AGREEMENT FOR CONSTRUCTION SERVICES (SMALL PROJECTS)

AGREEMENT NUMBER _____

THIS AGREEMENT is made and entered into this _____ day of _____ _____, 20___, by and between _____ ("Contractor") and Colton Joint Unified School District ("District") ("Contract").

1. The Contractor shall furnish to the District for a total price of _____ _____ Dollars ($_____) ("Contract Price"), the following services ("Services" or "Work"):

   Concrete walkway and artificial turf improvements adjacent to Print Shop Building, including grading, aggregate base, concrete flatwork, artificial turf, drainage, and restoration as described in Exhibit A.

2. Payment for the Work shall be made in accordance with the Terms and Conditions.

3. Contractor shall perform the Work at District Office / 1212 N Valencia Dr, Colton, CA 92324 ("Site"). The Project is the scope of Work performed at the Site.

4. Work shall be completed within Thirty (30) consecutive calendar days ("Contract Time") from the date specified in the District's Notice to Proceed, unless terminated earlier by the District for cause or for convenience.

   It is understood and agreed that the Work shall be performed and completed as required in the Contract Documents (as defined herein) including, without limitation, the Drawings and Specifications and submission of all documents required to secure funding or by the Division of the State Architect ("DSA") for close-out of the Project, under the direction and supervision of, and subject to the approval of, the District or its authorized representative.

5. Contractor agrees that if the Work is not completed within the Contract Time and/or pursuant to the completion schedule, construction schedule, or project milestones developed pursuant to provisions of the Contract, it is understood, acknowledged, and agreed that the District will suffer damage which is not capable of being calculated. Pursuant to Government Code section 53069.85, Contractor shall pay to the District, as fixed and liquidated damages for these incalculable damages, the sum of One Hundred Dollars ($100.00) per day for each and every calendar day of delay beyond the Contract Time or beyond any completion schedule, construction schedule, or project milestones established pursuant to the Contract.

[REMAINDER OF PAGE LEFT BLANK INTENTIONALLY]

6. This Contract incorporates by this reference the Contract Documents attached hereto. Contractor, by executing this Contract, agrees to comply with all obligations set forth in the Contract Documents. The Contract Documents include only the following documents, as indicated:

X_____ Notice to Bidders
_____ Instructions to Bidders
_____ Bid Form and Proposal
_____ Bid Bond
X_____ Noncollusion Declaration
_____ Iran Contracting Act Certification
_____ Off-Road Diesel-Fueled Fleet Certification
_____ Designated Subcontractors List
_____ Notice to Proceed
X_____ Prevailing Wage Certification
X_____ Workers' Compensation Certification
_____ Criminal Background Investigation / Fingerprinting Certification
X_____ Drug-Free Workplace Certification
X_____ Tobacco-Free Environment Certification
X_____ Drug & Alcohol-Free Schools Certification
X_____ Workplace Violence Prevention Plan Certification
_____
_____ Asbestos & Other Hazardous Materials Certification
_____ Lead-Product(s) Certification
_____ Roofing Project Certification
X_____ DIR Registration Verification
X_____ Insurance Certificates and Endorsements
_____ Performance Bond
_____ Payment Bond
_____ Specifications
_____ Plans
_____ Special Conditions
X_____ Exhibit "A" ("Scope of Work")
X_____ Russia Sanctions Compliance Certification
_____ Federal Debarment Certification
_____ Federal Byrd Anti-Lobbying Certification
_____ _____ [Other]
_____ _____ [Other]

7. Contractor shall not commence the Work under this Contract until the Contractor has submitted and the District has approved the performance bond, payment (labor and material) bond, the certificate(s) and the endorsement(s) of insurance required under the Terms and Conditions and the District has issued a Notice to Proceed.

8. The Design Professional In General Responsible Charge for the Project is N/A ("Architect"), the construction manager on the Project is Assigned District Project Manager ("Construction Manager"), and the project inspector on the Project is N/A ("Project Inspector"). Contractor hereby acknowledges that the District's Facilitie Project Manager has authority to approve and/or suspend Work if the Contractor's Work does not comply with the requirements of the Contract Documents, Title 24 of the California Code of Regulations, and all applicable laws. The Contractor shall be liable for any delay caused by its non-compliant Work or its failure to provide proper notification for inspection.

9. Inspection and acceptance of the Work shall be performed by Christopher Baldenegro / Owen Chang of the Facilities and Energy Management department of the District.

10. Any notice required or permitted to be given under this Contract shall be deemed to have been given, served, and received if given in writing and either personally delivered or deposited in the United States mail, registered or certified mail, pos tage prepaid, return

receipt required, or sent by overnight delivery service, or facsimile or email, addressed as follows:

District	**Contractor**
Colton Joint Unified School District ATTN: Christopher Baldenegro & Owen Chang 325 Hermosa Ave Building 5, Colton, CA 92324 Christopher_Baldenegro@CJUSD.Net / Owen_Chang@CJUSD.Net	Name: _____ ATTN: _____ [ADDRESS] [FAX] [EMAIL]

Any notice personally given or sent by facsimile or email shall be effective upon receipt. Any notice sent by overnight delivery service shall be effective the business day next following delivery to the overnight delivery service. Any notice given by mail shall be effective three (3) days after deposit in the United States mail.

11. Contractor shall guarantee all labor and material used in the performance of this Contract for a period of one (1) year from the date of the District's written approval of the Work.

12. This Contract incorporates by this reference the Terms and Conditions attached hereto. Contractor, by executing this Contract, agrees to comply with all the Terms and Conditions.

13. Each exhibit attached hereto is hereby incorporated herein by reference.

14. Each party has the full power and authority to enter into and perform this Contract, and the person signing this Contract on behalf of each party has been properly authorized and empowered to enter into this Contract.

15. This Contract may be executed in one or more counterparts, and all counterparts together shall be construed as one document. A facsimile or electronic signature shall be deemed to be the equivalent of the actual original signature. All counterparts so executed shall constitute one Contract binding all the Parties hereto.

16. By signing this Contract, Contractor certifies, under penalty of perjury, that all the information provided in the Contract Documents is true, complete, and correct.

[SIGNATURES ON FOLLOWING PAGE]

ACCEPTED AND AGREED on the date indicated below:

Dated: _____, 20___

Colton Joint Unified School District

Signature: _____

Print Name: _____

Print Title: _____

Address: _____

Telephone: _____

Facsimile: _____

E-Mail: _____

Dated: _____, 20___

Contractor: _____

Signature: _____

Print Name: _____

Print Title: _____

License No.: _____

Registration No.: _____

Address: _____

Telephone: _____

Facsimile: _____

E-Mail: _____

Information regarding Contractor:

Type of Business Entity:
_____ Individual
_____ Sole Proprietorship
_____ Partnership
_____ Limited Partnership
_____ Corporation, State: _____
_____ Limited Liability Company
_____ Other: _____

_____:
Employer Identification and/or
Social Security Number

NOTE: Section 6041 of the Internal Revenue Code (26 U.S.C. 6041) and Section 1.6041-1 of Title 26 of the Code of Federal Regulations (26 C.F.R. 1.6041-1) requires the recipients of $600.00 or more to furnish their taxpayer information to the payer. In order to comply with these requirements, the District requires the Contractor to furnish the information requested in this section.

[REMAINDER OF PAGE LEFT BLANK INTENTIONALLY; TERMS AND CONDITIONS FOLLOW]

TERMS AND CONDITIONS TO CONTRACT

1. NOTICE TO PROCEED: District shall provide a Notice to Proceed to Contractor pursuant to the Contract at which time Contractor shall proceed with the Work.

2. STANDARD OF CARE: Contractor shall perform, diligently prosecute and complete the Work in a good and workmanlike manner within the Contract Time, and in strict conformity with all Contract Documents.

3. SITE EXAMINATION: Contractor has examined the Site and certifies that it accepts all measurements, specifications and conditions affecting the Work to be performed at the Site. By submitting its quote, Contractor warrants that it has made all Site examination(s) that it deems necessary as to the condition of the Site, its accessibility for materials, workers and utilities, and Contractor's ability to protect existing surface and subsurface improvements. No claim for allowance of time or money will be allowed as to any other undiscovered condition on the Site.

4. PERMITS, LICENSES AND REGISTRATION: Contractor and all of its employees, agents, and subcontractors shall secure and maintain in force, at Contractor's sole cost and expense, all licenses, registration and permits as are required by law, in connection with the furnishing of materials, supplies, or services herein listed.

5. (RESERVED)

6. (RESERVED)

7. LABOR, MATERIALS AND EQUIPMENT: Contractor shall furnish all tools, equipment, apparatus, facilities, transportation, labor, and material necessary to furnish the services herein described, the services to be performed at such times and places as directed by and subject to the approval of the authorized District representative indicated in the Work specifications attached hereto. Unless otherwise specified, all materials shall be new and previously unused, and of the manufacturer's latest model or the best of their respective kinds and grades as noted or specified, and workmanship shall be of good quality.

8. SUBSTITUTIONS: No substitutions of material from those specified in the Work Specifications shall be made without the prior written approval of the District. Contractor shall be responsible for any re-design costs occasioned by District's acceptance and/or approval of any substitute, as well as any costs that the District incurs for professional services, including DSA fees. District may deduct those costs from any amounts owing to Contractor for the review of the request for substitution, even if the request for substitution is not approved. Contractor shall, in the event that a substitute is less costly than that specified, credit the District with one-hundred percent (100%) of the net difference between the substitute and the originally specified material.

9. INDEPENDENT CONTRACTOR: Contractor represents and warrants that Contractor is an independent contractor or business entity that is: (i) free from the control and direction of the District in connection with the performance of the Services, (ii) performing Services that are outside the usual course of the District's business, and (iii) customarily engaged in an independently established trade, occupation, or business of the same nature as that involved in the Services performed, District being interested only in the results obtained. Contractor understands and agrees that it and all of its employees shall not be considered officers, employees, agents, partner, or joint venture of the District, and are not entitled to benefits of any kind or nature normally provided employees of the District and/or to which District's employees are normally entitled, including, but not limited to, State Unemployment Compensation or Worker's Compensation. Contractor shall assume full responsibility for payment of all federal, state, and local taxes or contributions, including unemployment insurance, social security, and income taxes with respect to Consultant's employees.

10. CONTRACTOR SUPERVISION: Contractor shall provide competent supervision of personnel employed on the job Site, use of equipment, and quality of workmanship.

11. WORKERS: Contractor shall at all times enforce strict discipline and good order among its employees and the employees of its subcontractors and shall not employ or work any unfit person or anyone not skilled in work assigned to him or her. Any person in the employ of the Contractor or a subcontractor whom the District may deem incompetent or unfit shall be dismissed from the Site and shall not again be employed at Site without written consent from the District.

12. SUBCONTRACTORS: Subcontractors, if any, engaged by the Contractor for any Service or Work under this Contract shall be subject to the approval of the District. Contractor agrees to bind every subcontractor by the terms of the Contract as far as such terms are applicable to subcontractor's work, including, without limitation, all registration, indemnification, insurance, bond, and warranty requirements. If Contractor shall subcontract any part of this Contract, Contractor shall be fully responsible to the District for acts and omissions of its subcontractor and of persons either directly or indirectly employed by itself. Nothing contained in the Contract Documents shall create any contractual relations between any subcontractor and the District.

13. SAFETY AND SECURITY: Contractor is responsible for maintaining safety in the performance of this Contract. Contractor shall be responsible to ascertain from the District the rules and regulations pertaining to safety, security, and driving on school grounds, particularly when children are present.

14. (RESERVED)

15. (RESERVED)

16. (RESERVED)

17. (RESERVED)

18. CLEAN UP: Debris shall be removed from the Site. The Site shall be in order at all times when work is not actually being performed and shall be maintained in a reasonably clean condition.

19. PROTECTION OF WORK AND PROPERTY: Contractor shall erect and properly maintain at all times, as required by conditions and progress of the Work, all necessary safeguards, signs, barriers, lights, and security persons for protection of workers and the public, and shall post danger signs warning against hazards created by the Work. In an emergency affecting life and safety of life or of Work or of adjoining property, Contractor, without special instruction or authorization from District, is permitted to act at his discretion to prevent such threatened loss or injury.

20. FORCE MAJEURE: "Force Majeure" means any event or circumstance unknown at the time of contracting that is beyond the parties' control and makes performance of the contract impractical or impossible. The Party seeking to have its performance obligation(s) excused must demonstrate that there was such an insuperable interference occurring without the party's intervention as could not have been prevented by the exercise of prudence, diligence, and care, by providing prompt notice to the other Party, including full particulars of such event, of its inability to perform its obligations due to such event, following commencement of the claiming Party's inability to so perform its obligations. To the extent satisfying these conditions, Force Majeure events include the following: acts of God, war, civil unrest, epidemic, fire, smoke, volcanic eruption, earthquake, strike, unusually severe weather, flood, or shortage of transportation facilities, lock out, or commandeering of materials, product, plant, or facilities by the government. Force Majeure shall not be based on a Party's financial inability to perform under this Agreement unless there exists extreme and unreasonable difficulty, expense, injury, or loss involved. A Force Majeure event does not include an act of negligence or intentional wrongdoing by a Party. Any Party claiming a Force Majeure event shall use reasonable diligence to remove the condition that prevents performance and shall not be entitled to suspend performance of its obligations in any greater scope or for any longer duration than is required by the Force Majeure event. Each Party shall use its best efforts to mitigate the effects of such Force Majeure event, remedy its inability to perform, and resume full performance of its obligations hereunder. Costs imposed by the government on sales or importation of goods or materials including, without limitation, tariffs or taxes, are not Force Majeure.

21. CORRECTION OF ERRORS: Contractor shall perform, at its own cost and expense and without reimbursement from the District, any work necessary to correct errors or omissions that are caused by the Contractor's failure to comply with the approved plans and specifications and the standard of care required herein. Schedule delays resulting from unauthorized work shall be Contractor's responsibility.

22. NO RELIEF FROM OBLIGATIONS BASED ON REVIEW BY OTHER PERSONS: Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents by act or omission of the District, Architect, Construction Manager, Project Inspector, or DSA or other entities having jurisdiction including, but not limited to, administration of the Contract, review of submittals, or by tests, observation, inspection, or permit/interconnection approvals.

23. DISTRICT'S RIGHT TO PERFORM WORK: If the Contractor should neglect to prosecute the Work properly or fail to perform any provisions of this Contract, the District, after **FORTY-EIGHT (48)** hours' written notice to the Contractor, may make good such deficiencies, without prejudice to any other remedy it may have, including but not limited to the District hiring its own forces or another contractor

to replace the Contractor's nonconforming Work, in which case the District shall either issue a deductive Change Order, a Construction Change Directive, or invoice the Contractor for the cost of that work. Contractor shall pay any invoices within thirty (30) days of receipt of same or District may withhold those amounts from payment(s) otherwise due to Contractor.

24. ACCESS TO WORK: District representatives, Architect, and Project Inspector shall at all times have access to the Work wherever it is in preparation or in progress. Contractor shall provide safe and proper facilities for such access.

25. OCCUPANCY: District reserves the right to occupy buildings at any time before formal Contract completion and such occupancy shall not constitute final acceptance or approval of any part of the Work covered by this Contract, nor shall such occupancy extend the date specified for completion of the Work.

26. PAYMENT: On a monthly basis, Contractor shall submit an application for payment based upon the estimated value for materials delivered or services performed under the Contract as of the date of submission ("Application for Payment"). Within thirty (30) days after District's approval of the Application for Payment, Contractor shall be paid a sum equal to ninety-five percent (95%) of the value of the Work performed (as verified by Facilities Project Manager and certified by Contractor) up to the last day of the previous month, less the aggregate of previous payments and amount to be withheld. The District may withhold or deduct from any payment an amount necessary to protect the District from loss because of: (1) liquidated damages which have accrued as of the date of the application for payment; (2) any sums expended by the District in performing any of Contractor's obligations under the Contract which Contractor has failed to perform or has performed inadequately; (3) defective Work not remedied; (4) stop payment notices as allowed by state law; (5) reasonable doubt that the Work can be completed for the unpaid balance of the Total Contract price or by the scheduled completion date; (6) unsatisfactory prosecution of the Work by Contractor; (7) unauthorized deviations from the Contract; (8) failure of the Contractor to maintain or submit on a timely basis proper and sufficient documentation as required by the Contract or by District during the prosecution of the Work; (9) erroneous or false estimates by the Contractor of the value of the Work performed; (10) any sums representing expenses, losses, or damages, as determined by the District, incurred by the District for which Contractor is liable under the Contract; and (11) any other sums which the District is entitled to recover from Contractor under the terms of the Contract or pursuant to state law, including section 1727 of the California Labor Code. The failure by the District to deduct any of these sums from a progress payment shall not constitute a waiver of the District's right to such sums. The District shall retain five percent (5%) from all amounts owing as retention. Retention shall be paid pursuant to Public Contract Code sections 7107, 7200 and 7201.

27. AUDIT. Contractor shall establish and maintain books, records, and systems of account, in accordance with generally accepted accounting principles, reflecting all business operations of Contractor transacted under this Contract. Contractor shall retain these books, records, and systems of account during the Term of this Contract and for five (5) years thereafter. Contractor shall permit District, its agent, other representatives, or an independent auditor to audit, examine, and make excerpts, copies, and transcripts from all books and records, and to make audit(s) of all billing statements, invoices, records, and other data related to the Work covered by this Contract. Audit(s) may be performed at any time, provided that District shall give reasonable prior notice to Contractor and shall conduct audit(s) during Contractor's normal business hours, unless Contractor otherwise consents.

28. CHANGE IN SCOPE OF WORK:

28.1. Changes in Scope of Work. Any change in the scope of the Work, method of performance, nature of materials or price thereof, or any other matter materially affecting the performance or nature of the Work shall not be paid for or accepted unless such change, addition, or deletion is approved in advance and in writing by a valid change order executed by the District. Contractor specifically understands, acknowledges, and agrees that the District shall have the right to request any alterations, deviations, reductions, or additions to the Project or Work, and the cost thereof shall be added to or deducted from the amount of the Contract Price by fair and reasonable valuations. Contractor shall include maximums of ten percent (10%) mark-up for all tiers of subcontractors, five percent (5%) for overhead and profit, and two and one-half percent (2.5%) for bonds and insurance. Contractor also agrees to provide the District with all information requested to substantiate the cost of the change order and to inform the District whether the Work will be done by the Contractor or a subcontractor. In addition to any other information requested, Contractor shall submit, prior to approval of the change order, its request for a time extension (if

any), as well as all information necessary to substantiate its belief that such change will delay the completion of the Work. If Contractor fails to submit its request for a time extension or the necessary supporting information, it shall be deemed to have waived its right to request such extension.

