Pipe to be buried in the ground, so the top is flush with finish grade.

3. Contractor shall layout edge of infield with white marking paint the edge of infield.
4. Infield mix to be thoroughly blended by the supplier prior to delivery to the site. Delivery tickets showing quantities and mixture shall be given to landscape architect.
5. When layout of infield has been completed and verified by landscape architect, contractor shall excavate all areas to receive infield mix to a 4" depth. Excess soil shall be distributed on site.
6. .Place the material in lifts of 2 to 3 inches and lightly compact until an optimum compaction between 85 and 90 percent is achieved on a standard proctor test (ASTM D 689-07). Scarify the surface to facilitate bonding of the next list and repeat until finish grade elevation is achieved. Completing this process as described will minimize settling and improve the performance of the product.
7. If unable to achieve optimum compaction, a light application of water may be needed.
8. For best results, the material shall be finish graded with a laser device that allows accuracy to +/- 1/8 inch. A slope of ½ percent to 1 percent shall be placed in the infield surface in order to facilitate surface drainage.
9. The finish surface of the infield shall be smooth and free from any visible dips, humps, bumps, or other blemishes which would hinder the removal of water through positive surface drainage. A finished elevation survey shall be conduction to assure proper installation.
10. Following successful inspection, topdressing shall be applied to the surface at a rate of 1 pound per square foot.

M. Erosion Control Blanket

1. When planting operations have been completed and finish-grade has been re-established, request review of surface grade, and obtain approval of Landscape Architect before installation of blanket. Install material as per Drawings.

N. Jute Mesh

1. Jute mesh shall be installed at the locations shown on the plans.
2. Jute mesh shall be placed after cultivation and before planting. Soil surface should be reasonably smooth, remove rocks or other obstructions that rise above the level of the soil. Jute mesh shall be placed loosely on the finish grade up and down the slope in a manner to fit the soil surface contour and shall be held in place staples driven vertically into the soil at approximately 24" spacing and no more than 12" when overlapping mesh. Jute mesh strips shall be overlap along the sides by at least 6" and if more than one roll is required going down the slope, the ends going down the slope should overlap by at least 3'. Ends of strips shall be tucked into the soil by at least 6".

3.04 CLEANING

A. During construction, keep the site free of rubbish and debris, and clean up the site promptly when notified to do so. Take care to prevent spillage on streets from hauling and immediately clean up any such spillage and/or debris deposited on streets due to the work of this Section.

B. During all phases of the construction work, take all precautions to abate dust nuisance by clean-up, sweeping, sprinkling with water, or other means as necessary.

3.05 QUALITY CONTROL

A. Pre-maintenance review - At completion of this Section, work shall be reviewed to check conformance with Construction Documents. Acceptance shall mark beginning of the specified maintenance period. If acceptance is not given, a punch-list of items requiring attention will be issued to the contractor. One more review will be allowed after contractor certifies in writing that the punch-list has been completed. Punch-list shall be completed to the satisfaction of the District's Representative prior to commencement of the Specified Maintenance Period.

B. Refer to Section 32 01 90 – Landscape Maintenance.

END OF SECTION

SECTION 33 00 00

SITE UTILITIES

PART 1 - GENERAL

1.01 SUMMARY

A. SECTION INCLUDES:

1. Domestic water piping system.
2. Fire protection piping systems.
3. Sewer piping system.
4. Other water and sewer items that may be specified or shown on the drawings.

B. RELATED SECTIONS

1. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.
2. Section 01 50 00, Construction Facilities and Temporary Controls.
3. Section 31 23 33, Trenching and Backfilling.
4. Section 32 16 00, Site Concrete.
5. Section 33 00 00, Earthwork.

1.02 REFERENCES AND STANDARDS

A. ANSI/ASTM D698-00 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5 lb (2.49 Kg) Rammer and 12 inch (304.8 mm) Drop.

B. ANSI/ASTM D1556-00 - Test Method for Density of Soil in Place by the Sand-Cone Method.

C. ANSI/ASTM D1557-02 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb. (4.54 Kg) Rammer and 18 inch (457 mm) Drop.

D. ANSI/ASTM D 3017-05 Test Methods for Moisture Content of Soils and Soil-Aggregate Mixture by Nuclear Methods (Shallow Depth).

E. ANSI/ASTM D 4318-05 Test Method for Liquid Limit, Plastic Limit, and Plasticity Limit.

F. CALTRANS Standard Specifications.

G. CAL-OSHA, Title 8, Section 1590 (e).

H. Any work within the street, highway or right-of-way shall be performed in accordance with the requirement of the governmental agencies having jurisdiction, and shall not begin until all of those governing authorities have been notified.

I. NFPA 13, 24 and 25, latest editions.

J. California State Health and Safety Code Section 116875, Lead Free Public Water Systems.

K. California Plumbing Code, latest edition.

1.03 SUBMITTALS

A. Refer to Section 01 33 00.

B. Manufacturer's Data: Submit list and complete descriptive data of all products proposed for use. Include manufacturer's specifications, published warranty or guarantee, installation instructions, and maintenance instructions.

C. Provide sieve analysis from accredited testing lab on pipe bedding material. Analysis shall have a current date not older than project contract signing date.

D. Substitution: Provide all data of proposed material being submitted as a substitution. Provide comparison with specified product data and identify all differences. Failure to provide comparison will be reason for rejection.

1.04 QUALITY ASSURANCE

A. Use only new materials and products, unless existing materials or products are specifically shown otherwise on the drawings to be salvaged and re-used.

1. Sun damaged or discolored PVC pipe will be rejected.

B. All materials, components, assemblies, workmanship and installation are to be observed by the Owner's Inspector of Record. Work not so inspected is subject to uncovering and replacement.

C. The representatives of the Owner’s testing lab will not act as supervisor of construction, nor will they direct construction operations. Neither the presence of the Owner’s testing lab representatives nor the testing by the Owner’s testing lab shall excuse the contractors or subcontractors for defects or deficiencies discovered in their work during or following completion of the project. Correcting inadequate compaction is the sole responsibility of the contractor.

D. Contractor shall be solely responsible for all subgrades built. Any repairs resulting from inadequate compaction or incorrect grades will be the responsibility of the contractor.

E. Per 2016 NFPA 13 provide Contractor's material and test certificate to the Owner, Architect, Project Inspector and Local Fire Authority.

1.05 FEES, PERMITS, AND UTILITY SERVICES

A. Obtain and pay for permits and service charges required for installation of Work. Arrange for required inspections and secure written approvals from authorities having jurisdiction.

B. Upon completion of work within right-of-way, provide copies of written final approval to the

Architect.

1.06 DELIVERY, STORAGE AND HANDLING

A. Transport, store and handle in strict accord with the local jurisdiction.

B. Make delivery to job when notified by Contractor verifying that the job is ready to receive the work of this Section and that arrangements have been made to properly store, handle and protect such materials and work.

1.07 PROJECT CONDITIONS

A. Existing civil, mechanical and electrical improvements are shown on respective site plans to the extent known. Should the Contractor encounter any deviation between actual conditions and those shown, he is to immediately notify the Architect before continuing work.

B. Contractor shall acquaint himself with all site conditions. If unknown active utilities are encountered during work, notify Architect promptly for instructions. Failure to notify will make Contractor liable for damage to these utilities arising from Contractor's operations subsequent to discovery of such unknown active utilities.

1.08 WARRANTY

A. Refer to General Conditions and Section 01 78 36.

1.09 PROTECTION

A. Adequate protection measures shall be provided to protect workmen and passers-by on and off the site. Adjacent property shall be fully protected throughout the operations. Blasting will not be permitted. Prevent damage to adjoining improvements and properties both above and below grade. Restore such improvements to original condition should damage occur. Replace trees and shrubs outside building area disturbed by operations.

B. In accordance with generally accepted construction practices, the Contractor shall be solely and completely responsible for working conditions at the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and shall not be limited to normal working hours.

C. Any construction review of the Contractor's performance conducted by the Geotechnical Engineer is not intended to include review of the adequacy of the Contractor's safety measures, in, on, or near the construction site.

D. Provide shoring, sheeting, sheet piles and or bracing to prevent caving, erosion or gullying of sides of excavation.

E. Surface Drainage: Provide for surface drainage during period of construction in manner to avoid creating nuisance to adjacent areas. The contractor shall make a reasonable effort on a daily basis to provide pumps and all equipment necessary to keep all excavations and the site free from water

during entire progress of work, regardless of cause, source, or nature of water.

F. Adjacent streets and sidewalks shall be kept free of mud, dirt or similar nuisances resulting from earthwork operations.

G. The site and adjacent influenced areas shall be watered as required to suppress dust nuisance. Dust control measures shall be in accordance with the local jurisdiction.

H. Trees: Carefully protect existing trees that are to remain. Provide temporary irrigation as necessary to maintain health of trees.

1.10 SEASONAL LIMITS

A. No fill material shall be placed, spread or rolled during unfavorable weather conditions. When work is interrupted by rains, fill operations shall not be resumed until field tests indicate that moisture content and density of fill are satisfactory.

1.11 RECORD DRAWINGS

A. Keep a daily record of all pipe placed in ground, verified by Project Inspector.

B. Upon completion of this Contract, furnish one tracing showing all outside utility lines, piping, etc., installed under this Contract. Locate and dimension all work with reference to permanent landmarks.

C. All symbols and designations used in preparing "RECORD" drawings shall match those used in Contract drawings.

D. Properly identify on as-builts and provide dimensions for all stubs for future connections. Provide concrete markers 6” dia. 12” deep, flush with finish grade at the ends of all stubbed pipes.

PART 2 – PRODUCTS

2.01 MATERIALS - GENERAL

A. Provide each item listed herein or shown on drawings of quality noted or approved equal. All material shall be new, full weight, standard in all respects and in first-class condition. Insofar as possible, all materials used shall be of same brand or manufacture throughout for each class of material or equipment. Materials shall be of domestic manufacture and shall be tested within Continental United States.

B. Grade or quality of materials desired is indicated by trade names or catalog numbers stated herein.

C. Dimensions, sizes, and capacities shown are minimum and shall not be changed without permission of Architect.

D. All materials in this section used for any public water system or domestic water for human consumption shall be lead free.

1. For the purposes of this section, “lead free” means not more than 0.2 percent lead when used with respect to solder and flux and not more than 8 percent when used with respect to pipes and pipe fittings.
2. All pipe, pipe or plumbing fitting or fixtures, solder, or flux shall be certified by an independent American National Standards Institute (ANSI) accredited third party, including, but not limited to, NSF International, as being in compliance with this section.