28.2. Allowances. If there is an Allowance, then Contractor shall not bill for or be due any portion of an Allowance unless Owner has identified specific work, Contractor has submitted a price for that work or Owner has proposed a price for that work, Owner has accepted the cost for that work, and Owner has executed an Allowance Expenditure Directive incorporating that work. Allowance Expenditure Directives shall be based on Contractor's costs, without overhead and profit, for products, delivery, installation, labor, insurance, payroll, taxes, bonding and equipment rental will be included in Allowance Expenditure Directive authorizing expenditure of funds from the Allowance. No overhead and profit shall be added to the Allowance Expenditure Directive.

29. INDEMNIFICATION:

29.1. To the furthest extent permitted by California law, Contractor shall indemnify and hold harmless the District and its Governing Board, agents, representatives, employees, consultants, and volunteers (the "Indemnified Parties") from any and all demands, damages, injuries, losses, expenses, liabilities, claims, suits, and actions (the "Claims") of any kind, nature, and description, including, but not limited to, attorneys' fees and costs, directly or indirectly arising from, arising out of, connected with, or resulting from the performance of this Contract unless the claims are caused by the active negligence or willful misconduct of the Indemnified Parties and/or defects in design furnished by the Architect, as found by a court or arbitrator of competent jurisdiction, in which case the Contractor's indemnification and hold harmless obligation shall be reduced by the proportion of the Indemnitees' and/or Architect's liability.

29.2. Contractor shall also, to the furthest extent permitted by California law, defend the Indemnified Parties at Contractor's own expense, including attorneys' fees and costs, from any and all claims directly or indirectly arising from, arising out of, connected with, or resulting from the performance of this Contract unless the claims are caused by the active negligence or willful misconduct of the Indemnified Parties , as found by a court or arbitrator of competent jurisdiction, in which case, without impacting Contractor's obligation to provide an immediate and ongoing defense of the Indemnified Parties, the Contractor's defense obligation shall be retroactively reduced by the proportion of the Indemnitees'. The District shall have the right to accept or reject any legal representation that Contractor proposes to defend the District.

29.3. Pursuant to Public Contract Code section 9201, the District shall provide timely notification to Contractor of the receipt of any third-party claim relating to this Contract. The District shall be entitled to recover its reasonable costs incurred in providing said notification.

29.4. If the Indemnitees provide their own defense due to failure to timely respond to tender of defense, rejection of tender of defense, or conflict of interest of proposed counsel, Contractor shall reimburse Indemnitees for any expenditures, including reasonable attorney's fees and costs.

29.5. The District may retain so much of the moneys due the Contractor as shall be considered necessary, until disposition of any such suit, claims or actions for damages or until the District has received written agreement from the Contractor that it will unconditionally defend the Indemnified Parties, and pay any damages due by reason of settlement or judgment.

29.6. The Contractor's defense and indemnification obligations hereunder shall survive the completion of Work, including the warranty/guarantee period, and/or the termination of the Contract.

30. PAYMENT BOND AND PERFORMANCE BOND: Contractor shall not commence the Work until it has provided to the District, in a form acceptable to the District, a Payment (Labor and Material) Bond and a Performance Bond, each in an amount equivalent to one hundred percent (100%) of the Contract Price issued by a surety admitted to issue bonds in the State of California and otherwise acceptable to the District.

31. CONTRACTOR'S INSURANCE:

31.1. The Contractor shall procure and maintain at all times it performs any portion of the Services the following insurance with minimum limits not less than the amount indicated below. If Contractor normally carries insurance in an amount greater than the minimum amounts required by District, that greater amount shall become the minimum required amount of insurance for purposes of the

Contract. Therefore, Contractor hereby acknowledges and agrees that all insurance carried by it shall be deemed liability coverage for all actions it performs in connection with the Contract.

Type of Coverage	**Minimum Requirement**
Commercial General Liability Insurance, including Bodily Injury, Personal Injury, Property Damage, Advertising Injury, and Medical Payments	
Each Occurrence	$ 1,000,000
General Aggregate	$ 1,000,000
Automobile Liability Insurance - Any Auto	
Combined Single Limit	$ 1,000,000
Workers' Compensation	Statutory Limits
Employer's Liability	$ 1,000,000

31.1.1. Commercial General Liability and Automobile Liability Insurance. Commercial General Liability Insurance and Any Auto Automobile Liability Insurance that shall protect the Contractor, the District, and the State from all claims of bodily injury, property damage, personal injury, death, advertising injury, and medical payments arising performing any portion of the Services. (Form CG 0001 and CA 0001, or forms substantially similar, if approved by the District.)

31.1.2. Workers' Compensation and Employers' Liability Insurance. Workers' Compensation Insurance and Employers' Liability Insurance for all of its employees performing any portion of the Services. In accordance with provisions of section 3700 of the California Labor Code, the Contractor shall be required to secure workers' compensation coverage for its employees. If any class of employee or employees engaged in performing any portion of the Services under this Contract are not protected under the Workers' Compensation Statute, adequate insurance coverage for the protection of any employee(s) not otherwise protected must be obtained before any of those employee(s) commence performing any portion of the Services.

31.2. Proof of Insurance. The Contractor shall not commence performing any portion of the Services until all required insurance has been obtained and certificates indicating the required coverage have been delivered in duplicate to the District and approved by the District. Certificates and insurance policies shall include the following:

31.2.1. Language stating in particular those insured, extent of insurance, location and operation to which insurance applies, expiration date, to whom cancellation notice will be sent, and length of notice period.

31.2.2. A clause stating: "This policy shall not be canceled until notice has been mailed to the District, stating date of cancellation. Date of cancellation shall not be less than thirty (30) days after date of mailing notice."

31.2.3. An endorsement stating that the District and its Governing Board, agents, representatives, employees, consultants, and volunteers are named additional insured under all policies except Workers' Compensation Insurance, and Employers' Liability Insurance.

31.2.4. All policies except the Workers' Compensation Insurance, and Employers' Liability Insurance Policies shall be written on an occurrence form.

31.2.5. An endorsement stating that Contractor's insurance policies shall be primary to any insurance or self-insurance maintained by District.

31.2.6. An endorsement stating that there shall be a waiver of any subrogation.

31.2.7. Contractor's insurance limit shall apply separately to each insured against whom a claim is made or suit is brought.

31.3. Acceptability of Insurers. Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A: VII, unless otherwise acceptable to the District.

32. WARRANTY/QUALITY: Unless a longer warranty is called for elsewhere in the Contract Documents, the Contractor, manufacturer, or their assigned agents shall guarantee the workmanship,

product or service performed against defective workmanship, defects or failures of materials for a minimum period of one (1) year from filing the Notice of Completion with the county in which the Site is located. All workmanship and merchandise must be warranted to be in compliance with applicable California energy, conservation, environmental, and educational standards.

33. CONFIDENTIALITY: The Contractor shall maintain the confidentiality of any student, parent, personnel, and/or disciplinary information that Contractor encounters while performing the Work. This requirement shall be ongoing and shall survive the expiration or termination of this Contract.

34. LIMITATION OF DISTRICT LIABILITY: District's financial obligations under this Contract shall be limited to the payment of the compensation provided in this Contract. Notwithstanding any other provision of this Contract, in no event shall District be liable, regardless of whether any claim is based on contract or tort, for any special, consequential, indirect or incidental damages, including, but not limited to, lost profits or revenue, or lost bonding capacity, arising out of or in connection with this Contract for the services performed in connection with this Contract.

35. COMPLIANCE WITH LAWS: Contractor shall give all notices and comply with all laws, ordinance, rules and regulations bearing on conduct of the Work as indicated or specified. If Contractor observes that any of the Work required by this Contract is at variance with any such laws, ordinance, rules or regulations, Contractor shall notify the District, in writing, and, at the sole option of the District, any necessary changes to the scope of the Work shall be made and this Contract shall be appropriately amended in writing, or this Contract shall be terminated effective upon Contractor's receipt of a written termination notice from the District. If Contractor performs any work that is in violation of any laws, ordinances, rules or regulations, without first notifying the District of the violation, Contractor shall bear all costs arising therefrom.

36. LABOR CODE REQUIREMENTS: Contractor represents that Contractor and all Subcontractors shall not be presently debarred, suspended, proposed for disbarment, declared ineligible or excluded. Contractor shall comply with all applicable provisions of the California Labor Code, Division 2, Part 7, Chapter 1, Articles 1 – 5, including, without limitation, the payment of the general prevailing per diem wage rates for public work projects of more than one thousand dollars ($1,000). Copies of the prevailing rate of per diem wages are on file with the District or available online at http://www.dir.ca.gov/. In addition, the Contractor and each subcontractor shall comply with Section 1735 forbidding discrimination and Sections 1777.5 and 1777.6 concerning the employment of apprentices by Contractor or subcontractors.

36.1. Registration: Contractor and its subcontractor(s) shall be registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 and in accordance with Labor Code section 1771.1.

36.2. DIR Registration Verification: Within thirty (30) days of the award of contract or prior to commencing the Work under this Contract, whichever occurs first, Contractor shall provide District all information required by Labor Code section 1773.3, as amended by Stats. 2017, Ch. 28, Sec. 21, for Contractor and all tiers of Subcontractors to enable District to provide notice to the Department of Industrial Relations (DIR) of the Contract (PWC-100 form). Contractor shall submit and update the DIR Registration Verification including all Subcontractors of any tier furnishing labor, material, or equipment to the Project.

36.3. Certified Payroll Records: Contractor and its subcontractor(s) shall upload certified payroll records ("CPR") electronically using California Department of Industrial Relations' (DIR) eCPR System by uploading the CPRs by electronic XML file online directly to the DIR on no less than every thirty (30) days while Work is being performed and within thirty (30) days after the final day of Work performed on the Project at http://www.dir.ca.gov/Public-Works/Certified-Payroll-Reporting.html or current application and URL, showing the name, address, social security number, work classification, 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. Within ten (10) days any written request by the District, Contractor and its subcontractors shall provide CPRs. If Contractor or its subcontractors fail to comply within the 10-day period, District shall notify the Labor Commissioner, who may request penalties be withheld from progress payments then due.

36.4. Labor Compliance: Contractor shall perform the Work of the Project while complying with all the applicable regulations, including section 16000, et seq., of Title 8 of the California Code of

Regulations and is subject to labor compliance monitoring and enforcement by the Department of Industrial Relations.

37. ANTI-DISCRIMINATION: Contractor herein agrees to comply with the provisions of the California Fair Employment and Housing Act as set forth in part 2.8 of division 3 of the California Government Code, commencing at section 12900; the Federal Civil Rights Act of 1964, as set forth in Public Law 88-352, and all amendments thereto; Executive Order 11246; and all administrative rules and regulations found to be applicable to Contractor and all of its subcontractors. In addition, the Contractor agrees to require like compliance by all its subcontractor(s).

38. ANTI-TRUST CLAIM: Contractor and its subcontractor(s) agree to assign to the District all rights, title, and interest in and to all causes of action they 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 Contract or a subcontract. This assignment shall be made and become effective at the time the District tenders final payment to the Contractor, without further acknowledgment by the parties.

39. CONTRACTOR CLAIMS: In the event of any demand by Contractor for (A) a time extension, including, without limitation, for relief from damages or penalties for delay assessed by the District under the Contract, (B) payment by the District of money or damages arising from work done by, or on behalf of, the Contractor pursuant to the Contract and payment of which is not otherwise expressly provided for or to which Contractor is not otherwise entitled to, or (C) an amount of payment disputed by the District, the parties shall attempt to resolve the dispute by those procedures set forth in Public Contract Code section 9204 and/or Article 1.5 (commencing with section 20104) of Chapter 1, Part, 3, Division 2, of the Public Contract Code, if applicable, the provisions of which are each attached hereto and incorporated herein by this reference. If a claim, or any portion thereof, remains in dispute upon satisfaction of all applicable dispute resolution requirements, the Contractor shall comply with all claims presentation requirements 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 Government Code as a condition precedent to the Contractor's right to bring a civil action against the District. Pending resolution of the dispute, Contractor and its subcontractors shall continue to perform the Work under the Contract and shall not cause a delay of the Work, including the disputed work, during any dispute, claim, negotiation, mediation, or arbitration proceeding, except by written agreement of the District.

40. ATTORNEY FEES/COSTS: Should litigation be necessary to enforce any terms or provisions of this Contract, then each party shall bear its own litigation and collection expenses, witness fees, court costs and attorney's fees.

41. TERMINATION:

41.1. If Contractor fails to perform the Services and Contractor's duties to the satisfaction of the District, or if Contractor fails to fulfill in a timely and professional manner Contractor's obligations under this Contract, or if Contractor violates any of the terms or provisions of this Contract, District shall have the right to terminate this Contract and/or Contractor's right to perform the Work of the Contract for cause effective immediately upon the District giving written notice thereof to Contractor. Contractor and its performance bond surety, if any, shall be liable for all damages caused to the District by reason of Contractor's failure to perform and complete the Contract. In the event termination for cause is determined to have not been for cause, the termination shall be deemed to have been a termination for convenience effective as of the same date as the purported termination for cause.

41.2. District shall also have the right in its sole discretion to terminate the Contract and/or Contractor's right to perform the Work of the Contract for its own convenience upon District giving three (3) days' written notice thereof to the Contractor. In case of a termination for convenience, Contractor shall be paid for the actual cost for labor, materials, and services performed including, without limitation, Contractor's and its subcontractor(s)' mobilization and/or demobilization costs, that is unpaid and can be documented through timesheets, invoices, receipts, or otherwise. If Contractor objects to the termination for convenience,

including disagreement on the actual cost, the District retains the right to all the options available to the District under a termination for cause.

41.3. Termination shall have no effect upon any of the rights and obligations of the parties arising out of any transaction occurring prior to the effective date of termination.

42. ASSIGNMENT OF CONTRACT: Contractor shall not assign or transfer in any way any or all of its rights, burdens, duties, or obligations under this Contract without the prior written consent of the District.

43. TIME IS OF THE ESSENCE: Time is of the essence in the performance of and compliance with each of the provisions and conditions of this Contract.

44. CALCULATION OF TIME: For the purposes of this Contract, "days" refers to calendar days unless otherwise specified.

45. GOVERNING LAW: This Contract shall be governed by and construed in accordance with the laws of the State of California with venue of any action in a County in which the District administration office is located.

46. BINDING CONTRACT: This Contract shall be binding upon the parties hereto and upon their successors and assigns, and shall inure to the benefit of said parties and their successors and assigns.

47. DISTRICT WAIVER: District's waiver of any term, condition, covenant or waiver of a breach of any term, condition or covenant shall not constitute the waiver of any other term, condition or covenant or the waiver of a breach of any other term, condition or covenant.

48. CAPTIONS AND INTERPRETATIONS: Paragraph headings in this Contract are used solely for convenience, and shall be wholly disregarded in the construction of this Contract. No provision of this Contract shall be interpreted for or against a party because that party or its legal representative drafted such provision, and this Contract shall be construed as if jointly prepared by the parties.

49. INVALID TERM: If any provision of this Contract is declared or determined by any court of competent jurisdiction to be illegal, invalid or unenforceable, the legality, validity or enforceability of the remaining parts, terms and provisions shall not be affected thereby, and said illegal, unenforceable or invalid part, term or provision will be deemed not to be a part of this Contract.

50. PROVISIONS REQUIRED BY LAW DEEMED INSERTED: Each and every provision of law and clause required by law to be inserted in this Contract shall be deemed to be inserted herein and this Contract shall be read and enforced as though it were included therein.

51. ENTIRE CONTRACT: This Contract sets forth the entire agreement between the parties hereto and fully supersedes any and all prior agreements, understandings, written or oral, between the parties hereto pertaining to the subject matter thereof.

52. NO ORAL MODIFICATIONS: No oral agreement or conversation with any officer, agent, or employee of District, either before or after execution of Contract, shall affect or modify any of the terms or obligations contained in any of the documents comprising the Contract.

[REMAINDER OF PAGE LEFT BLANK INTENTIONALLY]

Public Contract Code section 9204

(a) The Legislature finds and declares that it is in the best interests of the state and its citizens to ensure that all construction business performed on a public works project in the state that is complete and not in dispute is paid in full and in a timely manner.

(b) Notwithstanding any other law, including, but not limited to, Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2, Chapter 10 (commencing with Section 19100) of Part 2, and Article 1.5 (commencing with Section 20104) of Chapter 1 of Part 3, this section shall apply to any claim by a contractor in connection with a public works project.

(c) For purposes of this section:

(1) "Claim" means a separate demand by a 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, the 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 public entity.

(2) "Contractor" 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 has entered into a direct contract with a public entity for a public works project.

(3) (A) "Public entity" means, without limitation, except as provided in subparagraph (B), a state agency, department, office, division, bureau, board, or commission, the California State University, the University of California, a city, including a charter city, county, including a charter county, city and county, including a charter city and county, district, special district, public authority, political subdivision, public corporation, or nonprofit transit corporation wholly owned by a public agency and formed to carry out the purposes of the public agency.

(B) "Public entity" shall not include the following:

(i) The Department of Water Resources as to any project under the jurisdiction of that department.

(ii) The Department of Transportation as to any project under the jurisdiction of that department.

(iii) The Department of Parks and Recreation as to any project under the jurisdiction of that department.

(iv) The Department of Corrections and Rehabilitation with respect to any project under its jurisdiction pursuant to Chapter 11 (commencing with Section 7000) of Title 7 of Part 3 of the Penal Code.

(v) The Military Department as to any project under the jurisdiction of that department.

(vi) The Department of General Services as to all other projects.

(vii) The High-Speed Rail Authority.

(4) "Public works project" means the erection, construction, alteration, repair, or improvement of any public structure, building, road, or other public improvement of any kind.

(5) "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 a contractor or is a lower tier subcontractor.

(d) (1) (A) Upon receipt of a claim pursuant to this section, the public entity to which the claim applies shall conduct a reasonable review of the claim and, within a period not to exceed 45 days, shall provide the claimant a written statement identifying what portion of the claim is disputed and what portion is undisputed. Upon receipt of a claim, a public entity and a contractor may, by mutual agreement, extend the time period provided in this subdivision.

(B) The claimant shall furnish reasonable documentation to support the claim.

(C) If the public entity needs approval from its governing body to provide the claimant a written statement identifying the disputed portion and the undisputed portion of the claim, and the governing body does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, the public entity shall have up to three days following the next duly publicly noticed meeting of the governing body after the 45-day period, or extension, expires to provide the claimant a written statement identifying the disputed portion and the undisputed portion.

(D) Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. If the public entity fails to issue a written statement, paragraph (3) shall apply.

(2) (A) If the claimant disputes the public entity's written response, or if the public entity fails to respond to a claim issued pursuant to this section within the time prescribed, the claimant may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the public entity shall schedule a meet and confer conference within 30 days for settlement of the dispute.

(B) 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, the public entity shall provide the claimant a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. Any disputed portion of the claim, as identified by the contractor in writing, shall be submitted to nonbinding mediation, with the public entity and the claimant sharing the associated costs equally. The public entity and claimant 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. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside this section.

(C) For purposes of this section, mediation includes 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. Any mediation utilized shall conform to the timeframes in this section.

(D) Unless otherwise agreed to by the public entity and the contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.

(E) This section does not preclude a public entity from requiring arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program, if mediation under this section does not resolve the parties' dispute.

(3) Failure by the public entity to respond to a claim from a contractor within the time periods described in this subdivision or to otherwise meet the time requirements of this section shall result in the claim being deemed rejected in its entirety. A claim that is denied by reason of the public entity's failure to have responded to a claim, or its failure to otherwise meet the time requirements of this section, shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of the claimant.

(4) Amounts not paid in a timely manner as required by this section shall bear interest at 7 percent per annum.

(5) If a subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against a public entity because privity of contract does not exist, the contractor may present to the public entity a claim on behalf of a subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on their own behalf or on behalf of a lower tier subcontractor, that the contractor present a claim for work which was performed by the subcontractor or by a lower tier subcontractor on behalf of the subcontractor. The subcontractor requesting that the claim be presented to the public entity 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 to the public entity and, if the original contractor did not present the claim, provide the subcontractor with a statement of the reasons for not having done so.

(e) The text of this section or a summary of it shall be set forth in the plans or specifications for any public works project that may give rise to a claim under this section.

(f) A waiver of the rights granted by this section 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) a public entity may prescribe reasonable change order, claim, and dispute resolution procedures and requirements in addition to the provisions of this section, so long as the contractual provisions do not conflict with or otherwise impair the timeframes and procedures set forth in this section.

(g) This section applies to contracts entered into on or after January 1, 2017.

(h) Nothing in this section shall impose liability upon a public entity that makes loans or grants available through a competitive application process, for the failure of an awardee to meet its contractual obligations.

(i) This section shall remain in effect only until January 1, 2027, and as of that date is repealed, unless a later enacted statute that is enacted before January 1, 2027, deletes or extends that date.

Public Contract Code sections 20104 – 20104.6

§ 20104.

(a) (1) This article applies to all public works claims of three hundred seventy-five thousand dollars ($375,000) or less which arise between a contractor and a local agency.

(2) This article shall not apply to any claims resulting from a contract between a contractor and a public agency when the public agency has elected to resolve any disputes pursuant to Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2.

(b) (1) "Public work" means "public works contract" as defined in Section 1101 but does not include any work or improvement contracted for by the state or the Regents of the University of California.

(2) "Claim" means a separate demand by the contractor for (A) a time extension, (B) payment of money or damages arising from work done by, or on behalf of, the contractor pursuant to the contract for a public work and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to, or (C) an amount the payment of which is disputed by the local agency.

(c) The provisions of this article or a summary thereof shall be set forth in the plans or specifications for any work which may give rise to a claim under this article.

(d) This article applies only to contracts entered into on or after January 1, 1991.

§ 20104.2.

For any claim subject to this article, the following requirements apply:

(a) The claim shall be in writing and include the documents necessary to substantiate the claim. Claims must be filed on or before the date of final payment. Nothing in this subdivision is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of claims.

(b) (1) For claims of less than fifty thousand dollars ($50,000), the local agency shall respond in writing to any written claim within 45 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the local agency may have against the claimant.

(2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant.

(3) The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 15 days after receipt of the further documentation or within a period of time no greater than that taken by the claimant in producing the additional information, whichever is greater.

(c) (1) For claims of over fifty thousand dollars ($50,000) and less than or equal to three hundred seventy-five thousand dollars ($375,000), the local agency shall respond in writing to all written claims within 60 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the local agency may have against the claimant.

(2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant.

(3) The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 30 days after receipt of the further documentation, or within a period of time no greater than that taken by the claimant in producing the additional information or requested documentation, whichever is greater.

(d) If the claimant disputes the local agency's written response, or the local agency fails to respond within the time prescribed, the claimant may so notify the local agency, in writing, either within 15 days of receipt of the local agency's response or within 15 days of the local agency'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 a demand, the local agency shall schedule a meet and confer conference within 30 days for settlement of the dispute.

(e) Following the meet and confer conference, if the claim or any portion remains in dispute, the claimant 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. 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 claimant submits his or her written claim pursuant to subdivision (a) until the time that claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.

(f) This article does not apply to tort claims and nothing in this article 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.

§ 20104.4.

The following procedures are established for all civil actions filed to resolve claims subject to this article:

(a) Within 60 days, but no earlier than 30 days, following the filing or responsive pleadings, the court shall submit the matter to nonbinding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within 15 days by both parties of a disinterested third person as mediator, shall be commenced within 30 days of the submittal, and shall be concluded within 15 days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court or by stipulation of both parties. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator.

(b) (1) If the matter remains in dispute, 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 proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration.

(2) Notwithstanding any other provision of law, upon stipulation of the parties, arbitrators appointed for purposes of this article shall be experienced in construction law, and, upon stipulation of the parties, mediators and arbitrators 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.

(3) 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 attorney's fees of the other party arising out of the trial de novo.

(c) The court may, upon request by any party, order any witnesses to participate in the mediation or arbitration process.

§ 20104.6.

(a) No local agency shall fail to pay money as to any portion of a claim which is undisputed except as otherwise provided in the contract.

(b) In any suit filed under Section 20104.4, the local agency 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.

EXHIBIT "A"

Contractor shall furnish all labor, materials, equipment, supervision, transportation, demolition, disposal, protection, coordination, and incidentals necessary to complete the concrete walkway and artificial turf improvements shown in the attached rendering, including the following:

1. Field-verify all dimensions, existing elevations, drainage conditions, utility locations, irrigation lines, and site conditions before beginning work. Notify the District of conflicts before proceeding.
2. Protect the existing building, siding, block wall, planter, utilities, landscaping, irrigation, and adjacent improvements. Provide temporary barricades and maintain safe access around the work area.
3. Remove and legally dispose of existing ground cover, soil, landscaping, irrigation components, and other materials within the limits of work as required for installation of the new improvements.
4. Excavate, grade, moisture-condition, and compact the subgrade and aggregate base required for the concrete and artificial turf installations.
5. Removal of existing concrete around planter & print shop to drop grade and install new compliant concrete.
6. Construct a minimum 4-inch-thick Portland cement concrete walkway adjacent to the existing building. Concrete shall:
    - Receive a uniform broom finish.
    - Slope approximately 1.5% away from the building.
    - Include required reinforcing, expansion joints, control joints, isolation joints, edging, curing, and transitions.
    - Match adjoining elevations and provide positive drainage without ponding.
    - Maintain required clearance from the existing siding, flashing, vents, utility boxes, conduits, and other building components.
    - Provide a minimum 4-inch-thick compacted Class 2 aggregate base beneath the concrete walkway over prepared and compacted subgrade. Compact aggregate base to at least 95 percent relative compaction per ASTM D1557. Include excavation necessary to accommodate the base and concrete thickness while maintaining required finished elevations and drainage slopes.
    -
7. Install artificial turf between the new concrete walkway and the existing block wall/planter. The turf system shall include:
    - Approximately 4 to 6 inches of compacted aggregate base, as shown in the rendering.
    - Approved artificial turf, infill, seams, anchorage, edge restraints, and drainage provisions.
    - Smooth transitions to the concrete and existing improvements.
    - A finished installation free of wrinkles, loose edges, depressions, and drainage problems.
    - Apply weed control pre-emergent
    - Import road base and grade and compact for proper drainage
    - Install weed barrier
    - Install SGW playground synthetic turf

- Install white silica sand infill (approx. 1lb per sq ft)
- The turf seams to be cut and matched using an S-weave pattern
- Install new 60d 6-inch turf nails to secure the turf at borders
- Install 6Inch turf staples at turf seams
- Power broom turf

8. Modify or restore irrigation and landscaping disturbed by the work. Any irrigation modifications not visible during bidding shall be brought to the District's attention before proceeding.
9. Grade the entire work area to drain away from the building. Completed work shall not direct water toward the building or cause ponding against the block wall, planter, or adjacent improvements.
10. Restore all areas disturbed by construction. Remove debris, excess soil, concrete washout, and temporary protection upon completion.
11. Submit the following for District approval before installation:

- Concrete mix design.
- Artificial turf product data, color sample, installation details, and warranty.
- Proposed reinforcing, joint, and aggregate-base details.
- Field-verified layout and dimensions.
- Construction schedule and site-access plan.

11. Coordinate work with District staff and perform disruptive activities during approved hours. Maintain a safe, secure, and clean work area at all times.
12. Complete punch-list corrections and provide warranties, product information, closeout documents, and final cleanup before District acceptance.
13. Concrete Curb shall be approximately 4 inches above the finished walkway and shall run along the building as directed by the District. Before placement, the contractor shall submit a curb detail showing how the curb interfaces with the existing building siding, flashing, and foundation. The installation shall not cover or damage the siding, weep screed, flashing, vents, or other required drainage and ventilation components. Final curb dimensions and termination points shall be approved by the District before concrete placement.

    a. Provide continuous 24-gauge Type 304 stainless-steel flashing behind the new concrete curb, extending from the base of the curb/slab to a minimum of 12 inches above the top of the curb, behind the new T1-11 siding. Lap the weather-resistive barrier over the flashing's upper edge. Keep the curb top exposed; do not extend flashing across the curb top. Include compatible isolation filler, backer rod, and sealant at the curb-to-flashing joint while maintaining an exterior drainage path for the wall assembly.

    b. Provide watertight flashing laps, corners, end terminations, and transitions. Maintain required siding clearances from concrete and protect existing vents, utilities, and drainage openings. Submit siding and flashing installation details, including dimensions, clearances, and weather-barrier integration, for District approval before fabrication or installation.

14. Remove and replace approximately the lower 3–4 feet of deteriorated T1-11 siding along the existing building within the designated work area. Field-verify replacement limits with the District before removal and extend removal to sound material. Furnish exterior-grade T1-11 siding matching the existing thickness, profile, groove spacing, and orientation. Include disposal, backing, fastening, trim, weather-barrier repairs, flashing, and sealants required for a complete, weather-resistant installation.

    a. Provide continuous 24-gauge Type 304 stainless-steel Z-flashing at the horizontal joint between the existing upper siding and new lower siding. Install the upper flashing leg behind the existing siding and integrate it with the weather-resistive barrier in shingle fashion. Slope the flashing outward over the new panel's top edge and provide a downturned drip leg. Maintain the siding manufacturer's required clearance above the flashing; do not caulk the drainage gap closed.

    b. Inspect exposed framing, sheathing, and weather barrier and notify the District of deterioration before concealing the work. Verify whether the existing T1-11 serves as structural sheathing before cutting. Obtain District direction and any required design review before modifying structural components.

    c. Prime all cut edges before installation. Prepare, prime, and apply a minimum of two exterior finish coats to new siding, trim, and affected surfaces, matching the existing paint color and sheen. Paint affected wall sections between corners or natural breaks for a uniform appearance. Submit paint product information and a color sample for District approval before application.

15. Prepare, prime, and paint all new siding, trim, and surfaces disturbed by the work. Apply an exterior primer and a minimum of two finish coats, matching the existing paint color and sheen. Paint affected wall sections from corner to corner or between natural breaks to provide a uniform appearance. Submit the proposed paint color and product information for District approval before application.

Consultant's entire Proposal is **not** made part of this Agreement.

NONCOLLUSION DECLARATION
Public Contract Code Section 7106

TO BE EXECUTED BY CONTRACTOR AND SUBMITTED WITH CONTRACT

The undersigned declares:

I am the _____ of _____,
(Title) (Bidder Name)
the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder 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. 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 his or her 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 this ___ day of _____, 20__ at _____.
(City, State)

Proper Name of Bidder: _____

Signature: _____

Print Name: _____

Title: _____

OFF-ROAD DIESEL-FUELED FLEET CERTIFICATION

PROJECT/CONTRACT NO.: _____ between the Colton Joint Unified School District ("District") and _____ ("Contractor" or "Bidder") ("Contract" or "Project").

Title 13 CCR sections 2449, 2449.1, and 2449.2, in compliance with Government Code sections 11346.2, subdivision (a)(3), and 11346.8, subdivision (c), applies to construction contractors who own or operate within California any vehicles with a diesel-fueled or alternative diesel fueled off-road compression-ignition engine with maximum power (max hp) of 25 horsepower (hp) or greater provided that the vehicle cannot be registered and driven safely on-road or was not designed to be driven on-road, even if it has been modified so that it can be driven safely on-road.

Section 2449(i), in relevant part, provides:

(1) For a project involving the use of vehicles subject to this regulation, the prime contractor must obtain copies of the valid Certificate of Reported Compliance with the Regulation for In-Use Off-Road Diesel-Fueled Fleets for the fleet selected for the contract and their listed subcontractors, if applicable, prior to entering into a new or renewed contract with that fleet.

(2) No prime contractor or public works awarding body, as applicable, shall enter into a contract with a fleet for which it does not have a valid Certificate of Reported Compliance for the fleet and its listed subcontractors, if applicable, prior to entering into a new or renewed contract with that fleet.

(3) The Certificates of Reported Compliance received by the prime contractor for a project must be retained for three (3) years after that project's completion. Upon request by California Air Resources Board ("CARB"), these records must be provided to CARB within five (5) business days of the request.

(4) Situations in which prime contractors or public works awarding bodies, as applicable, are contracting for projects that are considered emergency operations, as defined in section 2449(c)(18), are exempt from the requirements in section 2449(i)(1)-(3), but must still retain records verifying vehicles subject to the regulation that are operating on the emergency operations project are actually being operated on the project for emergency operations only. These records must include a description of the emergency, the address or a description of the specific location of the emergency, the dates on which the emergency operations were performed, and an attestation by the fleet that the vehicles are operated on the project for emergency operations only.

Section 2449(j), in relevant part, also states:

(1) Between March 1 and June 1 of each year, a prime contractor must collect new valid Certificates of Reported Compliance for the current compliance year, as defined in section 2449(n), from all fleets that have an ongoing contract with the prime contractor as of March 1 of that year. Prime contractors must not write contracts to evade this requirement.

(2) Prime contractors shall only allow fleets with valid Certificates of Reported Compliance on the prime contractor's job sites.

(3) If the prime contractor discovers that any fleet intending to operate vehicles subject to this regulation for the prime contractor does not have a valid Certificate of Reported Compliance, as defined in section 2449(n), or if the prime contractor observes any noncompliant vehicles subject to the regulation on the prime contractor's job site, then the prime contractor must report specified information regarding the fleet to CARB within five (5) business days of such discovery.

(4) Upon request by CARB, the prime contractor must immediately disclose to CARB the name and contact information of each responsible party for all vehicles subject to this regulation operating at the job site or for the prime contractor.

(5) The prime contractor shall prominently display signage for any project where vehicles subject to this regulation will operate for eight (8) calendar days or more. The signage must be posted by the eighth calendar day from which the first vehicle operates. The signage will be in lettering larger than size 14-point type and displayed in a conspicuous place where notices to employees are customarily posted at the job site or where there is employee foot traffic. If one of the above locations is also viewable by the public, it should be posted at that location. The signage must include specified information regarding idling regulations for In-Use Off-Road Diesel-Fueled Fleets with directions on how to report observed noncompliance of the provided regulations to CARB.

I am aware of the provisions of Title 13 CCR sections 2449, 2449.1, and 2449.2, which apply to every contractor who owns or operates off-road diesel fleet vehicles in California, and I will comply with such provisions, including providing Certificate(s) of Reported Compliance for In-Use Off-Road Diesel-Fueled Fleets for the fleet selected for the contract and their listed subcontractors, if applicable, with its bid.

Date: _____

Name of Firm: _____

Signature: _____

Print Name: _____

Title: _____

Bidder must attach valid Certificate(s) Reported Compliance with the Regulation for In-Use Off-Road Diesel-Fueled Fleets provided by CARB for the fleet selected for the contract and their listed subcontractors, if applicable, to this form.

PREVAILING WAGE 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: _____

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:
>
> a. By being insured against liability to pay compensation by one or more insurers duly authorized to write compensation insurance in this state.
>
> b. 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 Article 5 - commencing at section 1860, chapter 1, part 7, division 2 of the Labor Code, the above certificate must be signed and filed with the awarding body prior to performing any Work under this Contract.)

WORKPLACE VIOLENCE PREVENTION PLAN CERTIFICATION

PROJECT/CONTRACT NO.: _____ between the Colton Joint Unified School District ("District") and _____ ("Contractor" or "Bidder") ("Contract" or "Project").

California Labor Code section 6401.9 requires covered employers to adopt a comprehensive workplace violence prevention plan, which shall be in writing and shall be available and easily accessible to the District's employees. To the extent that it may apply to Contractor's employees, the District's Workplace Violence Prevention Plan ("Prevention Plan") is available at the District Office.

In light of Section 6401.9 of the California Labor Code, Contractor certifies that Contractor has ascertained that the personnel (including the entity's employees and Subcontractors) providing site services on the District's Project have (1) received comprehensive Prevention Plan training and (2) access to the Prevention Plan.

Contractor understands that the Project site will need to comply with the Prevention Plan requirements for its employees and Subcontractors. Personnel who have not received comprehensive Prevention Plan training and do not have access to the Prevention Plan or decline to state if they received such training and have access to the Prevention Plan will be treated as not receiving comprehensive Prevention Plan Training and not having access to the Prevention Plan.

Contractor agrees to compensate the District for any civil penalties and expenses (including attorney's fees) it accrues pursuant to the California Labor Code, including but not limited to, California Labor Code section 6401.9(g), for any California Labor Code violations stemming from Contractor's Project work.

I acknowledge that I am aware of the provisions of and hereby certify that I will adhere to the requirements of the California Labor Code section 6401.9.

Date: _____
Proper Name of Contractor: _____
Signature: _____
Print Name: _____
Title: _____

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 Education 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 ATTACHMENT "A;" 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 Education 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.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

ATTACHMENT "A"

List of Employees/Subcontractors

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

Name/Company: _____

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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.

ASBESTOS & OTHER HAZARDOUS MATERIALS CERTIFICATION

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.

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

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 (.1%) asbestos shall be defined as asbestos-containing material.

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.

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

Contractor has read and understood the document 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: _____

Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

LEAD-PRODUCT(S) CERTIFICATION

California Occupational Safety and Health Administration (CalOSHA), Environmental Protection Agency (EPA), California Department of Health Services (DHS), California Department of Education (CDE), and the Consumer Product Safety Commission (CPSC) regulate lead-containing paint and lead products.

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 1993 are presumed to contain some lead-based paint until sampling proves otherwise.

The CDE mandates that school districts utilize DHS lead-certified personnel when a lead-based hazard is identified. Examples of lead-certified personnel include: project designers, inspectors, and abatement workers. Furthermore, since 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).** Any and all Work which may result in the disturbance of lead-containing building materials must be coordinated through the District.