E. All materials used for fire system piping shall be UL and FM approved.

2.02 VALVE BOXES

A. Provide at each valve 3” or smaller in size in ground an Oldcastle B1017 H20 rated valve box.

B. Provide at each valve 4” or greater in size in ground a Christy, Brooks, or equal to Christy G05CT.

C. All valve boxes shall have a cover marked for service, domestic water shall be marked “Water” and fire supply shall be marked “Fire”. Furnish extension handles for each size square nut valve, and provide “fork” handle for each size of “wheel handle” valve as required. Do not locate valve boxes in walk, or covered passages, curbs, or curb & gutters, unless necessary. If valve location is within concrete or asphalt paved surface valve box shall be as detailed on plans for such condition. Provide valve box extensions as required to set bottom of valve box to bottom of piping in which valve is installed. Provide Owner with set of special wrenches and/or tools as required for operation of valves.

2.03 PIPES AND FITTINGS

A. Sanitary Sewer: PVC sewer pipe and fittings with Ring-Tite joints, ASTM D3034 SDR35.

B. Domestic water Lines 3 1/2” and smaller: Type K copper tubing, hard temper, with wrought copper fittings.

C. Water lines 4” and larger: AWWA C-900 Class 150/DR18 with rubber gasket joints.

D. Fire lines 4” and larger: AWWA C-900 Class 200/DR14 with rubber gasket joints.

E. Solder: Lead Free. 95/5; 95% Tin / 5% Antimony.

F. Ductile Iron Pipe; Class 350, Cement Lined

G. Ductile Iron Pipe Fittings; AWWA C110, C153, Ebba Iron, Star Romac, Sigma, or approved equal.

H. Mechanical Fitting Bolts; Bolts and nuts shall be carbon steel with a minimum 60,000 psi tensile strength conforming to ASTM A 307, Grade A. Bolts shall be standard ANSI B1.1 Class 2A course threads. Nuts shall conform to ASTM A 563 and be standard ANSI B1.1, Class 2A course thread. All bolts and nuts shall be zinc coated.

I. Fasteners Anti-Rust Coatings; After assembly, coat all fasteners with an Asphaltic Bituminous coatings conforming to latest edition NFPA 24.

J. Ductile Iron Pipe Wrap; 8 mil polyethylene pipe wrap conforming to ANSI/AWWA C105/A21.5 standards.

K. Pipe Insulation; Pipe exposed to atmospheric conditions ½" thru 4" NPT; Johns Manville rigid fiberglass insulation, Micro Lok HP; Owens Corning Fiberglas SSL II; Conforming to ASTM C 612, Type 1A or type 1B.

L. Aluminum field applied pipe insulation jacket; comply with ASTM B209, ASTM C1729, ASTM C1371 Manufacturers; Childers Metals; ITW Insulation Systems Aluminum Jacketing; or an approved equal.

1. Finish shall be flat mill finish
2. Factory Fabricated Fitting Covers; 45 and 90 degree elbows, tee's, valve covers, end caps, unions, shall be of the same thickness and finish of jacket.
3. The fittings shall be composed of 2-pieces
4. Adhesives; per the manufacturers requirements
5. Joint Sealant; shall be silicone, and shall be aluminum in color.

M. Sewer Forced Main; HDPE, DR 11, color gray with green stripe by JM Eagle or approved equal.

2.04 SANITARY SEWER MANHOLES

A. Shall be constructed as shown on plan details.

2.05 CLEANOUTS

A. Cleanouts of same diameter as pipe up to 8" in size shall be installed in all horizontal soil and waste lines where indicated and at all points of change in direction. Cleanouts shall be located not less than 18" from building so as to provide sufficient space for rodding. No horizontal run over 100 feet shall be without cleanout whether shown on drawings or not.

B. All cleanout boxes shall be traffic rated with labeled lid, Christy G05CT or approved equal. Lid shall be vandal proof with stainless steel screws

2.06 UNIONS

A. Furnish and install one union at each threaded or soldered connection to equipment and 2 unions, one on each side of valves on pipes ½" to 3".

B. Locate unions so that piping can be easily disconnected for removal of equipment or valve. Provide type specified in following schedule:

Type of Pipe Union

Steel Pipe:	150 lb. Screwed malleable ground joint, brass, brass-to-iron seat, black or galvanized to match pipe.
Copper tubing:	Brass ground joint with sweat connections.

PVC Sch 80 pipe: PVC union, FIPT X FIPT

2.07 VALVES

A. Provide valves as shown and other valves necessary to segregate branches or units. Furnish valves suitable for service intended. Valves shall be properly packed and lubricated. Valves shall be non-rising stem. Place unions adjacent to each threaded or sweat fitting valve. Install valves with bonnets vertical. All valves shall be lead free.

B. Valves ½" thru 2"; shall be made of bronze, full size of pipe and lead free. Nibco S-113-FL Series; American G-300 Series; Matco 511 FL Series; Apollo 102T-FL Series. Brass valves of brass parts within valves will not be accepted.

C. Valves, 2 ½" thru 3" shall be class 150; Shall be made of bronze, full size of pipe; Jenkins Fig. 2310 J; Lunkinheimer Fig. 2153; Crane Fig. 437; Stockham Fig. B-128.