The California Education Code also prohibits the use or import of lead-containing paint, lead plumbing and solders, or other potential sources of lead contamination in the construction of any new school facility or in the modernization or renovation of any existing school facility. 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.

All contractors who disturb lead-based paint in a six-square-foot area or greater indoors or a 20-square-foot area or greater outdoors shall comply with the Renovation, Repair and Painting Rule, shall receive training from a U.S. EPA-accredited training provider, and shall be certified by the U.S. EPA. Contractor, its workers and subcontractors must fully and adequately comply 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).

If failure to comply with these laws, rules, and regulations 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 UNDERSIGNED HEREBY ACKNOWLEDGES, UNDER PENALTY OF PERJURY, THAT HE OR SHE HAS RECEIVED NOTIFICATION OF POTENTIAL LEAD-BASED MATERIALS ON THE OWNER'S PROPERTY, AS WELL AS THE EXISTENCE OF APPLICABLE LAWS, RULES AND REGULATIONS GOVERNING WORK WITH, AND DISPOSAL OF, SUCH MATERIALS WITH WHICH IT MUST COMPLY. THE UNDERSIGNED ALSO WARRANTS THAT HE OR SHE HAS THE AUTHORITY TO SIGN ON BEHALF OF AND BIND THE CONTRACTOR.

Date: _____

Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

DIR REGISTRATION VERIFICATION
(Labor Code Section 1771.1)

PROJECT: _____

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 #: _____

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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: _____

END OF DOCUMENT

RUSSIA SANCTIONS COMPLIANCE CERTIFICATION

PROJECT/CONTRACT NO.: _____ between the Colton Joint Unified School District ("District") and _____ ("Contractor" or "Bidder")

On March 4, 2022, the Governor of California issued Executive Order N-6-22, regarding U.S. economic sanctions against Russia and Russian entities and individuals. As verification of its compliance with the Executive Order N-6-22, as well as applicable federal and state law, Contractor hereby certifies the following with respect to all economic sanctions imposed by the U.S. government in response to Russia's actions in Ukraine, as well as any sanctions imposed under state law (collectively, "economic sanctions"):

1. Contractor is not the target of economic sanctions.
2. Contractor is in compliance with all economic sanctions.

Certification:

I, the authorized representative for _____, certify that I am duly authorized to execute this certification, and the Contractor identified below has conducted a good faith review of existing contracts. I further certify and attest that the Contractor is not a target of economic sanctions, and that the Contractor is in compliance with the economic sanctions imposed by the U.S. government in response to Russia's actions in Ukraine, as well as any requirements related to the Russian sanctions imposed by Executive Order N-6-22 and under state law, if any.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

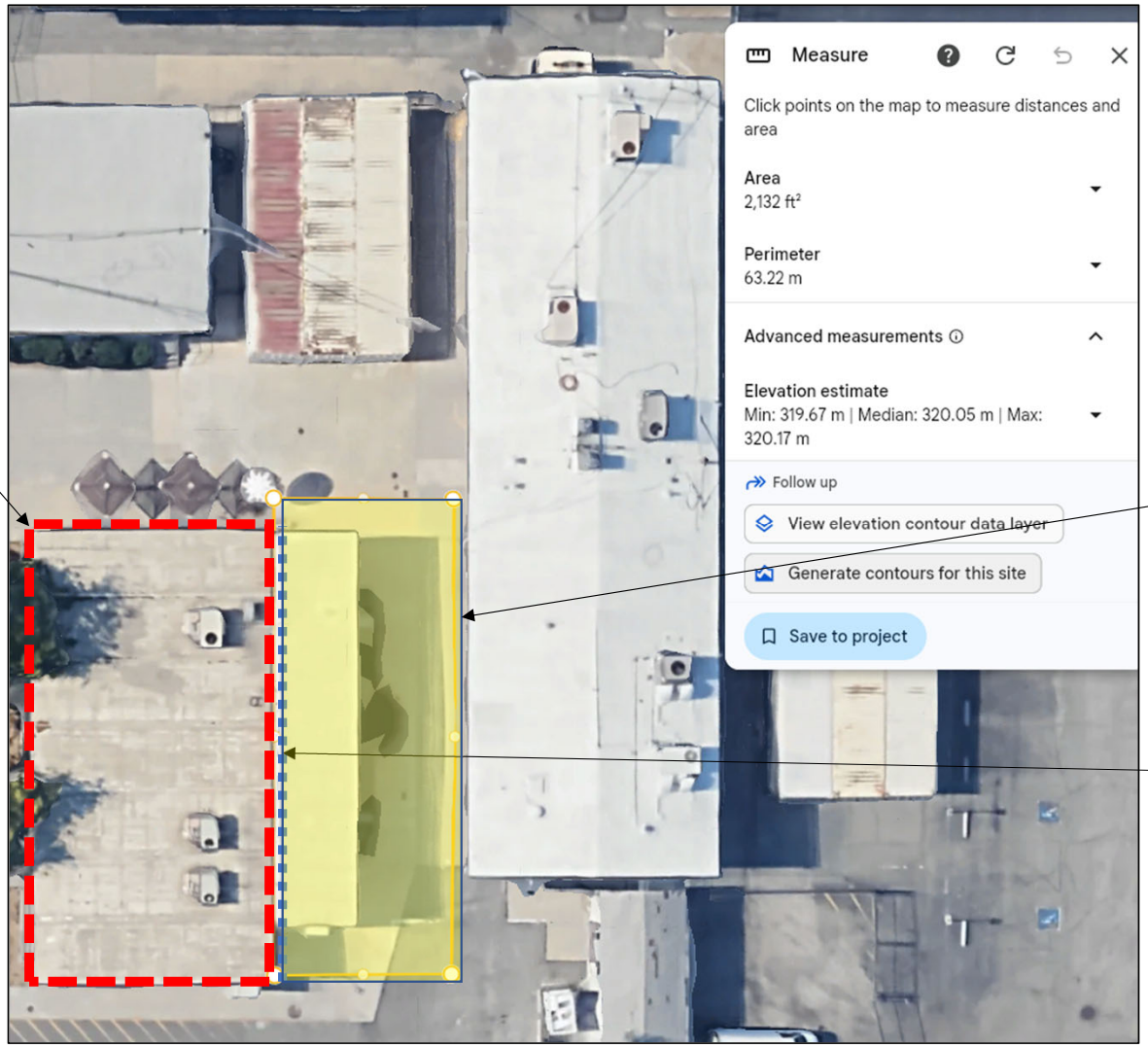
Title: _____

END OF DOCUMENT

BID 27-06FAC

District Office Flatwork

Site Plan



Prepare and Paint Exterior of Building. Color to Match Existing

Approximate Extent of Hardscape removal and Pavement/Landscape Renovation

Replace Lower Portion of Building Siding Per Enlarged Details 1 and 2

OPTION 1

CONCRETE NEXT TO BUILDING / TURF NEXT TO BLOCK WALL (WITH CURB AT BUILDING)

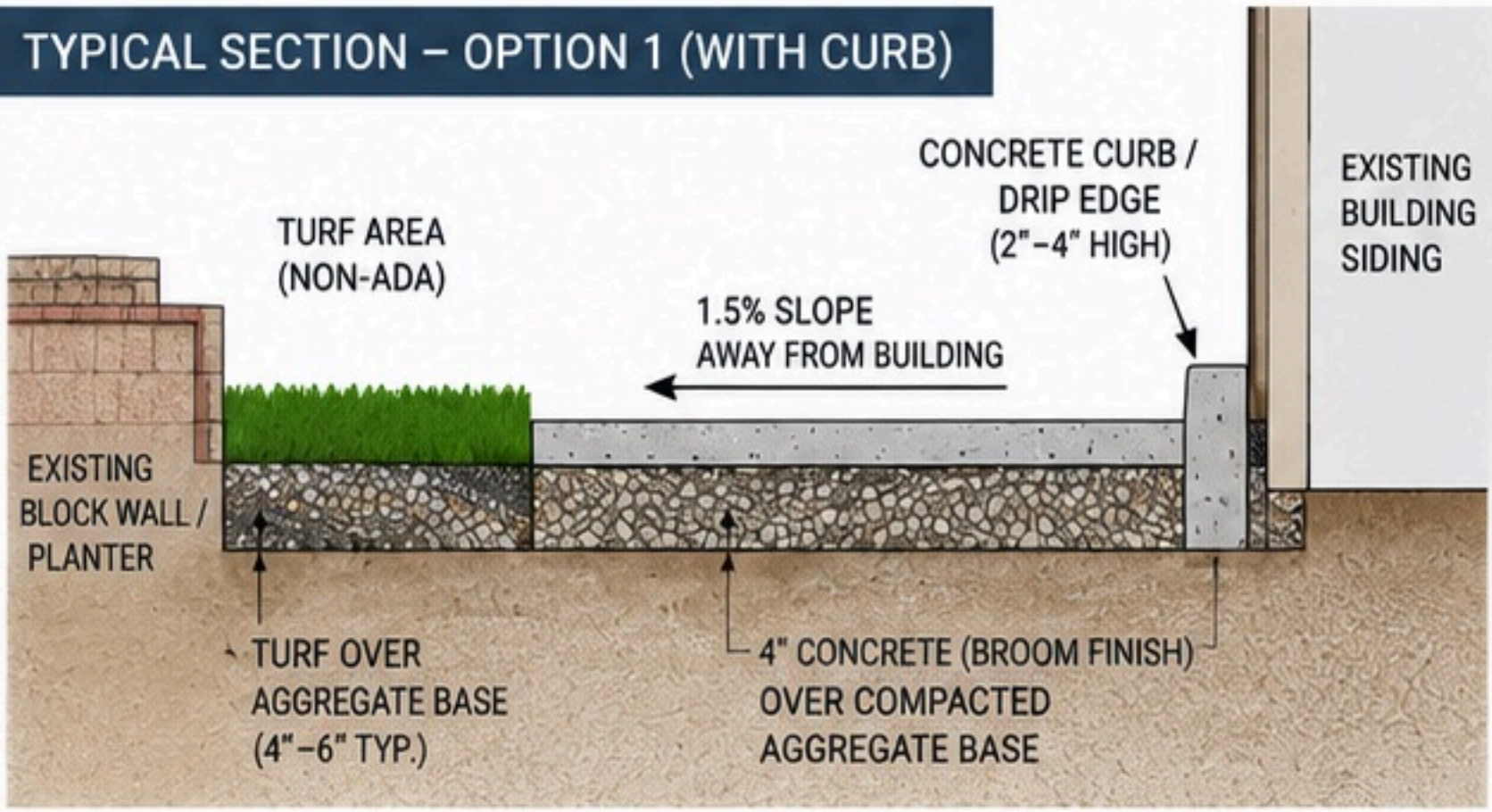
Paint Exterior Walls and Fascia on All Sides. Colors to Match Existing

CONCRETE CURB/ DRIP EDGE ALONG BUILDING (TYP. 2"–4")

ARTIFICIAL TURF (NON-ADA AREA)

1.5% SLOPE AWAY FROM BUILDING

TYPICAL SECTION – OPTION 1 (WITH CURB)



T1-11 SIDING | HORIZONTAL REPAIR JOINT

ENLARGED SECTION - CONTINUOUS Z-FLASHING AT EXISTING / NEW PANEL TRANSITION

DETAIL 1

EXTERIOR

WALL INTERIOR

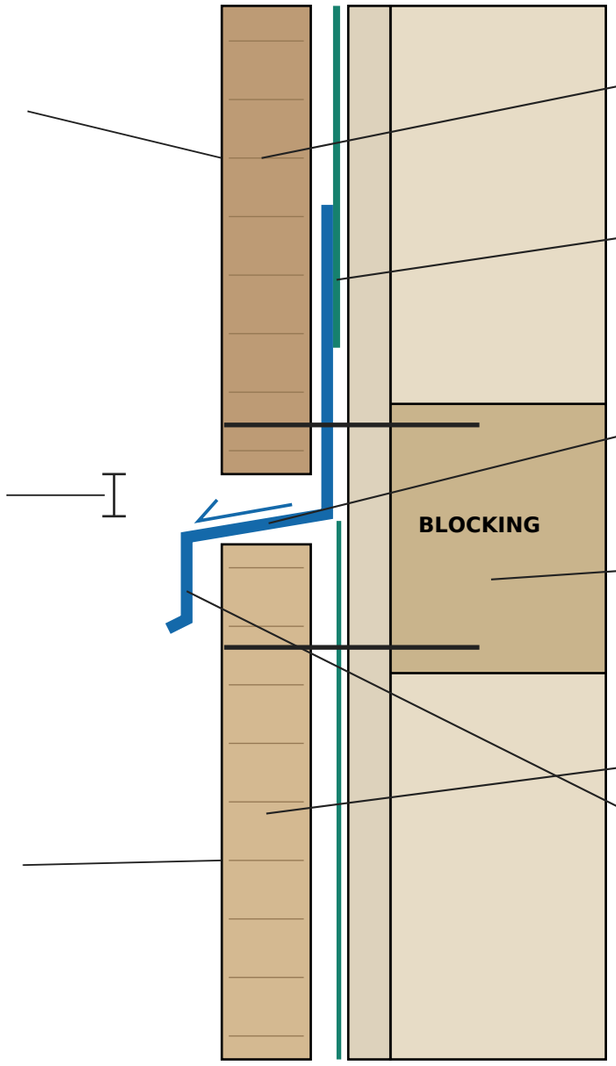
EXISTING UPPER PANEL

OPEN DRAINAGE GAP

Size per siding manufacturer;
do not fill with caulk or paint.

NEW LOWER PANEL

Approx. 3-4 feet high;
extend removal to sound wood.



1. **RETAIN SOUND EXISTING T1-11**
   Cut straight and level above deteriorated material.
   Do not damage concealed wall layers when cutting.

2. **REPAIR WEATHER-RESISTIVE BARRIER**
   Lap upper WRB over Z-flashing back leg; continue lower
   WRB beneath flashing. Maintain shingle-lapped drainage.

3. **CONTINUOUS Z-FLASHING**
   24-gauge Type 304 stainless steel; slope shelf outward.
   Downturned front leg overlaps face of new lower siding.

4. **BACKING / EDGE FASTENING**
   Provide solid blocking or approved structural backing
   for both panel edges; fasten per approved wall design.

5. **MATCH EXISTING SIDING**
   Match panel thickness, groove spacing and orientation.
   Prime cut edges; paint to match existing color and sheen.

6. **DRIP EDGE / FLASHING TERMINATIONS**
   Size flashing to actual panel thickness; keep drip clear.
   Provide watertight laps, corners and end terminations.

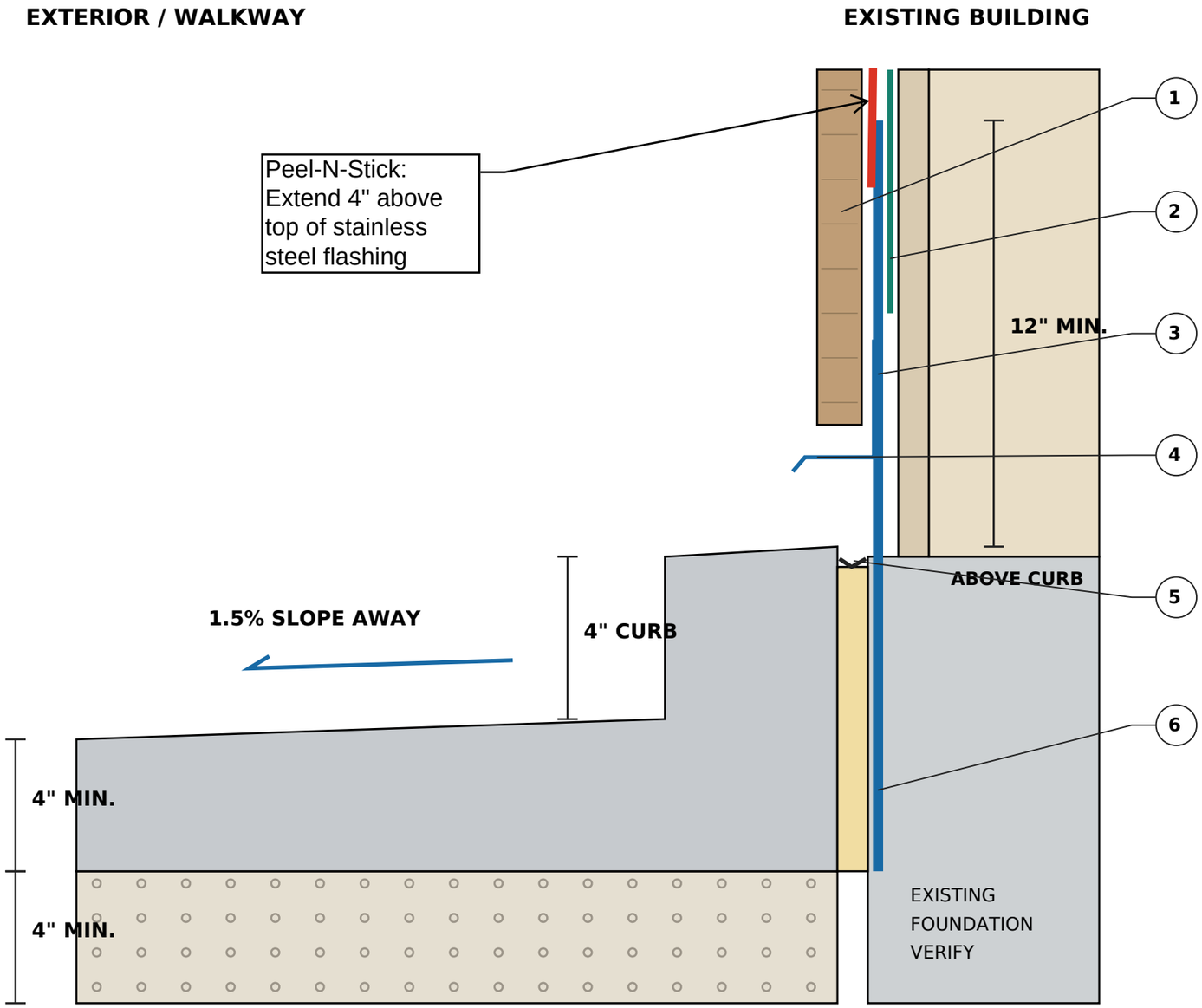
PROJECT / INSTALLATION NOTES

1. Detail is diagrammatic, not to scale. Confirm existing wall layers, siding product and repair limits before construction.
2. Do not butt new and existing panels tightly together. Provide manufacturer-required gap above the Z-flashing shelf.
3. Flashing upstand, front-leg depth, laps and fasteners: submit dimensions for approval before fabrication; no exposed shelf fasteners.
4. Inspect framing / sheathing for rot and correct the moisture source. Obtain District direction before concealing damaged substrates.
5. Verify whether existing T1-11 is structural shear sheathing. Cutting / blocking / fastening requires design review if structural.
6. Lower panel continues to the separate curb / base-flashing detail. This upper joint does not replace the flashing behind the curb.
7. Prepare, prime and paint affected wall sections to match existing color and sheen. Preserve drainage gap during painting.