D. Valves, Flanged; 4" thru 12" Ductile Iron Resilient Wedge Gate Valve; Nibco F 609 RW; American 2500 Series; Kennedy 8561; Mueller 2360 Series.

2.07 TAPPING SLEEVE

A. Shall be used on pipe sizes 6" thru 12" and shall be made with stainless steel material including stainless steel bolts. Flanges shall be ductile iron or high carbon steel. Gaskets shall seal full circumference of pipe. Shall be manufactured for operating pressure of 200 psi, and shall pass test pressure of 300 psi. Romac SST series; Smithblair 662; Mueller H304; Ford "FAST" tapping sleeve.

2.08 SERVICE SADDLES

A. Shall be used on pipe size 2" thru 4". Body shall be made from ductile iron with epoxy coating or bronze. Cascade Style CSC-1; A.Y. McDonald model 3891 AWWA/3892 FNPT; Smith-Blair #317; Ford S70, S71, S90, (style B).

2.11 TRACER WIRE

A. No. 10 THW solid copper wire. Solder all joints

PART 3 - EXECUTION

3.01 DRAWINGS AND COORDINATION

A. General arrangement and location of piping, etc., are shown on Drawings or herein specified. Install work in accord therewith, except for minor changes that may be necessary on account of other work or existing conditions. Before excavation, carefully examine other work that may conflict with this work. Install this work in harmony with other craft and at proper time to avoid delay of work.

B. Verify invert elevations at points of connection to existing systems prior to any excavation. If invert elevations differ from that shown on drawings, notify Architect immediately.

C. In advance of construction, work out minor changes if conflicts occur with electrical or mechanical. Relocate services to suit actual conditions and work of other trades to avoid conflict therewith. Any adjustments or additional fittings to make adjustments shall not be cause for additional costs to the owner.

D. Execute any work or apparatus shown on drawings and not mentioned in specifications, or vice versa. Omission from Drawings or Specifications of any minor details of construction, installation, materials, or essential specialties does not relieve Contractor of furnishing same in place complete.

E. Graded pipes shall take precedence. If conflict should occur while placing the domestic water and fire service piping, the contractor shall provide any and all fittings necessary to route the water lines over or under such conflicting pipes at no additional costs to the owner.

3.02 ACCESS

A. Continuously check for clearance and accessibility of equipment or materials specified herein to be placed. No allowance of any kind shall be made for negligence on part of Contractor to foresee means of installing his equipment or materials into proper position.

3.03 EXCAVATING AND BACKFILLING

A. Excavation and Bedding:

1. General: Trench straight and true to line and grade with bottom smooth and free of irregularities or rock points. Trench width to be a minimum of 12" wider than outside diameter of pipe. Follow manufacturer's recommendations for use of each kind and type of pipe.
2. Bedding: Provide a bedding as noted on drawing details for the full length of the pipe. Bedding shall have a minimum thickness beneath the pipe of 4" or 1/8 the outside diameter of the pipe, whichever is greater. Provide bell holes and depressions for pipe joints only of size required to properly make joint.
3. If the trenches for the site utilities falls within areas to be lime treated, the piping shall be installed prior to any lime treatment operations, providing the elevation of the piping is below the treatment section.

    a. If trenching is necessary in areas that have been previously lime treated the contractor shall backfill the trench with class 2 aggregate base, with minimum section equal to the lime treated section and compacted to 95%.

B. Laying of Pipe:

1. General: Inspect pipe prior to placing. Sun damaged pipe will be rejected. Set aside any defective or damaged material. Do not place pipe in water nor place pipe when trenches or weather are unsuitable. Lay pipe bell upgrade, true to line and grade.

    a. Sewer pipe shall be laid in strict conformity to the prescribed line and grade, with grade bars set and each pipe length checked to the grade line. Three consecutive points on the same rate of slope shall be used at all times to detect any variation from a straight grade. In any case of discrepancy, work shall be stopped and the discrepancy immediately reported to the

Owner's Representatives. In addition, when requested by the Owner's Representative, a string line shall be used in the bottom of the trench to insure a straight alignment of the sewer pipe between manholes. The maximum deviation from grade shall not be in excess of 1/4 inch. In returning the pipe to grade, no more than ¼" depression shall result.

b. The Contractor shall expose the end of existing pipe to be extended, for verification of alignment and elevation, prior to trenching for any pipe which may be affected. All costs of such excavation and backfill shall be included in the price paid for the various items of work.

c. A temporary plug, mechanical type shall be installed on sewer pipe at the point of connection to existing facilities. If connecting to a public facility the plug shall conform to the requirements of the local jurisdiction. This plug shall remain in place until the completion of the balling and flushing operation.

2. Bell and Spigot Joints: Lubricate inside of bells and outside of spigots with soap solution. Wedge joints tight. Bell of bell and spigot pipe to be pointed upgrade.

C. Backfilling:

1. General: Do not start backfill operations until required testing has been accomplished.
2. Compaction and Grading: Remainder of backfill shall be in accordance with Section 31 23 33 – TRENCHING AND BACKFILLING.
3. If trenching in area previously lime or cement treated backfill top of trench section, same depth as lime or cement treatment with Class 2 Aggregate Base compacted to 95% minimum relative compaction.