DO FLATWORK | CURB / SIDING / SHEET-METAL FLASHING

REVISED SECTION - EXPOSED CURB TOP | NOT TO SCALE | PROPOSED DETAIL FOR REVIEW

DETAIL 2



4" CONCRETE WALK OVER 4" COMPACTED CLASS 2 BASE

Curb width / reinforcing / joints per approved project detail.

1 — T1-11 SIDING

Match existing thickness, profile, paint color and sheen.
Prime all cut edges; maintain required curb clearance.

2 — EXISTING / REPAIRED WEATHER BARRIER

Lap WRB over upper edge of vertical metal flashing.
Provide compatible transitions at edges and terminations.

3 — 24-GA. TYPE 304 STAINLESS STEEL FLASHING

Continuous vertical backpan behind curb; extend 12 inches minimum ABOVE CURB TOP, behind T1-11 and WRB.

4 — SIDING BASE DRIP / OPEN DRAINAGE GAP

Small formed drip above curb; no sheet-metal curb cap.
Maintain manufacturer-required gap; do not caulk it shut.

5 — CURB-TO-FLASHING ISOLATION JOINT

Compressible filler with compatible backer rod / sealant at curb top. Do not fasten curb to wall or flashing.

6 — VERTICAL METAL CONTINUES BEHIND CURB

Extend to base of curb / slab; seal transitions and ends.
No fasteners through concealed lower backpan.

INSTALLATION / REVIEW NOTES

1. Curb top remains exposed concrete; slope away from wall. Sheet-metal flashing does not extend across or cap curb.
2. Twelve-inch dimension is measured vertically from TOP OF CURB to TOP OF BACKPAN, not from walkway elevation.
3. Use shop-fabricated 24-gauge Type 304 stainless steel (nominal 0.024 inch), with compatible stainless-steel fasteners.
4. Provide watertight laps / corners / end dams and movement provisions; confirm fabrication and terminations before installation.
5. Verify wall layers and foundation onsite. Approve siding clearance, WRB integration and exterior drainage exit before construction.
6. Metal backpan alone is not a complete waterproofing system. Do not trap wall drainage behind curb or seal off the base drip.
7. Base: minimum 4 inches compacted Class 2 aggregate, 95% relative compaction per ASTM D1557. Structural design by others.

D-01 REV. 1 | 11/04/2026 | PROPOSED COORDINATION DETAIL - VERIFY AND APPROVE BEFORE CONSTRUCTION

SECTION 02 41 19 – SELECTIVE DEMOLITION

PART 1 – GENERAL

1.1 SUMMARY

A. Includes but Not Limited To:

1. Demolition and removal of selected portions of building or structure.

2. Salvage of existing items to be reused or recycled.

1.2 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Conference: Before beginning Selective Demolition work, in addition to requirements of Section 01 60 00, meet on site to confirm work to be demolished, items to be salvaged or reused, and coordination with Owner.

B. Scheduling: Indicate detailed sequence of selective demolition and removal work, with starting and ending dates for each activity, on Schedule specified in Section 01 30 00.

C. Storage or sale of removed items or materials will not be permitted on-site.

1.3 SUBMITTALS

A. Inventory: After selective demolition is complete, submit a list of items that have been removed and salvaged.

1.4 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ANSI A10.6 and NFPA 241.

C. Comply with C.F.C. Chapter 33.

1.5 FIELD CONDITIONS

A. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

PART 2 - PRODUCTS:

(Not Used)

PART 3 – EXECUTION

3.1 EXAMINATION

A. Hazardous Materials:

1. It is not expected that hazardous materials will be encountered in the Work. Identified hazardous materials will be removed by Owner before start of the Work.
2. If materials suspected of containing hazardous materials are encountered, do not disturb and immediately notify Architect.

B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

C. Inventory and record condition of items to be removed and reinstalled and items to be removed and salvaged.

D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure nature and extent of conflict. Promptly submit written report to Architect.

E. Engage a professional engineer to survey condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective demolition operations.

F. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 PREPARATION

A. Temporary Facilities:

1. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

2. Maintain fire-protection facilities in service during selective demolition operations.

B. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished. Strengthen or add new supports when required during progress of selective demolition.

C. Utility Services:

1. Existing Services/Systems: Maintain services/systems indicated to remain and protect them against damage during selective demolition operations.

2. Service/System Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.

   a. Arrange to shut off indicated utilities with utility companies.

   b. If services/systems are required to be removed, relocated, or abandoned, before proceeding with selective demolition, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.

3.3 SELECTIVE DEMOLITION

A. General:

1. Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

2. Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

   a. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
   b. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
   c. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
   d. Maintain adequate ventilation when using cutting torches.
   e. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
   f. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
   g. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
   h. Dispose of demolished items and materials promptly.

B. Selective Demolition Procedures for Specific Materials:

1. Concrete (If Applicable): Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals, using power-driven saw, then remove concrete between saw cuts.

2. Masonry (If Applicable): Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts.

3. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.

C. Removed and Salvaged Items:

1. Relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to Owner that may be encountered during selective demolition remain Owner's property. Carefully remove and salvage each item or object in a manner to prevent damage and deliver promptly to Owner.

a. Clean salvaged items as directed by Owner.
b. Pack or crate items after cleaning. Identify contents of containers.
c. Store items in a secure area until delivery to Owner.
d. Transport items to Owner's storage area designated by Owner.
e. Protect items from damage during transport and storage.

D. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment.

2. Pack or crate items after cleaning and repairing. Identify contents of containers.

3. Protect items from damage during transport and storage.

4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.4 CLEANING

A. Disposal of Demolished Materials:

1. Remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill. Do not burn demolished materials.

a. Do not allow demolished materials to accumulate on-site.
b. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
c. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

B. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION

SECTION 03 30 00 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Cast-in-place concrete, including concrete materials, mixture design, placement procedures, and finishes.

B. Related Requirements:

1. Section 03 10 00 "Concrete Forming and Accessories" for form-facing materials, form liners, insulating concrete forms, and waterstops.

2. Section 03 20 00 "Concrete Reinforcing" for steel reinforcing bars and welded-wire reinforcement.

1.2 DEFINITIONS

A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash, slag cement, other pozzolans, and silica fume; materials subject to compliance with requirements.

B. Water/Cement Ratio (w/cm): 0.48 The ratio by weight of water to cementitious materials.

1.3 ACTION SUBMITTALS

A. Product Data: For each of the following.

1. Portland cement.

2. Fly ash.

3. Slag cement.

4. Blended hydraulic cement.

5. Silica fume.

6. Performance-based hydraulic cement

7. Aggregates.

8. Admixtures:

a. Include limitations of use, including restrictions on cementitious materials, supplementary cementitious materials, air entrainment, aggregates, temperature at time of concrete placement, relative humidity at time of concrete placement, curing conditions, and use of other admixtures.

9. Vapor retarders.

10. Curing materials.

11. Repair materials.

B. Design Mixtures: For each concrete mixture, include the following:

1. Mixture identification.

2. Minimum 28-day compressive strength.

3. Durability exposure class.

4. Maximum w/cm.

5. Slump limit.

6. Air content.

7. Nominal maximum aggregate size.

8. Intended placement method.

9. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For the following:

1. Installer: Include copies of applicable ACI certificates.

2. Ready-mixed concrete manufacturer.

a. Permeability-Reducing Admixture: Include independent test reports, indicating compliance with specified requirements, including dosage rate used in test.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Comply with ASTM C94/C94M and ACI 301.

PART 2 – PRODUCT

2.1 CONCRETE, GENERAL

A. ACI Publications: Comply with ACI 301 unless modified by requirements in the Contract Documents.

2.2 CONCRETE MATERIALS

A. Source Limitations:

1. Obtain all concrete mixtures from a single ready-mixed concrete manufacturer for entire Project.

2. Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant.

3. Obtain aggregate from single source.

4. Obtain each type of admixture from single source from single manufacturer.

B. Cementitious Materials:

1. Portland Cement: ASTM C150/C150M, [Type V], [gray] [white].

2. Fly Ash: ASTM C618, Class C or F.

3. Slag Cement: ASTM C989/C989M, Grade 100 or 120.

4. Silica Fume: ASTM C1240 amorphous silica.

5. Performance-Based Hydraulic Cement: ASTM C1157/C1157M: [Type GU, general use] [Type HE, high early strength] [Type MS, moderate sulfate resistance] [Type HS, high sulfate resistance] [Type MH, moderate heat of hydration] [Type LH, low heat of hydration].

C. Normal-Weight Aggregates: ASTM C33/C33M, coarse aggregate or better, graded. Provide aggregates from a single source.

1. Alkali-Silica Reaction: Comply with one of the following:

a. Expansion Result of Aggregate: Not more than 0.04 percent at one-year when tested in accordance with ASTM C1293.
b. Expansion Results of Aggregate and Cementitious Materials in Combination: Not more than 0.10 percent at an age of 16 days when tested in accordance with ASTM C1567.
c. Alkali Content in Concrete: Not more than 4 lb./cu. yd. for moderately reactive aggregate or 3 lb./cu. yd. for highly reactive aggregate, when tested in accordance with ASTM C1293 and categorized in accordance with ASTM C1778, based on alkali content being calculated in accordance with ACI 301.

2. Maximum Coarse-Aggregate Size: 3/4 inch.

3. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

D. Water and Water Used to Make Ice: ASTM C94/C94M, potable [or] [complying with ASTM C1602/C1602M, including all limits listed in Table 2 and the requirements of paragraph 5.4]

2.3 VAPOR RETARDERS

A. Sheet Vapor Retarder, Class A: ASTM E1745, Class A[, except with maximum water-vapor permeance of] <Insert rating>; not less than 10 mils thick. Include manufacturer's recommended adhesive or pressure-sensitive tape.

1. Sheet Vapor Retarder, Class C: ASTM E1745, Class C; not less than 10 mils thick. Include manufacturer's recommended adhesive or pressure-sensitive joint tape.

2.4 REPAIR MATERIALS

A. Repair Underlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch and that can be feathered at edges to match adjacent floor elevations.

1. Cement Binder: ASTM C150/C150M portland cement or hydraulic or blended hydraulic cement, as defined in ASTM C219.
2. Primer: Product of underlayment manufacturer recommended for substrate, conditions, and application.
3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand, as recommended by underlayment manufacturer.
4. Compressive Strength: Not less than 5000 psi at 28 days when tested in accordance with ASTM C109/C109M.

B. Repair Overlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/4 inch and that can be filled in over a scarified surface to match adjacent floor elevations.

1. Cement Binder: ASTM C150/C150M portland cement or hydraulic or blended hydraulic cement, as defined in ASTM C219.
2. Primer: Product of topping manufacturer recommended for substrate, conditions, and application.
3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand as recommended by topping manufacturer.
4. Compressive Strength: Not less than 5000 psi at 28 days when tested in accordance with ASTM C109/C109M.

2.5 CONCRETE MIXTURES, GENERAL

A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, in accordance with ACI 301. se a qualified testing agency for preparing and reporting proposed mixture designs, based on laboratory trial mixtures.

B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:

1. Fly Ash or Other Pozzolans: 25 percent by mass.

2. Slag Cement: 50 percent by mass.

3. Silica Fume: 10 percent by mass.

4. Total of Fly Ash or Other Pozzolans, Slag Cement, and Silica Fume: 50 percent by mass, with fly ash or pozzolans not exceeding 25 percent by mass and silica fume not exceeding 10 percent by mass.

5. Total of Fly Ash or Other Pozzolans and Silica Fume: 35 percent by mass with fly ash or pozzolans not exceeding 25 percent by mass and silica fume not exceeding 10 percent by mass.

C. Admixtures: Use admixtures in accordance with manufacturer's written instructions.

2.6 CONCRETE MIXTURES

A. Class [C] : Normal-weight concrete used for interior slabs-on-ground.

1. Minimum Compressive Strength 3000 psi at 28 days.

2. Maximum w/cm: [0.48]

3. Slump Limit: 4 inches, plus or minus 1 inch before adding high-range water-reducing admixture or plasticizing admixture

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification of Conditions:

1. Before placing concrete, verify that installation of concrete forms, accessories, and reinforcement, and embedded items is complete and that required inspections have been performed.

2. Do not proceed until unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Provide reasonable auxiliary services to accommodate field testing and inspections, acceptable to testing agency, including the following:

1. Daily access to the Work.

2. Incidental labor and facilities necessary to facilitate tests and inspections.

3. Secure space for storage, initial curing, and field curing of test samples, including source of water and continuous electrical power at Project site during site curing period for test samples.

4. Security and protection for test samples and for testing and inspection equipment at Project site.

3.3 INSTALLATION OF VAPOR RETARDER

A. Sheet Vapor Retarders: Place, protect, and repair sheet vapor retarder in accordance with ASTM E1643 and manufacturer's written instructions.

1. Install vapor retarder with longest dimension parallel with direction of concrete pour.

2. Face laps away from exposed direction of concrete pour.

3. Lap vapor retarder over footings and grade beams not less than 6 inches, sealing vapor retarder to concrete.

4. Lap joints 6 inches and seal with manufacturer's recommended tape.

5. Terminate vapor retarder at the top of floor slabs, grade beams, and pile caps, sealing entire perimeter to floor slabs, grade beams, foundation walls, or pile caps.

6. Seal penetrations in accordance with vapor retarder manufacturer's instructions.

7. Protect vapor retarder during placement of reinforcement and concrete.

    a. Repair damaged areas by patching with vapor retarder material, overlapping damages area by 6 inches on all sides, and sealing to vapor retarder.

B. Bituminous Vapor Retarders: Place, protect, and repair bituminous vapor retarder in accordance with manufacturer's written instructions.

3.4 CONCRETE PLACEMENT

A. Before placing concrete, verify that installation of formwork, reinforcement, embedded items, and vapor retarder is complete and that required inspections are completed.

1. Immediately prior to concrete placement, inspect vapor retarder for damage and deficient installation, and repair defective areas.

2. Provide continuous inspection of vapor retarder during concrete placement and make necessary repairs to damaged areas as Work progresses.

B. Notify Architect and testing and inspection agencies 24 hours prior to commencement of concrete placement.

C. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Architect in writing, but not to exceed the amount indicated on the concrete delivery ticket.

D. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete is placed on concrete that has hardened enough to cause seams or planes of weakness.

1. If a section cannot be placed continuously, provide construction joints as indicated.

2. Deposit concrete to avoid segregation.

3. Deposit concrete in horizontal layers of depth not to exceed formwork design pressures and in a manner to avoid inclined construction joints.

4. Consolidate placed concrete with mechanical vibrating equipment in accordance with ACI 301.

    a. Do not use vibrators to transport concrete inside forms.
    b. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer.
    c. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity.
    d. At each insertion, limit duration of vibration to time necessary to consolidate concrete, and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.

3.5 CONCRETE SURFACE REPAIRS

A. Defective Concrete:

1. Repair and patch defective areas when approved by Architect.

2. Remove and replace concrete that cannot be repaired and patched to Architect's approval.

B. Patching Mortar: Mix dry-pack patching mortar, consisting of 1 part portland cement to 2-1/2 parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.

3.6 PROTECTION

A. Protect concrete surfaces as follows:

1. Protect from petroleum stains.

2. Diaper hydraulic equipment used over concrete surfaces.

3. Prohibit vehicles from interior concrete slabs.

4. Prohibit use of pipe-cutting machinery over concrete surfaces.

5. Prohibit placement of steel items on concrete surfaces.

6. Prohibit use of acids or acidic detergents over concrete surfaces.

7. Protect liquid floor treatment from damage and wear during the remainder of construction period. Use protective methods and materials, including temporary covering, recommended in writing by liquid floor treatments installer.

END OF SECTION

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SECTION 062013 - EXTERIOR FINISH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Exterior trim.
2. Lumber siding.
3. Plywood siding.
4. Engineered wood siding.
5. Lumber soffits.
6. Plywood soffits.
7. Engineered wood soffits.

1.2 DEFINITIONS

A. MDO: Plywood with a medium-density overlay on the face.

B. PVC: Polyvinyl chloride.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product. Indicate component materials, dimensions, profiles, textures, and colors and include construction and application details.

1. Include data for wood-preservative treatment from chemical-treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained. Include chemical-treatment manufacturer's written instructions for finishing treated material.
2. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced before shipment to Project site to levels specified.

B. Sustainable Design Submittals:

C. Samples: For each exposed product and for each color and texture specified.

D. Samples for Initial Selection: For each type of product involving selection of colors, profiles, or textures.

E. Samples for Verification:

1. For each species and cut of lumber and panel products, with half of exposed surface finished; 50 sq. in. (300 sq. cm) for lumber and 8 by 10 inches (200 by 250 mm) for panels.
2. For engineered wood [**siding**] [**and**] [**soffits**], 50 sq. in. (300 sq. cm) for board types and 8 by 10 inches (200 by 250 mm) for panels.
3. For cellular PVC trim, with half of exposed surface finished; 50 sq. in. (300 sq. cm).
4. For foam-plastic moldings, with half of exposed surface finished; 50 sq. in. (300 sq. cm).

1.4 INFORMATIONAL SUBMITTALS

A. Compliance Certificates:

1. For lumber that is not marked with grade stamp.
2. For preservative-treated wood that is not marked with treatment-quality mark.

B. Evaluation Reports: For the following, from ICC-ES:

1. Wood-preservative-treated wood.
2. Cellular PVC trim.
3. Foam-plastic moldings.

C. Sample Warranties: For manufacturer's warranties.

1.5 QUALITY ASSURANCE

1.6 DELIVERY, STORAGE, AND HANDLING

A. Stack lumber, plywood, and other panels flat with spacers between each bundle to provide air circulation.

1. Protect materials from weather by covering with waterproof sheeting, securely anchored.
2. Provide for air circulation around stacks and under coverings.

1.7 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecast weather conditions permit work to be performed and at least one coat of specified finish can be applied without exposure to rain, snow, or dampness.

B. Do not install finish carpentry materials that are wet, moisture damaged, or mold damaged.

1. Indications that materials are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
2. Indications that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

1.8 WARRANTY

A. Engineered Wood Manufacturer's Warranty: Manufacturer agrees to repair or replace components of engineered wood siding [**soffits**] [**and**] [**trim**] that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, deformation or deterioration beyond normal weathering.

2. Warranty Period for Factory-Applied Finish: [**Five**] <**Insert number**> years from date of Substantial Completion.
3. Warranty Period: Siding [**Soffits**] [**and**] [**Trim**] (Excluding Finish), [**25**] <**Insert number**> years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

C. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, comply with applicable rules of any rules-writing agency certified by the American Lumber Standard Committee's (ALSC) Board of Review. Grade lumber by an agency certified by the ALSC's Board of Review to inspect and grade lumber under the rules indicated.