3.04 INSTALLATION OF WATER PIPING

A. The contractor shall be responsible for determining the installed depth of all water piping, based on surfaces grades and minimum required depth of cover.

B. Immediately cap or plug ends of, and opening in, pipe and fittings to exclude dirt until final connections made. Use reducing fittings where any change in pipe size occurs. Bushings shall not be used.

C. General: Should existing conditions or other work prevent the running of pipes or the setting of equipment at the points indicated by drawings, changes as authorized by the Architect shall be made without additional cost to the Owner.

D. All bolts used on mechanical fittings shall be thoroughly coated with an asphaltic bituminous coating conforming to 2016 NFPA 24, 10.4.1.1.

E. All buried metal shall be incased with 8 mil polyethylene wrap so that no soil is in contact with metal. Ends of polyethylene wrap shall be taped to provide seal with pipe.

F. Do not install water lines in same trench with non-metallic sewer lines unless bottom of water pipe at all points is at least 12" above top of sewer line and water line is placed on solid shelf excavated at one side of common trench with a minimum of 12 inch horizontal separation.

G. Under no circumstance shall a fitting be located directly under a structural footing without prior

approval from the Architect.

H. In locations where existing domestic pipe is rerouted, the new pipe shall be assembled using restrained fittings at all joints including factory pipe joints. Tapped restrained blind flanges shall be temporarily installed at each end of the assembled pipes until testing and chlorination is completed and approved.

3.05 CLOSING IN OF UNINSPECTED WORK

A. Do not allow or cause work installed to be covered up or enclosed before it has been inspected, tested, and approved. Should work be enclosed or covered up before it has been approved, uncover work at own expense. After it has been inspected, tested and approved, make repairs necessary to restore work of other contractors to condition in which it was found at time of cutting.

3.06 CARE AND CLEANING

A. Repair or replace broken, damaged, or otherwise defective parts, materials, and work. Leave entire work in new condition satisfactory to Architect. At completion, carefully clean and adjust equipment, fixtures and trim that are installed as part of this work. Leave systems and equipment in satisfactory new operating condition.

B. Drain and flush piping to remove grease and foreign matter.

C. Sewer piping shall be balled and flushed.

D. Clean out and remove surplus materials and debris resulting from the work, including surplus excavated material.

E. Flush fire service piping in the presence of the project inspector. Flushing shall be continued for a sufficient time as necessary to ensure all foreign material has been removed. Flow rate shall be equal to site fire flow requirements.

3.07 SEWER INTERNAL INSPECTIONS

A. Upon completion of construction and prior to final inspection, the Contractor shall clean the entire new pipeline of all dirt and debris. Any dirt or debris in previously existing pipes or ditches in the area, which resulted from the new installation, shall also be removed. Pipes shall be cleaned by the controlled balling and flushing method. Temporary plugs shall be installed and maintained during cleaning operations at points of connection to existing facilities to prevent water, dirt, and debris from entering the existing facility.

B. Provide video inspection for all site sewer piping. If debris is found in line, contractor shall remove debris by necessary means and pipe shall be camera'd again to confirm the debris has been removed. Camera'ing shall be digitally recorded and provided to the District on a DVD or flash drive. Camera device shall be capable of directly recording information. Secondary devices shall not be accepted. Audio voice shall be recorded during each inspection by the operating technician and shall include sewer location, identification start and end points or cleanouts. Measurement for location of defects and actual length of pipe shall be by means of a calibrated meter on the camera with a

digital readout on the video monitor. In order to measure any sags or bellies in pipe, camera shall be equipped with a measuring device capable of accurately measuring the depth of standing water up to 3 inches.

3.08 TEST OF PIPING

A. Pressure Test piping at completion of roughing-in, in accord with following schedule, and show no loss in pressure or visible leaks after minimum duration or four (4) hours at test pressures indicated.

B. Chlorination tests shall be performed after all fixtures and any required mechanical devices are installed and the entire system is complete and closed up.

C. In cases where new domestic water piping is assembled for re-routing of existing domestic water pipe , the contractor shall perform the following testing prior to connecting the new water pipe to the existing system.

1. The pipe shall be pressure tested and per the test schedule.
2. The pipe shall be pressure tested down within the trench.
3. The contractor shall dig a temporary ditch below the existing pipe to drain to a sump that is lower than the bottom of the trench and to the side of the trench. The sump shall be 30% larger than the total volume of water within the testing pipe assembly.
4. After pressure testing and chlorination has taken place and accepted, the contractor shall drain the pipe into the sump and pump the sump out as it is filling.
5. The temporary test fittings at each end of the pipe assembly shall be removed and the final restrained couplings installed.
6. The existing piping shall be cut and the water within the pipe shall drain below the pipe to the temporary sump. Pump the sump as it is being filled up. Take extreme caution not to contaminate the existing pipe with any contaminates within the trench.
7. Before making the final coupling connections, the restrained couplings at each end of the new pipe shall be thoroughly swabbed inside the fitting with a solution of chlorine mixed with water at a rate of 1part chlorine to 4 parts potable water.
8. After final connections are made, a visual inspection shall be made after fittings are wiped off. If after 1 hr, no noticeable drips are noted the pipe can be backfilled.
9. The contractor shall flush all water piping affected by chlorination until it is within acceptable levels approved by certified testing lab.