1. Factory mark each piece of lumber with grade stamp of inspection agency, indicating grade, species, moisture content at time of surfacing, and mill.
2. For exposed lumber, mark grade stamp on end or back of each piece[**, or omit grade stamp and provide certificates of grade compliance issued by inspection agency**].

D. Softwood Plywood: DOC PS 1.

E. Hardboard: ANSI A135.4.

2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

A. Water-Repellent Preservative Treatment by Nonpressure Process: AWPA N1; dip, spray, flood, or vacuum-pressure treatment.

1. Preservative Chemicals: 3-iodo-2-propynyl butyl carbamate (IPBC)[**, combined with an insecticide containing chloropyrifos (CPF)**] <**Insert requirement**>.
2. Use chemical formulations that do not bleed through or otherwise adversely affect finishes. Do not use colorants in solution to distinguish treated material from untreated material.
3. Application: [**Items not required to be pressure-preservative treated**] [**Exterior trim**] [**and**] [**wood siding**] <**Insert application**>.

B. Preservative Treatment by Pressure Process: AWPA U1; Use Category [**UC3a**] [**UC3b**].

1. Kiln dry lumber and plywood after treatment to a maximum moisture content of 19 and 18 percent, respectively.

2. Preservative Chemicals: Acceptable to authorities having jurisdiction[**and containing no arsenic or chromium**].
3. For exposed items indicated to receive transparent finish, do not use chemical formulations that contain colorants or that bleed through or otherwise adversely affect finishes.
4. Do not use material that is warped or does not comply with requirements for untreated material.
5. Mark lumber with treatment-quality mark of an inspection agency approved by the ALSC's Board of Review.

    a. For exposed lumber indicated to receive a stained or natural finish, [**mark end or back of each piece**] [**or**] [**omit marking and provide certificates of treatment compliance issued by inspection agency**].

6. Mark plywood with appropriate classification marking of an inspection agency acceptable to authorities having jurisdiction.

    a. For exposed plywood indicated to receive a stained or natural finish, mark back of each piece.

7. Application: [**Where indicated on Drawings**] [**All exterior lumber and plywood**] <**Insert application**>.

2.3 EXTERIOR TRIM

A. Lumber Trim for Transparent Finish (Stain or Clear Finish):

1. Species and Grade:

    a. Redwood; RIS [**Clear All Heart**] [**Heart B**] [**Clear**] [**Grade B**].
    b. Western red cedar; NLGA, WCLIB, or WWPA [**Clear Heart VG (Vertical Grain)**] [**Clear Heart**] [**Grade A**] [**Grade B**].

c. Hem-fir; pressure-preservative treated; NLGA, WCLIB, or WWPA [**1 Common**] [**2 Common**].
d. Southern pine; pressure-preservative treated; SPIB [**B & B**] [**C & Btr**] [**D**].

2. Maximum Moisture Content: [**19**] [**15**] percent[**with at least 85 percent of shipment at 12 percent or less**].

3. Finger Jointing: [**Not allowed**] [**Allowed if made with wet-use adhesive complying with ASTM D5572**].
4. Face Surface: [**Surfaced (smooth)**] [**Saw textured**].

B. Lumber Trim for Opaque Finish (Painted Finish):

1. Species and Grade:

a. Redwood; RIS [**Clear**] [**Grade B**].
b. Western red cedar; NLGA, WCLIB, or WWPA [**Grade A**] [**Grade B**].
c. Hem-fir; NLGA, WCLIB, or WWPA [**Prime or D finish**] [**1 Common**] [**2 Common**].
d. Eastern white pine, eastern hemlock-balsam fir-tamarack, eastern spruce, or white woods; NeLMA, NLGA, WCLIB, or WWPA [**D Select (Quality)**] [**Finish or 1 Common (Colonial)**] [**Premium or 2 Common (Sterling)**].
e. Northern white cedar; NeLMA or NLGA [**D Select**] [**1 Common**] [**2 Common**].

2. Maximum Moisture Content: [**19**] [**15**] percent[**with at least 85 percent of shipment at 12 percent or less**].

3. Finger Jointing: [**Not allowed**] [**Allowed if made with wet-use adhesive complying with ASTM D5572**].
4. Face Surface: [**Surfaced (smooth)**] [**Saw textured**].
5. Factory Priming: Factory coated on both faces and all edges, with exterior primer compatible with topcoats specified.

C. Moldings for Transparent Finish (Stain or Clear Finish): MMPA WM 4, N-grade wood moldings, without finger jointing, made from kiln-dried stock to patterns included in MMPA's "WM/Series Softwood Moulding Patterns."

1. Species: [**Redwood**] [**Western red cedar**] [**Eastern white, Idaho white, lodgepole, ponderosa, radiata, or sugar pine**] <**Insert species**>.

2. Brick-Mold Pattern: WWMPA WM 180, 1-1/4 by 2 inches (32 by 51 mm).
3. Drip-Cap Pattern: WWMPA WM 197, 11/16 by 1-5/8 inches (17 by 41 mm).
4. Bed-Mold Pattern: WWMPA WM 75, 9/16 by 1-5/8 inches (14 by 41 mm).
5. Screen-Bead Pattern: WWMPA WM 144, 1/4 by 3/4 inch (6 by 19 mm).

D. Moldings for Opaque Finish (Painted Finish): MMPA WM 4, P-grade wood moldings, made from kiln-dried stock to patterns included in MMPA's "WM/Series Softwood Moulding Patterns."

1. Species: [**Redwood**] [**Western red cedar**] [**Eastern white, Idaho white, lodgepole, ponderosa, radiata, or sugar pine**] <**Insert species**>.

2. Finger Jointing: [**Not allowed**] [**Allowed if made with wet-use adhesive complying with ASTM D5572**].
3. Factory Priming: Factory coated on both faces and all edges, with exterior primer compatible with topcoats specified.

4. Brick-Mold Pattern: WWMPA WM 180, 1-1/4 by 2 inches (32 by 51 mm).
5. Drip-Cap Pattern: WWMPA WM 197, 11/16 by 1-5/8 inches (17 by 41 mm).
6. Bed-Mold Pattern: WWMPA WM 75, 9/16 by 1-5/8 inches (14 by 41 mm).
7. Screen-Bead Pattern: WWMPA WM 144, 1/4 by 3/4 inch (6 by 19 mm).

E. MDO Trim: Exterior Grade B-B MDO plywood.

F. Primed Hardboard Trim: ANSI A135.6, primed with manufacturer's standard exterior primer. Recommended by manufacturer for exterior use.

G. Cellular PVC Trim: Extruded, expanded PVC with a small-cell microstructure, recommended by manufacturer for exterior use, made from UV- and heat-stabilized rigid material.

2. Density: Not less than 31 lb/cu. ft. (500 kg/cu. m).
3. Heat Deflection Temperature: Not less than 130 deg F (54 deg C), in accordance with ASTM D648.
4. Coefficient of Thermal Expansion: Not more than 4.5 x 10(-5) inches/inch x deg F (8.1 x 10(-5) mm/mm x deg C).
5. Water Absorption: Not more than 1 percent, in accordance with ASTM D570.
6. Flame-Spread Index: 75 or less, in accordance with ASTM E84.

H. Foam-Plastic Moldings: Molded product of shapes indicated, recommended by manufacturer for exterior use, with a tough outer skin on exposed surfaces; factory primed. Exposed surfaces are not to be shaped after molding.

2. Density: Not less than 20 lb/cu. ft. (320 kg/cu. m).
3. Flame-Spread Index: Not more than [**75**] <**Insert number**> when tested in accordance with ASTM E84.
4. Thickness: Not more than 1/2 inch (12.7 mm).
5. Width: Not more than 8 inches (204 mm).

6. Patterns: [**As indicated by manufacturer's designations**] [**Match Architect's samples**].

2.4 LUMBER SIDING

A. Provide kiln-dried lumber siding complying with DOC PS 20[**, factory coated with exterior primer compatible with topcoats specified**].

B. Species and Grade:

1. Redwood; RIS [**Clear All Heart VG**] [**Clear All Heart**] [**Clear VG (Vertical Grain)**] [**Clear**] [**Grade B**].
2. Western red cedar; NLGA, WCLIB, or WWPA [**Clear VG (Vertical Grain) Heart**] [**Grade A**] [**Grade B**].
3. Spruce-pine-fir; NeLMA, NLGA, WCLIB, or WWPA [**1 Common**] [**2 Common**].
4. Pressure-preservative-treated hem-fir; NLGA, WCLIB, or WWPA [**Prime or D finish**] [**1 Common**] [**2 Common**].
5. Eastern white pine, eastern hemlock-balsam fir-tamarack, eastern spruce, or white woods; NeLMA, NLGA, WCLIB, or WWPA [**D Select (Quality)**] [**Finish or 1 Common (Colonial)**] [**Premium or 2 Common (Sterling)**].
6. Northern white cedar; NeLMA or NLGA [**D Select**] [**1 Common**] [**2 Common**].
7. Pressure-preservative-treated southern pine; SPIB [**B & B**] [**C & Btr**] [**D**] [**1 Common**] [**2 Common**].

C. Pattern:

1. Bevel siding, S1S2E, actual overall dimensions of [**5-1/2 by 11/16 inch (140 by 17 mm)**] [**5-1/2 by 3/4 inch (140 by 19 mm)**] [**7-1/4 by 3/4 inch (184 by 19 mm)**] [**9-1/4 by 3/4 inch (235 by 19 mm)**] [**9-1/4 by 1-3/32 inches (235 by 28 mm)**], measured on the face and thick edge.

2. Drop siding, SPIB or WWPA pattern No. 105, actual face width (coverage) and thickness of [**4-7/8 by 9/16 inch (124 by 14 mm)**] [**4-7/8 by 23/32 inch (124 by 18 mm)**] [**6-5/8 by 23/32 inch (168 by 18 mm)**] [**8-5/8 by 23/32 inch (219 by 18 mm)**].
3. V-edge, smooth-faced tongue and groove, actual face width (coverage) and thickness of [**3-1/8 by 9/16 inch (79 by 14 mm)**] [**3-1/8 by 23/32 inch (79 by 18 mm)**] [**5-1/8 by 23/32 inch (130 by 18 mm)**] [**6-7/8 by 23/32 inch (175 by 18 mm)**].

2.5 PLYWOOD SIDING

B. Plywood Type: APA-rated siding[**, pressure-preservative treated,**] [**, factory coated with exterior acrylic latex stain,**] in panel sizes indicated.

1. Face Grade, Surface: 303-[**OC**] [**OL**] [**NR**] [**SR**].
2. Face Grade, Patches: 303-[**6**] [**18**] [**30**]-[**S**] [**W**] [**S/W**].

C. Thickness: [**11/32 inch (8.7 mm)**] [**3/8 inch (9.5 mm)**] [**15/32 inch (11.9 mm)**] [**1/2 inch (12.7 mm)**] [**19/32 inch (15.1 mm)**] [**5/8 inch (15.9 mm)**] [**As indicated**].

D. Face Species: [**Southern pine**] [**Douglas fir**] [**Western red cedar**] [**Redwood**].

E. Pattern: [**Plain.**] [**Channel groove; grooves 4 inches (101.6 mm) o.c.**] [**Texture 1-11; grooves 4 inches (101.6 mm) o.c.**] [**Reverse board and batten; grooves 12 inches (304.8 mm) o.c.**]

F. Surface: [**Smooth**] [**Rough sawn**].

2.6 ENGINEERED WOOD SIDING

B. Engineered Wood Siding: ANSI A135.6, primed with manufacturer's standard exterior primer.

1. Type:

a. 7/16-inch- (11-mm-) thick by [**6-inch- (152-mm-)**] [**8-inch- (203-mm-)**] wide lap siding.
b. 1/2-inch- (12.7-mm-) thick by 8-inch- (203-mm-) wide, beaded-edge lap siding.

c. 7/16-inch- (11-mm-) thick, shiplap-edge panels; with grooves 3-5/8 inches (92 mm) o.c., simulating wood drop siding.
d. 1/2-inch- (12.7-mm-) thick, shiplap-edge panels; with grooves 5-1/2 inches (140 mm) o.c., simulating wood drop siding.
e. 7/16-inch- (11-mm-) thick, square-edge flat panels; without grooves.
f. 7/16-inch- (11-mm-) thick, shiplap-edge panels; channel grooved with grooves 8 inches (203 mm) o.c.

2. Texture: [**Smooth**] [**Wood grain**] [**Shingle**] [**Stucco**].

C. Colors, Textures, and Patterns: [**As indicated by manufacturer's designations**] [**Match Architect's samples**] [**As selected by Architect from manufacturer's full range**].

2.7 LUMBER SOFFITS

A. Provide kiln-dried lumber siding complying with DOC PS 20[**, factory coated with exterior primer compatible with topcoats specified**].

B. Species and Grade:

1. Redwood; RIS [**Clear All Heart**] [**Clear**] [**Grade B**].
2. Western red cedar; NLGA, WCLIB, or WWPA [**Grade A**] [**Grade B**].
3. Spruce-pine-fir; NeLMA, NLGA, WCLIB, or WWPA [**1 Common**] [**2 Common**].
4. Hem-fir; NLGA, WCLIB, or WWPA [**Prime or D finish**] [**1 Common**] [**2 Common**].
5. Eastern white pine, eastern hemlock-balsam fir-tamarack, eastern spruce, or white woods; NeLMA, NLGA, WCLIB, or WWPA [**D Select (Quality)**] [**Finish or 1 Common (Colonial)**] [**Premium or 2 Common (Sterling)**].
6. Northern white cedar; NeLMA or NLGA [**D Select**] [**1 Common**] [**2 Common**].
7. Southern pine; SPIB [**B & B**] [**C & Btr**] [**D**] [**1 Common**] [**2 Common**].

C. Pattern:

1. V-edge, smooth-faced tongue and groove, actual face width (coverage) and thickness of [**3-1/8 by 9/16 inch (79 by 14 mm)**] [**3-1/8 by 23/32 inch (79 by 18 mm)**] [**5-1/8 by 23/32 inch (130 by 18 mm)**] [**6-7/8 by 23/32 inch (175 by 18 mm)**].
2. Rounded-edge channel groove, tongue and groove, actual face width (coverage) and thickness of [**3-1/8 by 9/16 inch (79 by 14 mm)**] [**3-1/8 by 23/32 inch (79 by 18 mm)**] [**5-1/8 by 23/32 inch (130 by 18 mm)**] [**6-7/8 by 23/32 inch (175 by 18 mm)**].
3. Edge and center bead, tongue and groove, actual face width (coverage) and thickness of [**3-1/8 by 9/16 inch (79 by 14 mm)**] [**3-1/8 by 23/32 inch (79 by 18 mm)**] [**5-1/8 by 23/32 inch (130 by 18 mm)**] [**6-7/8 by 23/32 inch (175 by 18 mm)**], measured at 19 percent moisture content.
4. Beaded ceiling, tongue and groove, actual face width (coverage) and thickness of [**3-1/8 by 3/8 inch (79 by 9.5 mm)**] [**3-1/8 by 7/16 inch (79 by 11 mm)**].

2.8 PLYWOOD SOFFITS

B. Plywood Type: Exterior, [**Grade A-C**] [**Grade B-C**] [**Grade C-C, plugged and touch sanded**] [**APA-rated siding**].

1. Face Grade, Surface: 303-[**OC**] [**OL**] [**NR**] [**SR**].
2. Face Grade, Patches: 303-[**6**] [**18**] [**30**]-[**S**] [**W**] [**S/W**].

C. Thickness: [**11/32 inch (8.7 mm)**] [**3/8 inch (9.5 mm)**] [**15/32 inch (11.9 mm)**] [**1/2 inch (12.7 mm)**] [**19/32 inch (15.1 mm)**] [**As indicated**].

D. Face Species: [**Southern pine**] [**Douglas fir**] [**Western red cedar**] [**Redwood**].

E. Pattern: [**Plain.**] [**Channel groove; grooves 4 inches (101.6 mm) o.c.**] [**Texture 1-11; grooves 4 inches (101.6 mm) o.c.**]

F. Surface: [**Smooth**] [**Rough sawn**].

2.9 ENGINEERED WOOD SOFFITS

B. Engineered Wood Soffits: ANSI A135.6, primed with manufacturer's standard exterior primer.

1. Type: [**7/16-inch- (11-mm-)**] [**1/2-inch- (12.7-mm-)**] thick flat panels.
2. Texture: [**Smooth**] [**Wood grain**] [**Stucco**].

3. Colors, Textures, and Patterns: [**As indicated by manufacturer's designations**] [**Match Architect's samples**] [**As selected by Architect from manufacturer's full range**].

2.10 MISCELLANEOUS MATERIALS

A. Fasteners for Exterior Finish Carpentry: Provide nails or screws, in sufficient length to penetrate not less than 1-1/2 inches (38 mm) into wood substrate.

1. For face-fastening siding, provide ringed-shank siding nails[**or hot-dip galvanized-steel siding nails**][**unless otherwise indicated**].

2. For redwood, provide [**stainless steel**] [**hot-dip galvanized-steel**] fasteners.
3. For prefinished items, provide matching prefinished aluminum fasteners where face fastening is required.
4. For pressure-preservative-treated wood, provide [**stainless steel**] [**hot-dip galvanized-steel**] fasteners.
5. For applications not otherwise indicated, provide [**stainless steel**] [**hot-dip galvanized-steel**] [**or**] [**aluminum**] fasteners.

B. Wood Glue: Waterproof resorcinol glue recommended by manufacturer for exterior carpentry use.

C. Adhesive for Cellular PVC Trim: Product recommended by trim manufacturer.

D. Flashing: Comply with requirements in Section 076200 "Sheet Metal Flashing and Trim" for flashing materials installed in exterior finish carpentry.

1. Horizontal Joint Flashing for Panel Siding: Preformed, [**galvanized-steel**] [**aluminum**] [**prefinished-aluminum**] [**stainless steel**], Z-shaped flashing.

E. Insect Screening for Soffit Vents: [**Aluminum, 18-by-16-inch (1.6-by-1.4-mm) black mesh**] [**PVC-coated glass-fiber black fabric, 18-by-14-inch (1.8-by-1.4-mm) or 18-by-16-inch (1.6-by-1.4-mm) mesh**] [**Stainless steel, 18-by-18-inch (1.4-by-1.4-mm) mesh**].

F. Continuous Soffit Vents: Aluminum hat channel shape with [**stamped louvers**] [**perforations**], 2 inches (51 mm) wide and in lengths not less than 96 inches (2438 mm).