TEST SCHEDULE

System Tested	Test Pressure PSIG Test With
Public water mains	Per local jurisdiction requirements.
Private domestic water piping and fire mains serving fire hydrants:	150 Lbs. Water 4 hrs.
Fire Protection Piping from PIV to fire riser:	200 Lbs. Water pressure, 4 hrs duration with no pressure loss.

Sanitary Sewer Piping:	Sewer system shall be tested for leakage per local jurisdiction requirements.

D. Testing equipment, materials, and labor shall be furnished by contractor.

3.09 WATER SYSTEM STERILIZATION

A. Public Water Mains: Shall be flushed and disinfected per the local jurisdiction requirements

B. Clean and disinfect all site water systems connected to the domestic water systems in accordance with AWWA Standard C651 and as required by the local Building and Health Department Codes, and EPA.

1. Clean and disinfect industrial water system in addition to the domestic water system.
2. Disinfect existing piping systems as required to provide continuous disinfection upstream to existing valves. At Contractors option, valves may be provided to isolate the existing piping system from the new piping system.

C. Domestic water sterilization shall be performed by a licensed “qualified applicator” as required by CAL-EPA Pesticide Enforcement Branch for disinfecting and sterilizing drinking water.

D. Disinfecting Agent: Chlorine product that is a registered product with Cal-EPA for use in California potable water lines, such as Bacticide, CAL-EPA Registration No. 37982-20001.

E. Contractor to provide a 1” service valve connected to the system at a point within 2’-0” of its junction with the water supply line. After sterilization is complete Contractor to provide cap at valve.

F. Sterilization Procedure to be as follows:

1. Flush pipe system by opening all outlets and letting water flow through the system until clear water flows from all outlets.
2. Inject disinfecting agent to provide a minimum chlorine residual concentration of at least 50 parts per million (ppm) of free chlorine at each outlet.
3. Provide sign at all outlets which reads “Water Sterilization in Progress – Do not operate”. Remove signs at conclusion of test.
4. Close all outlets and valves, including valve connecting to water supply line and 1” service valve. Retain treated water in pipe for a minimum of twenty-four hours. Should chlorine residual at pipe extremities be less than 50 PPM at this time, pipe shall be re-chlorinated. As an option, the water systems may be filled with a water-chlorine solution containing a minimum of 200 PPM of chlorine and allowed to stand for three hours.
5. After chlorination, flush lines of chlorinated water and refill from domestic supply. Continue flushing until residual chlorine is less than or equal to 0.2 ppm, or a residual the same as that of the test water.

G. Chemical and bacteriological tests shall be conducted by a state-certified laboratory and approved by the local authorities having jurisdiction.

H. Submit written report to Health Department as required by State Regulations. Provide a copy of report to Architect prior to completion of project.

I. The costs of sterilization and laboratory testing shall be paid for by the contractor.

3.10 CLEANING

A. Refer to Section 01 74 00.

B. Upon completion of work of this Section promptly remove from the working area all scraps, debris and surplus material of this Section.

END OF SECTION

SITE DRAINAGE

PART 1 - GENERAL

1.01 SUMMARY

A. SECTION INCLUDES:
1. Storm Drain piping, fittings, structures.

B. RELATED SECTIONS

1. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.
2. Section 01 50 00, Construction Facilities and Temporary Controls.
3. Section 31 23 33, Trenching and Backfilling.
4. Section 32 16 00, Site Concrete.
5. Section 33 00 00, Earthwork.

1.02 REFERENCES AND STANDARDS

A. ANSI/ASTM D698-00 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5 lb (2.49 Kg) Rammer and 12 inch (304.8 mm) Drop.

B. ANSI/ASTM D1556-00 - Test Method for Density of Soil in Place by the Sand-Cone Method.

C. ANSI/ASTM D1557-02 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb. (4.54 Kg) Rammer and 18 inch (457 mm) Drop.

D. ANSI/ASTM D3017-05 Test Methods for Moisture Content of Soils and Soil-Aggregate Mixture by Nuclear Methods (Shallow Depth).

E. ANSI/ASTM D4318-05 Test Method for Liquid Limit, Plastic Limit, and Plasticity Limit.

F. CALTRANS Standard Specifications.

G. CAL-OSHA, Title 8, Section 1590 (e).

H. Any work within the street, highway or right-of-way shall be performed in accordance with the requirement of the governmental agencies having jurisdiction, and shall not begin until all of those governing authorities have been notified.

I. NFPA 13, 24 and 25, latest editions.

J. California State Health and Safety Code Section 116875, Lead Free Public Water Systems.

K. California Plumbing Code, latest edition.

1.03 SUBMITTALS

A. Refer to Section 01 33 00.

B. Manufacturer's Data: Submit list and complete descriptive data of all products proposed for use. Include manufacturer's specifications, published warranty or guarantee, installation instructions, and maintenance instructions.

C. Provide sieve analysis from accredited testing lab on pipe bedding material. Analysis shall have a current date not older than project contract signing date.

D. Substitution: Provide all data of proposed material being submitted as a substitution. Provide comparison with specified product data and identify all differences. Failure to provide comparison will be reason for rejection.

1.04 QUALITY ASSURANCE

A. Use only new materials and products, unless existing materials or products are specifically shown otherwise on the drawings to be salvaged and re-used.

1. Sun damaged or discolored PVC pipe will be rejected.

B. All materials, components, assemblies, workmanship and installation are to be observed by the Owner's Inspector of Record. Work not so inspected is subject to uncovering and replacement.

C. The representatives of the Owner’s testing lab will not act as supervisor of construction, nor will they direct construction operations. Neither the presence of the Owner’s testing lab representatives nor the testing by the Owner’s testing lab shall excuse the contractors or subcontractors for defects or deficiencies discovered in their work during or following completion of the project. Correcting inadequate compaction is the sole responsibility of the contractor.

D. Contractor shall be solely responsible for all subgrades built. Any repairs resulting from inadequate compaction or incorrect grades will be the responsibility of the contractor.

E. Per 2016 NFPA 13 provide Contractor's material and test certificate to the Owner, Architect, Project Inspector and Local Fire Authority.

1.05 FEES, PERMITS, AND UTILITY SERVICES

A. Obtain and pay for permits and service charges required for installation of Work. Arrange for required inspections and secure written approvals from authorities having jurisdiction.

B. Upon completion of work within right-of-way, provide copies of written final approval to the Architect.

1.06 DELIVERY, STORAGE AND HANDLING

A. Transport, store and handle in strict accord with the local jurisdiction.

B. Make delivery to job when notified by Contractor verifying that the job is ready to receive the work of this Section and that arrangements have been made to properly store, handle and protect such materials and work.

1.07 PROJECT CONDITIONS

A. Existing civil, mechanical and electrical improvements are shown on respective site plans to the extent known. Should the Contractor encounter any deviation between actual conditions and those shown, he is to immediately notify the Architect before continuing work.

B. Contractor shall acquaint himself with all site conditions. If unknown active utilities are encountered during work, notify Architect promptly for instructions. Failure to notify will make Contractor liable for damage to these utilities arising from Contractor's operations subsequent to discovery of such unknown active utilities.

1.08 WARRANTY

A. Refer to General Conditions and Section 01 78 36.

1.09 PROTECTION

A. Adequate protection measures shall be provided to protect workmen and passers-by on and off the site. Adjacent property shall be fully protected throughout the operations. Blasting will not be permitted. Prevent damage to adjoining improvements and properties both above and below grade. Restore such improvements to original condition should damage occur. Replace trees and shrubs outside building area disturbed by operations.

B. In accordance with generally accepted construction practices, the Contractor shall be solely and completely responsible for working conditions at the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and shall not be limited to normal working hours.

C. Any construction review of the Contractor's performance conducted by the Geotechnical Engineer is not intended to include review of the adequacy of the Contractor's safety measures, in, on, or near the construction site.

D. Provide shoring, sheeting, sheet piles and or bracing to prevent caving, erosion or gullying of sides of excavation.

E. Surface Drainage: Provide for surface drainage during period of construction in manner to avoid creating nuisance to adjacent areas. The contractor shall make a reasonable effort on a daily basis to provide pumps and all equipment necessary to keep all excavations and the site free from water during entire progress of work, regardless of cause, source, or nature of water.

F. Adjacent streets and sidewalks shall be kept free of mud, dirt or similar nuisances resulting from earthwork operations.

G. The site and adjacent influenced areas shall be watered as required to suppress dust nuisance. Dust control measures shall be in accordance with the local jurisdiction.

H. Trees: Carefully protect existing trees that are to remain. Provide temporary irrigation as necessary to maintain health of trees.

1.10 SEASONAL LIMITS

A. No fill material shall be placed, spread or rolled during unfavorable weather conditions. When work is interrupted by rains, fill operations shall not be resumed until field tests indicate that moisture content and density of fill are satisfactory.

1.11 RECORD DRAWINGS

A. Keep a daily record of all pipe placed in ground, verified by Project Inspector.

B. Upon completion of this Contract, furnish one tracing showing all outside utility lines, piping, etc., installed under this Contract. Locate and dimension all work with reference to permanent landmarks.

C. All symbols and designations used in preparing "RECORD" drawings shall match those used in Contract drawings.

D. Properly identify on as-builts and provide dimensions for all stubs for future connections. Provide concrete markers 6” dia. 12” deep, flush with finish grade at the ends of all stubbed pipes.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Pipe: Use one of the following, unless noted on the Drawings otherwise.

1. Polyvinyl Chloride Pipe (PVC): SDR35 conforming to ASTM D3034 with elastomeric joints conforming to ASTM D3212. Sun damaged pipe will be rejected.
2. High density polyethylene pipe (HDPE): The pipe shall be corrugated exterior/smooth interior pipe and water tight per ASTM D3212 with dual wall water tight gasket fittings.

B. Perforated Pipe (for subdrains): Shall be ADS N12 pipe, 3 hole, ASTM F405, AASHTO M 252; PVC ASTM D3034 SDR-35 storm drain pipe

C. Manhole: Shall be as shown on the drawing details.

D. Drop Inlet: Shall be as shown on the drawing details.

E. Curb Inlet: Shall be as shown on the drawing details.

F. Mortar: For pipe connections to concrete drainage structures, conform to ASTM C270 type N mortar. Place within one half hour after adding water.