1. Net-Free Area: [**4 sq. in./linear ft. (280 sq. cm/m)**] [**6 sq. in./linear ft. (420 sq. cm/m)**] [**8 sq. in./linear ft. (560 sq. cm/m)**] <**Insert value**>.
2. Finish: [**Mill finish**] [**White paint**] [**Brown paint**] <**Insert description**>.

G. Round Soffit Vents:

1. Stamped aluminum louvered vents, [**2 inches (51 mm)**] [**2-1/2 inches (64 mm)**] [**3 inches (76 mm)**] [**4 inches (102 mm)**] <**Insert dimension**> in diameter, made to be inserted in round holes cut in soffit.

    a. Finish: [**Mill finish**] [**White paint**] [**Brown paint**] <**Insert description**>.

2. Molded-plastic louvered vents, [**2 inches (51 mm)**] [**2-1/2 inches (64 mm)**] [**3 inches (76 mm)**] [**4 inches (102 mm)**] <**Insert dimension**> in diameter, made to be inserted in round holes cut in soffit.

H. Sealants: Latex, complying with ASTM C834 [**Type OP, Grade NF**] <**Insert type and grade**> and applicable requirements in Section 079200 "Joint Sealants," and recommended by sealant and substrate manufacturers for intended application.

2.11 FABRICATION

A. Back out or kerf backs of standing and running trim wider than 5 inches (125 mm), except members with ends exposed in finished work.

B. Ease edges of lumber less than 1 inch (25 mm) in nominal thickness to 1/16-inch (1.5-mm) radius and edges of lumber 1 inch (25 mm) or more in nominal thickness to 1/8-inch (3-mm) radius.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine finish carpentry materials before installation. Reject materials that are wet, moisture damaged, and mold damaged.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean substrates of projections and substances detrimental to application.

B. Prime lumber and moldings to be painted, including both faces and edges, unless factory primed.

1. Cut to required lengths and prime ends.

2. Comply with requirements in Section 099113 "Exterior Painting."

3.3 INSTALLATION, GENERAL

A. Do not use materials that are unsound, warped, improperly treated or finished, inadequately seasoned, or too small to fabricate with proper jointing arrangements.

1. Do not use manufactured units with defective surfaces, sizes, or patterns.

B. Install exterior finish carpentry level, plumb, true, and aligned with adjacent materials.

1. Use concealed shims where necessary for alignment.
2. Scribe and cut exterior finish carpentry to fit adjoining work.
3. Refinish and seal cuts as recommended by manufacturer.

4. Install to tolerance of 1/8 inch in 96 inches (3 mm in 2438 mm) for level and plumb. Install adjoining exterior finish carpentry with 1/32-inch (0.8-mm) maximum offset for flush installation and 1/16-inch (1.5-mm) maximum offset for reveal installation.
5. Coordinate exterior finish carpentry with materials and systems in or adjacent to it.
6. Provide cutouts for mechanical and electrical items that penetrate exterior finish carpentry.

3.4 INSTALLATION OF STANDING AND RUNNING TRIM

A. Install flat-grain lumber with bark side exposed to weather.

B. Install cellular PVC trim to comply with manufacturer's written instructions.

C. Install trim with minimum number of joints as is practical, using full-length pieces from maximum lengths of lumber available. Do not use pieces less than 24 inches (610 mm) long, except where necessary.

1. Use scarf joints for end-to-end joints.
2. Stagger end joints in adjacent and related members.

D. Fit exterior joints to exclude water.

1. Cope at returns and miter at corners to produce tight-fitting joints, with full-surface contact throughout length of joint.
2. Plane backs of casings to provide uniform thickness across joints, where necessary for alignment.

E. Where face fastening is unavoidable, countersink fasteners, fill surface flush, and sand unless otherwise indicated.

3.5 INSTALLATION OF SIDING

A. Install siding to comply with manufacturer's written instructions[**and warranty requirements**].

B. Horizontal Lumber Siding:

1. Apply starter strip along bottom edge of sheathing or sill.
2. Install first course of siding, with lower edge at least 1/8 inch (3 mm) below starter strip and subsequent courses lapped 1 inch (25 mm) over course below.

    a. Nail at each stud.
    b. Do not allow nails to penetrate more than one thickness of siding.

3. Leave 1/8-inch (3-mm) gap at trim and corners unless otherwise recommended by manufacturer, and apply sealant.
4. Butt joints only over framing or blocking, nailing top and bottom on each side and staggering joints in subsequent courses.

5. Install prefabricated outside corners as recommended by manufacturer of siding materials.

C. Diagonal Lumber Siding:

1. Begin application at corner, with tongue edge up.
2. Install subsequent courses with tongue-and-groove edges tightly fitted together.

    a. Nail at each stud.

3. Leave 1/8-inch (3-mm) gap at trim and corners unless otherwise recommended by manufacturer, and apply sealant.
4. Butt joints only over framing or blocking, nailing top and bottom on each side and staggering joints in subsequent courses.

5. Install prefabricated outside corners as recommended by manufacturer of siding materials.

D. Plywood Siding:

1. Install panels with edges over framing or blocking.
2. Nail at 6 inches (150 mm) o.c. at panel perimeter and 12 inches (300 mm) o.c. at intermediate supports unless manufacturer recommends closer spacing.
3. Leave 1/16-inch (1.5-mm) gap between adjacent panels and 1/8-inch (3-mm) gap at perimeter, openings, and horizontal joints unless otherwise recommended by panel manufacturer.

4. Seal butt joints at inside and outside corners and at trim locations.
5. Install continuous metal flashing at horizontal panel joints.
6. Apply battens and corner trim as indicated.[**Countersink nail heads, fill flush, and sand filler.**]

7. Conceal fasteners to greatest practical extent[**by countersinking and filling,**] by placing in grooves of siding pattern or by concealing with applied trim or battens as detailed.

    a. Do not nail through overlapping pieces.

E. Engineered Wood Siding:

1. Install engineered wood siding to comply with manufacturer's written instructions.
2. Install panels with edges over framing or blocking.
3. Leave 3/16-inch (5-mm) gap at perimeter, openings, and horizontal panel joints unless otherwise recommended by panel manufacturer.
4. Seal butt joints at inside and outside corners and at trim locations.
5. Install continuous metal flashing at horizontal panel joints.
6. Apply battens and corner trim as indicated.
7. Conceal fasteners to greatest practical extent by placing in grooves of siding pattern or by concealing with applied trim or battens as detailed.

F. Flashing: Install metal flashing as indicated on Drawings and as recommended by siding manufacturer.

G. Finish: Apply finish within two weeks of installation.

3.6 ADJUSTING

A. Replace exterior finish carpentry that is damaged or does not comply with requirements.

1. Exterior finish carpentry may be repaired or refinished if work complies with requirements and shows no evidence of repair or refinishing.

B. Adjust joinery for uniform appearance.

3.7 CLEANING

A. Clean exterior finish carpentry on exposed and semiexposed surfaces.

B. Touch up factory-applied finishes to restore damaged or soiled areas.

3.8 PROTECTION

A. Protect installed products from damage from weather and other causes during construction.

B. Remove and replace finish carpentry materials that are wet, moisture damaged, and mold damaged.

1. Indications that materials are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
2. Indications that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 062013

SECTION 07 62 00 – SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Parapet Copings and Flashings.
2. Roof flashings.
3. Roof joint cover flashings.
4. Equipment Roof Curbs and Flashing.

B. Related Section:

1. Section 08 62 13. Tubular Daylighting Systems

1.2 REFERENCE STANDARDS

A. Conform to current adopted reference standards by date of issue of the current code cycle and the date of the Contract Documents.

B. 2022 CBC - California Building Code Chapters 14 and 15.

C. 2022 CALGreen - California Green Building Standards Code

D. American Society for Testing and Materials (ASTM)

1. ASTM A480/A480M- General Requirements for Flat-Rolled Stainless Steel and Heat Resisting Steel Plate, Sheet, and Strip.
2. ASTM A653/A653M-98 - Sheet Steel, Zinc-Coated (Galvanized) or Zinc - Iron Alloy Coated by the Hot-Dip Process
3. ASTM B32 - Solder Metal
4. ASTM D4601 - Asphalt-Coated Glass Fiber Base Sheet Used in Roofing

E. National Roofing Contractors Association (NRCA)

1. NRCA Manual - Fifth Edition.

F. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA)

1. SMACNA Manual - Architectural Sheet Metal Manual, Current Edition

1.3 SUBMITTALS

A. Shop drawings showing material profile, jointing pattern, jointing details, fastening methods and installation details.

B. Product data.

C. CALGreen Submittals:

1. Product Data Sheets and Declaration Statements showing compliance with CALGreen Code per 1.04.A.

D. Manufacturer's installation instructions.

E. Samples for each type of sheet metal flashing and trim indicated with pre-finished coating and colors.

1.4 QUALITY ASSURANCE

A. 2022 CALGreen - California Green Building Standards Code

1. Adhesives, sealants, primers and caulks shall comply with air quality management district rules where applicable, or SCAQMD Rule 1168 VOC limits, per CALGreen Tables 5.504.4.1 and 5.504.4.2.

2. Paints and Coatings shall comply with VOC limits in Table 1 of the ARB, per CALGreen Table 5.504.4.3.

1.5 STORAGE AND HANDLING

A. Stack preformed and pre-finished material to prevent twisting, bending, or abrasion and to provide ventilation.

B. Prevent contact with materials during storage that may cause discoloration, staining or damage.

PART 2 - PRODUCTS

2.1 SHEET MATERIALS

A. Galvanized Steel: ASTM A653/A653M-02, G90.

2.2 ACCESSORIES

A. Fasteners: round head, galvanized steel with soft neoprene washers at exposed fasteners. Finish exposed fasteners same as flashing metal.

B. Fasteners for Aluminum Sheet: Aluminum or Series 300 stainless steel.

C. Self-Adhesive Flashing: 40 mils, nominal, thickness composite sheet, fabricated with 8-mil polyethylene film backing and 32-mil rubberized asphalt sheet waterproofing.

1. Acceptable Products: as follows, or equal, approved in accordance with Division 01, General Requirements, for substitutions.

a. Perm-A-Barrier sheet by Grace Construction Products, Cambridge, MA
b. Carlisle Coatings and Waterproofing CCW-705T-WF
c. Henry Company, Blueskin-SA
d. FortiFlash 40 Recessed Window Flashing by Fortifiber.

2. Furnish with prefabricated corner pieces, if available from sheet manufacturer. Provide manufacturer’s edge and top sealant or mastic, and primers.

D. Underlayment: ASTM D 226, Type II, asphalt-saturated organic felt, nonperforated.

E. Metal Primer: For repair of Galvanized sheet metal, Zinc type, Galvilite by ZRC or equal.

F. Protective Backing Paint: Bituminous.

G. Sealant: Two-component, polyurethane-type specified in Section 07 92 00, Joint Sealants.

H. Solder: ASTM B32; Grade Sn50, flux type and alloy composition as required for use with metals to be soldered. Raw muriatic acid for galvanized steel; rosin for lead; non-corrosive soldering salts for uncoated copper and acid-type flux formulated for soldering stainless steel.

I. Epoxy Seam Sealer: Two-part, noncorrosive, aluminum seam-cementing compound, recommended by aluminum manufacturer for exterior nonmoving joints, including riveted joints.

J. Rosin-Sized sheathing paper: Sealtight Red Rosin Paper by W.R. Meadows.

K. Termination Bar: Mill finished Extruded aluminum (6063 alloy) with radius corners.

2.3 PREFABRICATED COMPONENTS

A. Reglets and Counterflashing: Surface-mounted or recessed as indicated on the drawings, galvanized steel, 24 gauge reglet with flashing in matching metal material, face and ends covered with plastic tape. SPRINGLOK; manufactured by Fry Reglet Corp., Alhambra, CA, or equal as approved in accordance with Division 01 for Substitutions.

1. Provide with slotted holes for fastening to substrate, with neoprene or other suitable weatherproofing washers, and with channel for sealant at top edge.

2. Stucco Type: Provide with upturned fastening flange and extension leg of length to match thickness of applied finish materials.

3. Concrete Type: Provide temporary closure tape to keep reglet free of concrete materials, special fasteners for attaching reglet to concrete forms, and guides to ensure alignment of reglet section ends.

4. Masonry Type: Provide with offset top flange for embedment in masonry mortar joint.

2.4 FABRICATION

A. Form sections true to shape, accurate in size, square and free from distortion or defects. Fabricate all components per SMACNA standards unless more stringent conditions are imposed by the Roofing Contractor, in that case the more stringent conditions shall prevail.

B. Fabricate cleats and starter strips of same material as sheet, interlockable with sheet.

C. Form pieces in longest practical lengths.

D. Hem exposed edges on underside 1/2 inch; miter and seam corners.

E. Sealed Joints: Form nonexpansion but movable joints in metal to accommodate elastomeric sealant.

F. Fabricate nonmoving seams with flat-lock seams. Tin edges to be seamed, form Seams, and solder.

G. Solder lap seams of all non-moving metal joints and seal other metal joints, rivet to strengthen seam. After soldering, remove flux. Wipe and wash solder joints clean.

H. Fabricate corners from one piece with minimum 18 inch long legs; solder seam for rigidity.

I. Fabricate vertical faces with bottom edge formed outward 1/4 inch and hemmed to form drip.

J. Fabricate flashings to allow toe to extend 2 inches over roofing. Return and break edges.

K. Provide expansion joints for gutters at every 30 feet. Fabricate per SMACNA details.

2.5 FINISH

A. Galvanized finish: ASTM A653/A653M-02, G90.

B. Kynar 500, 70% PVDF Fluorocarbon coating, low gloss finish. 30-year Warranty. 2-Coat system: primer and topcoat. Colors per Finish Schedule on Drawings.

C. Back paint concealed metal surfaces with protective backing paint when in contact with copper, redwood or red cedar.

PART 3 - EXECUTION

3.1 INSPECTION

A. Verify roof openings, curbs, pipes, sleeves, ducts or vents through roof are solidly set, cant strips and reglets in place and nailing strips located.

B. Verify membrane termination and base flashings are in place, sealed and secure.

C. Beginning of installation means acceptance of existing conditions.

3.2 PREPARATION

A. Field measure site conditions prior to fabricating Work.

B. Install starter and edge strips and cleats before starting installation.

C. Install reglets true to lines and levels. For surface-mounted seal top of reglets with sealant.

D. Insert counterflashings into reglets to form tight fit. Seal flashings into reglets with sealant.

E. Secure flashings in place using concealed fasteners. Use exposed fasteners only in locations approved by Architect.

F. Lock and seal all joints.

G. Apply plastic-cement compound between metal flashings and felt flashings.

H. Fit flashings tight in place. Make corners square, surfaces true and straight in planes and lines accurate to profiles.

I. Seal metal joints watertight.

3.3 INSTALLATION

A. Parapet Copings and Flashings: Fabricate in minimum 96-inch long, but not exceeding 10-foot long sections. Use 20 gauge galvanized steel. Furnish with continuous cleats to support edge of external leg and drill elongated holes for fasteners on interior leg Provide all copings and caps of the types and shapes indicated on the Drawings. Install Self-Adhesive Flashing (Ice dam, high temperature) under copings. Build in integral expansion joints allowing for movement of the metal without resulting in distortion of coping or leaks of any kind. Miter corners, seal, and solder watertight. All Work shall be watertight.

B. Roof Flashings: Provide roof flashings as indicated in drawings and required to complete entire project. Submit shop drawings showing details for approval, use minimum of 24 gauge galvanized steel.

C. Roof Joint Cover Flashings: Provide roof joint covers as indicated in drawings. Submit shop drawings showing details for approval and use minimum of 24 gauge galvanized steel. Fabricate tops slope to drain.

D. Equipment Roof Curbs and Flashing: Fabricate equipment roof curbs with 20 gauge galvanized steel, not less than 8" high, with 6" flanges, full welded construction. Provide curb flashings and counterflashings, 24 gauge galvanized sheet metal fully soldered and mitered corners. Lengths, sizes, quantities, and location to completely flash roof equipment curbs.

END OF SECTION

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SECTION 07 92 00 – JOINT SEALANTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Preparing substrate surfaces.

B. Sealant and joint backing.

C. Related Section:

1. Section 07 84 00, Firestopping. For fire-rated assemblies.

1.2 REFERENCE STANDARDS

A. Conform to current adopted reference standards by date of issue of the current code cycle and the date of the Contract Documents.

B. ASTM C834 - Latex Sealing Compounds.

C. ASTM C881 - Epoxy-Resin Base Bonding Systems for Concrete.

D. ASTM C919 - Use of Sealants in Acoustical Applications.

E. ASTM C920 - Elastomeric Joint Sealants.

F. ASTM D1056 - Flexible Cellular Materials - Sponge or Expanded Rubber.

G. ASTM C1184 - Structural Silicone Sealant.

H. ASTM C1193 - Standard Guide for Use of Joint Sealants.

I. ASTM C1311 - Solvent Release Sealants. Butyl and acrylic base polymer.

J. ASTM C1330 - Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants.

K. ASTM C1635 Standard Test Method to Evaluate Adhesion/Cohesion Properties of a Sealant at Fixed Extensions

L. SWRI (Sealant, Waterproofing and Restoration Institute) - Sealant and Caulking Guide Specification (www.SWRIONLINE.org).

M. GANA: Glass Association of North America Sealant Manual, 2008.

N. 2022 CALGreen - California Green Building Standards Code.

O. SCAQMD - South Coast Air Quality Management District Regulations Rule 1168 Adhesive and Sealant Applications

1.3 SUBMITTALS

A. Product Data: Provide data indicating sealant chemical characteristics, performance criteria, substrate preparation, limitations, and color availability.

B. CALGreen Submittals:

1. Product Data Sheets and Declaration Statements showing compliance with CALGreen code per 1.04.E.

C. Manufacturer's installation Instructions: Indicate special procedures, surface preparation, and perimeter conditions requiring special attention.

D. Identify sealants within submittal same as identified in Part - 2 of the specification.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

B. Perform acoustical sealant application work in accordance with ASTM C919.

C. Prepare sample joints in the construction to demonstrate to the Architect the quality of the Work to be performed. Accepted sample joints will be used to judge the quality of the Work.

D. Qualifications

1. Manufacturer: Company specializing in manufacturing the Products specified in this Section with minimum three years' experience.

2. Applicator:

a. Pre-qualified applicator specializing in performing Work of this Section with minimum three years' experience and approved by manufacturer.
b. This applicator shall be licensed joint sealing specialty Contractor.
c. Submit list of completed local projects of similar sealant applications.

E. 2022 CALGreen - California Green Building Standards Code.

1. Adhesives, sealants, primers, and caulks shall comply with air quality management district rules where applicable, or SCAQMD Rule 1168 VOC limits, per CALGreen Tables 5.504.4.1 and 5.504.4.2.