G. Crushed Rock: Imported washed crushed rock. Minimum 100% passing 3/4 inch sieve.

H. Trench drain: Polycast, Polydrain or equal and as shown on drawings.

I. Area Drains: Shall be as shown on the drawing details.

J. Floor Drains: Shall be as shown on the drawing details.

K. Clean-outs: Shall be as shown on the drawing details.

L. Planter drains: Shall be as detailed on the drawing details.

M. Filter Fabric: Mirafi 140N.

PART 3 - EXECUTION

3.01 INSPECTION LAYOUT AND PREPARATION

A. Prior to installation of the work of this Section, carefully inspect and verify by field measurements that installed work of all other trades is complete to the point were this installation may properly commence

B. Layout all work, establish grades, locate existing underground utilities, set markers and stakes, setup and maintain barricades and protection facilities; all prior to beginning actual earthwork operations. Layout and staking shall be done by a licensed Land Surveyor or Professional Civil Engineer.

C. Verify that specified items may be installed in accordance with the approved design.

D. In event of discrepancy, immediately notify Owner and the Architect. Do not proceed in discrepant areas until discrepancies have been fully resolved.

3.02 INSTALLATION

A. General: Installation shall be in strict conformance with referenced standards, the manufacturer’s written directions, as shown on the drawings and as herein specified.

B. Verify invert elevations at points of connection to existing systems prior to any excavation. If invert elevations differ from that shown on drawings, notify Architect immediately.

C. Excavation and Bedding:

1. General: Trench straight and true to line and grade with bottom smooth and free of irregularities or rock points. Trench width in accordance with pipe manufacturer’s recommendations and as per the drawings. Follow manufacturer's recommendations for use of each kind and type of pipe.
2. Bedding: Provide bedding as detailed on plans for the full length of the pipe. Bedding shall have a minimum thickness beneath the pipe of 4" or 1/8 the outside diameter of the pipe, which ever is greater. Provide bell holes and depressions for pipe joints only of size required to properly

make joint.

3. If the trenches for the site drainage fall within areas to be lime treated, the piping shall be installed prior to any lime treatment operations.
    a. If additional piping is added to previously lime treated areas, the contractor shall backfill the trench with class 2 aggregate base and compact to 95%.

D. Laying of Pipe:

1. General: Inspect pipe prior to placing. Set aside any defective or damaged material. Do not place pipe in water nor place pipe when trenches or weather are unsuitable. Lay pipe upgrade, true to line and grade.
2. Bell and Spigot Joints: Lubricate inside of bells and outside of spigots with soap solution or as recommended by manufacture. Wedge joints tight. Bell of bell and spigot pipe to be pointed upgrade.
3. Pipe shall be bedded uniformly throughout its length.
4. Pipe elevation shall be within 0.02 feet of design elevation as shown on plans.
5. Off Site Work: All work beyond the property lines shall be done in strict conformance with the requirements of the governing agency.

E. Backfilling:

1. General: Do not start backfill operations until required testing has been accomplished.
2. Trenches and Excavations: Backfill with material as detailed on plans, filling both sides of the pipe at the same time, carefully tamping to hold pipe in place without movement. Refer to Section 31 23 33 – TRENCHING AND BACKFILLING for fill above this layer.

F. Grouting of Pipes: Grout pipes smooth and water tight at drop inlet, manholes, and curb inlets. Grout back side of hood at curb inlets all grouting shall be smooth and consistent.

G. Off Site Work: All work beyond the property lines shall be done in strict conformance with the requirements of the local agency.

H. Cutting and Patching: Remove and replace existing surface features per applicable specification section (i.e. asphaltic concrete or concrete paving) where pipe is installed in areas of existing improvements.

3.03 TOLERANCES

A. Storm Drain structure grates

1. In landscape and lawn areas +- 0.05’.
2. In sidewalk and asphalt pavement +-0.025’.
3. In curb and gutter application +-0.0125’.

B. Cleanout Boxes and Lids

1. In landscape areas; 0.10 higher than surrounding finish grade, +-0.05’.
2. In sidewalks and asphalt pavement; Flush with surrounding finish grade, +-0.025’.

3.03 DEWATERING

A. Contractor to provide trench dewatering as necessary, no matter what the source is, at no additional cost to the owner.

B. If the previously excavated material from trenching is too wet to achieve trench backfill compaction the contractor shall make a reasonable effort to aerate and dry the material per section 31 00 00, 3.08, B

3.04 FLUSHING AND INTERNAL INSPECTIONS

A. The Contractor shall thoroughly ball and flush the storm drain system to remove all dirt and debris. Discharge water to an approved location.

B. Provide video inspection for all site storm drain piping. If debris is found in line, contractor shall remove debris by necessary means and pipe shall be camera'd again to confirm the debris has been removed. Camera'ing shall be digitally recorded and provided to the District on a DVD or flash drive. Camera device shall be capable of directly recording information. Secondary devices shall not be accepted. Audio voice shall be recorded during each inspection by the operating technician and shall include storm drain location, identification start and end points or cleanouts. Measurement for location of defects and actual length of pipe shall be by means of a calibrated meter on the camera with a digital readout on the video monitor. In order to measure any sags or bellies in pipe, camera shall be equipped with a measuring device capable of accurately measuring the depth of standing water up to 3 inches.

3.05 CLEANING

A. Refer to Section 01 74 00.

B. Upon completion of work of this Section promptly remove from the working area all scraps, debris and surplus material of this Section.

C. Clean the dirt, rocks, and debris from all storm drain inlets, structures, and connecting pipes.

END OF SECTION