F. Comply with Air Quality regulations, California Regulations:

1. SCAQMD Rule 1168 compliant VOC limit of 250.

1.5 ENVIRONMENTAL REQUIREMENTS

A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

1.6 COORDINATION

A. Coordinate the Work with all Sections referencing this Section.

1.7 WARRANTY

A. Provide five-year product warranty, submit under provisions of Division 01, General Requirements.

B. Provide two-year installer's warranty, submit under provisions of Division 01, G General Requirements.

C. Warranty: Include coverage for installed sealants and accessories which fail to

achieve air tight seal, water tight seal, exhibit loss of adhesion or cohesion, or do not cure.

D. Upon written notification of failure due to defective materials or application, repair or replace failure to the approval of the Architect and at no cost to Owner.

PART 2 - PRODUCTS

2.1 SEALANT AND MATERIAL MANUFACTURERS

A. Following is list of acceptable manufacturers of sealants and sealant materials. Inclusion in this list is not intended to imply that all manufacturers make all products. Products made by listed manufacturers must comply with all specified requirements.

1. Bostik Construction Products.
2. Dow Corning Corporation (www.dowcorning.com/construction)
3. Sika Corporation.
4. General Electric Company.
5. W.R. Meadows, Inc.
6. Pecora Corporation.
7. Mameco International.
8. Tremco/Vulkem.
9. Sonneborn, ChemRex Inc.
10. Hilti
11. 3M Company

B. Substitutions: Under provisions of Division 01, General Requirements.

2.2 SEALANT TYPES

A. Single-Component Urethane: ASTM C 920, Type S, Grade NS, Class 35, Use NT, A, M, and O; USDA and FDA status.

B. Single-Component Urethane (Self-Leveling): ASTM C 920, Type S, Grade P, Class 35, Use T, A, M.

C. Multi-Component Urethane (Gun-Grade): ASTM C 920, Type M, Grade NS, Class 35, Use NT, A, M, and O.

D. Multi-Component Polyurethane (Gun-Grade): ASTM C 920, Type M, Grade NS, Class 35, Use T, A, M, and O.

E. Multi-Component Urethane (Self-Leveling): ASTM C 920, Type M, Grade P, Class 25, Use T, A, M, and O.

F. Single-component sealant, Silicone (Neutral-curing): ASTM C 920, Type S, Grade NS, Class 35, Use NT, G, A, M, and O; USDA, NSF and FDA 21 CFR 177.2600

approved.

G. Single-component sealant, Silicone (Neutral-curing,): ASTM C 920, Type S, Class 100/50, Grade P, Use T, and O.

H. Single-component, modified silicone polymer (silyl-terminated polyether resin - STPe), elastomeric sealant with plus-100-percent to minus-50-percent movement and complying with ASTM C-920, Type S, Grade NS, Uses NT, G, M, A, and O.

1. Acceptable Product: BASF, Sonolastic 150 Tint Base, or equal. Color shall be as selected by the Architect from the manufacturer's full range of available colors.

I. Acrylic-Latex Caulk: ASTM C 834, Type OP or C, Grade 18 deg. C.

J. Bedding Compound: For installation of thresholds and similar items indicated to be bedded in sealant, use a preformed butyl-polyisobutylene sealant tape. Size of tape as required for the specific application.

K. Adhesives: Type that complies with Mil. Spec. MIL-A-46146

1. Product: Dow Corning 3145 Silicone Adhesive

2. Color: Clear or Translucent.

3. Peel Strength: 75

L. Acoustical Sealant - gunnable type, non-drying, non-hardening permanently flexible, ASTM C919, ASTM C834, ASTM C920.

1. Manufacturers: Tremco Acoustical Sealant, U.S. Gypsum Sheetrock Acoustical Sealant, Pecora Corp. BA-98 or equal.

M. Fire-Rated Sealants: Per Section 07 84 00 Firestopping.

N. Butyl Sealants: Butyl rubber sealant, BC-158 by Pecora or equal in compliance with VOC regulations of local Air Quality Districts.

2.3 JOINT AND SURFACE TYPES

A. Pedestrian and Vehicle Traffic Joints - Provide one of the following for each joint type:

1. Multi-component urethane (self-leveling)

2. Single-component urethane (self-leveling)

3. Single-component sealant, silicone (neutral curing)

B. Non-Traffic Deck Joints - Provide one of the following for each joint type:

1. Multi-component urethane (gun-grade)

2. Single-component urethane

3. Single-component sealant, silicone

C. Concrete Surfaces exceeding 20 square feet.

1. Single-Component Silicone (Neutral-curing,): ASTM C 920 Class 25, Type S, Grade P, Use T, and O (self-leveling).

D. Vertical Joints - Provide one of the following for each joint type:

1. Multi-component urethane (gun-grade)

2. Single-component sealant, silicone (neutral cure)

E. Expansion, Control, and Perimeter Joints - Provide one of the following for each joint type:

1. Multi-component urethane (self-leveling)

2. Single-component urethane; use only where dynamic movement will not exceed 50 percent of joint width - above or below grade

3. Single-component urethane (self-leveling)

4. Single-component sealant, silicone.

F. Curtainwalls, storefronts, entrances, and Related Assemblies - Provide one of the following for each joint type or installation at perimeter of aluminum-framed systems:

1. Single-component silicone (neutral-curing)

2. Non-Moving Joints, Interior and Exterior: Single-component sealant, silicone neutral cure),-ASTM C920.

G. Water-Immersion Areas - Provide one of the following for each joint type, ASTM C920, Class 25, Use I, T, NT, M, and O.:

1. Multi-component urethane (self-leveling)

2. Single-component urethane (self-leveling)

3. Multi-component polysulfide (self-leveling)

4. Multi-component polysulfide (non-sag)

H. Glazing - Provide one of the following for each joint type:

1. Single-component sealant, silicone (neutral-curing).

2. Structural silicone sealant for Structural Glazing.

I. Acoustical Sealant - gunnable, provide the following:

1. Non-drying, non-hardening, non-skinning sealant type, ASTM C919.

2. Acrylic-latex caulk, Type OP opaque or Type C clear at visual locations, ASTM C834.

3. Chemically curing Sealant, for interior sound reduction application, ASTM C920.

J. Acoustical Putty Pads - QuietPutty 380 by Quiet Rock or equal.

1. Thickness: 1/8"

2. Width: 7"

3. Length: 7"

4. Surface Burning Characteristics: Class A

K. Smoke and Acoustical Sealant: ASTM C834, Hilti CP 506 (openings), CP 572 (joints), STI SpecSeal "Smoke 'N' Sound Acoustical Spray".

L. Toilet and Bath Areas: Sealant containing a fungicide for mildew resistance - Provide one of the following for each joint type:

1. Single-component silicone (neutral-curing)

2. Single-component silicone (acid cure)

M. Exterior Doors and Windows: Sealant used for exterior joints or butyl rubber.

1. Fire-rated sealant at fire-rated assemblies per Section 07 84 00.

N. Interior Doors and Windows - Provide one of the following for each joint type:

1. Single-component sealant, silicone (neutral cure)

2. Fire-rated sealant at fire-rated assemblies per Section 07 84 00.

O. Built-In Cabinet Work: In kitchen, toilet, and bath areas, as specified for those areas. In other areas, single-component silicone (neutral-curing) or acrylic-latex caulk.

P. Rated Walls: Fire-rated Sealant, per UL Systems classification and in accordance with Section 07 84 00.

1. Fire-rated sealant between rated walls or ceilings and their adjoining rated materials and construction, including but limited to door and window frames.

Q. Miscellaneous locations: Butyl rubber at all gaps, holes, openings, under wood sills, penetrations or channel metal track in exterior envelope of building not identified herein. Install as directed by the Architect.

R. Seal all cutouts and penetrations: For electrical, mechanical, plumbing and structural framing cutouts and penetration at interior surfaces with acoustical sealant and fire-rated sealant for rated walls per section 07 84 00, or butyl rubber for exterior surfaces including walls.

2.4 SEALANT COLORS

A. Provide materials matching colors indicated or if no color is indicated, matching the color samples selected from those submitted to the Architect.

1. Sealant between walls and door, window, and louver frames to match adjacent wall color.

2.5 ACCESSORIES

A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.

B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.

C. Joint Backing Rod: ASTM C1330 Class C, closed cell polyethylene cylindrical backer rod; oversized 30 to 50 percent larger than joint width, Green Rod by Nomaco Inc., Zebulon, NC, Backer Rod Mfg. Denver, CO or equal.

D. Elastomeric Tubing Sealant Backing: ASTM D1056 - Flexible Cellular Materials - Sponge or Expanded Rubber.

E. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

F. Filler: Mineral fiber board; ASTM C612, Classl, thickness same as joint, depth to fill void completely behind backer-up rod.

G. Tape Sealants; pressure sensitive, 100% solid, sealing tape with a release paper backing. Provide permanent elastic, non-sagging, non-toxic, non-staining tape sealant. Schnee-Morehead Inc. "Tacky Tape" SM5227, 3/32" or 1/2" wide x 3/8" thick x 45' long, or equal.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that substrate surfaces and joint openings are ready to receive Work.

B. Verify that joint backing and release tapes are compatible with sealant.

3.2 PREPARATION

A. Remove loose materials and foreign matter which might impair adhesion of sealant.

B. Clean and prime joints in accordance with manufacturer's instructions.

C. Perform preparation in accordance with manufacturer's instructions.

D. Protect elements surrounding the Work of this Section from damage or disfiguration.

E. At deep joints install filler material to fill space behind the back-up rod and position the rod at proper depth.

3.3 INSTALLATION

A. Do not proceed with sealant Work until the sample joints specified in Part 1 of this Section have been prepared and accepted by the Architect.

B. Install sealant in accordance with manufacturer's instructions and ASTM C1193.

C. Apply sealant per ASTM C919 at gypsum board framed sound walls, side of runners in metal framing and miscellaneous openings and cutouts.

D. Measure joint dimensions and size materials to achieve required 2:1 width/depth ratios.

E. Install joint backing to achieve a neck dimension no greater than 1 /3 of the joint width.

F. Install bond breaker where joint backing is not used.

G. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.

H. Apply sealant within recommended application temperature ranges. Consult

manufacturer when sealant cannot be applied within these temperature ranges.

I. Tool joints concave unless detailed otherwise.

3.4 CLEANING

A. Clean adjacent soiled surfaces.

3.5 PROTECTION OF FINISHED WORK

A. Protect finished installation under provisions of Division 01, General Requirements.

B. Protect sealants until cured.

END OF SECTION

SECTION 09 91 13 - EXTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Primers.
2. Finish coatings.
3. Floor sealers and paints.
4. Surface preparation and repainting of all exposed surfaces of existing wood fascia and shade trellis indicated to remain and be refinished, including repaired and replacement wood.

B. Related Requirements:

1. Section 05 12 00 "Structural Steel Framing"
2. Section 05 12 10 "Architecturally Exposed Structural Steel" for shop priming of metal substrates.
3. Section 05 50 00 "Metal Fabrications" for shop priming metal fabrications.
4. Section 06 10 00 "Rough Carpentry" for inspection, patching, localized wood replacement, and fastener repairs to existing wood fascia and shade trellis.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include preparation requirements and application instructions.
2. Indicate VOC content.

B. Samples: For each type of topcoat product.

C. Samples for Initial Selection: For each type of topcoat product.

D. Samples for Verification: For each type of paint system and each color and gloss of topcoat.

1. Submit Samples on rigid backing, 8 inches square.
2. Apply coats on Samples in steps to show each coat required for system.
3. Label each coat of each Sample.
4. Label each Sample for location and application area.

E. Product Schedule: Use same designations indicated on Drawings and in the Exterior Painting Schedule to cross-reference paint systems specified in this Section. Include color designations.

F. Existing Wood Refinishing: Submit proposed cleaning and preparation methods and the complete coating system, including primers or bonding coats required over existing coatings, bare wood, and wood repair compounds. Include coating manufacturer's written recommendations for compatibility with retained coatings and repair materials.

1.4 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Paint Products: not less than 1 full gal. of each material and color applied.

1.5 QUALITY ASSURANCE

A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.

1. Architect will select one surface to represent surfaces and conditions for application of each paint system.

a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft..
b. Other Items: Architect will designate items or areas required.

2. Final approval of color selections will be based on mockups.

a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.

3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.

4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

B. Existing Fascia and Trellis: Include representative weathered, patched, and previously coated wood in the mockup. Demonstrate cleaning, feather sanding, priming, adhesion, color, sheen, and the completed finish. After required curing, check adhesion by the coating manufacturer's recommended method. Obtain Architect's acceptance before proceeding with remaining refinishing work; retain accepted area as the workmanship standard.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.

1. Maintain containers in clean condition, free of foreign materials and residue.

2. Remove rags and waste from storage areas daily.

1.7 FIELD CONDITIONS

A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.

B. Do not apply paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Shermin Williams SuperPaint Exterior Acrylic Latex

B. Source Limitations: Obtain each paint product from single source from single manufacturer.

2.2 PAINT PRODUCTS, GENERAL

A. Material Compatibility:

1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer based on testing and field experience.

2. For each coat in a paint system, provide products recommended in writing by topcoat manufacturer for use in paint system and on substrate indicated.

B. Colors: As selected by Architect from manufacturer's full range.

1. <10 percent of surface area will be painted with deep tones.

2.3 PRIMERS

A. Exterior, Alkali-Resistant, Water-Based Primer: Pigmented, water-based primer formulated for use on alkaline surfaces, such as exterior plaster, vertical concrete, and masonry.

1. Shermin Williams Multi-Purpose Interior/Exterior Latex Primer/Sealer

B. Water-Based, Galvanized-Metal Primer: Corrosion-resistant, pigmented, acrylic primer; formulated for use on cleaned/etched, exterior, galvanized metal to prepare it for subsequent water-based coatings.

C. Exterior Wood Primer: Primer recommended in writing by finish coating manufacturer for existing and replacement exterior wood and compatible with wood repair compounds. Provide stain-blocking primer where required to prevent tannin or other staining. Provide compatible bonding primer or tie coat where required over sound retained coatings. Do not use masonry or metal primers on wood unless specifically recommended for that application by the coating manufacturer.

2.4 FINISH COATINGS

A. Exterior Latex Paint, Semigloss: Water-based, pigmented emulsion coating formulated for alkali, mold, microbial, and water resistance and for use on exterior surfaces, such as masonry, portland cement plaster, and primed wood and metal.

1. Shermin Williams SuperPaint Exterior Acrylic Latex

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:

1. Concrete: 12 percent.
2. Fiber-Cement Board: 12 percent.
3. Masonry (Clay and Concrete Masonry Units): 12 percent.
4. Wood: 15 percent.
5. Portland Cement Plaster: 12 percent.
6. Gypsum Board: 12 percent.

C. Portland Cement Plaster Substrates: Verify that plaster is fully cured.

D. Exterior Gypsum Board Substrates: Verify that finishing compound is dry and sanded smooth.

E. Verify suitability of substrates, including surface conditions and compatibility, with finishes and primers.

F. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

G. Existing Wood Fascia and Trellis: Examine existing coatings for peeling, blistering, chalking, and loss of adhesion. Verify that wood repairs under Section 06 10 00 are complete, secure, dry, and cured. Identify deteriorated wood or defective connections requiring additional carpentry repairs and notify Architect before painting affected areas. Verify that wood moisture content does not exceed 15 percent or coating manufacturer's lower limit.

H. Existing Coating Compatibility: Test proposed preparation and coating system on representative existing surfaces before general application. Do not coat over incompatible or poorly bonded finishes. Revise preparation or coating system in accordance with manufacturer's written recommendations when the test area shows lifting, softening, bleeding, or inadequate adhesion.

3.2 PREPARATION

A. Comply with manufacturer's written instructions applicable to substrates and paint systems indicated.

B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.

C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems specified in this Section.

D. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.

E. Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces or mortar joints exceeds that permitted in manufacturer's written instructions.

F. Steel Substrates: Remove rust, loose mill scale, and shop primer if any. Clean using methods recommended in writing by paint manufacturer but not less than the following:

1. SSPC-SP 2.

2. SSPC-SP 3.

G. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and areas where shop paint is abraded. Paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.

H. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.

I. Aluminum Substrates: Remove loose surface oxidation.

J. Plastic Trim Fabrication Substrates: Remove dust, dirt, and other foreign material that might impair bond of paints to substrates.

K. Existing Wood Fascia and Shade Trellis:

1. Protect adjacent roofing, walls, paving, glazing, landscaping, and hardware. Contain and collect cleaning runoff, removed coatings, and sanding debris. Before disturbing existing coatings, review available hazardous-material information and comply with applicable project hazardous-material requirements; notify Architect of suspect materials not addressed by the Contract Documents before disturbing them.

2. Clean exposed wood to remove dirt, grease, chalk, mildew, and other contaminants using cleaners and methods recommended by the coating manufacturer. Rinse as required and allow wood to dry. Do not use cleaning methods or pressures that gouge wood, raise excessive grain, or drive water into joints and concealed assemblies.

3. Scrape and sand loose, peeling, blistered, and poorly bonded coatings back to sound, adherent edges. Feather remaining coating edges and remove weathered, loose wood fibers. Dull glossy retained coatings as recommended for adhesion. Remove sanding dust. Complete coating removal is required where retained finishes are incompatible or cannot provide a sound substrate.

4. Coordinate defects requiring wood patching, epoxy repairs, replacement, or fastener repairs with Section 06 10 00. Do not conceal decay, loose connections, or incomplete repairs with paint or painter's filler. After repairs cure, perform final sanding and cleaning required by the coating manufacturer.

5. Prime bare wood, exposed end grain, replacement pieces, and repaired areas with compatible exterior wood primer. Treat staining with compatible stain-blocking primer. Apply bonding primer or tie coat to sound retained coatings where required by the approved system. Allow each material to dry or cure before recoating. Do not bridge moving joints or obstruct drainage openings.

3.3 INSTALLATION

A. Apply paints in accordance with manufacturer's written instructions.

1. Use applicators and techniques suited for paint and substrate indicated.

2. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.

3. Paint both sides and edges of exterior doors and entire exposed surface of exterior door frames. Exterior doors will be painted two different colors one for exterior side and one for interior side.

4. Paint entire exposed surface of window frames and sashes.

5. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.

6. Primers specified in the Exterior Painting Schedule may be omitted on items that are factory primed or factory finished if compatible with intermediate and topcoat coatings and acceptable to intermediate and topcoat paint manufacturers.

B. Tint undercoats same color as topcoat, but tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Provide sufficient difference in shade of undercoats to distinguish each separate coat.

C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

1. Existing Wood Fascia and Trellis: Repaint all exposed wood faces, edges, ends, and undersides, including areas between trellis members and repaired or replacement pieces. Apply the scheduled primer treatment and two full finish coats; spot painting alone is not acceptable. Provide manufacturer's required spreading rates, dry film thicknesses, and drying and recoating intervals. Provide uniform color and sheen matching the accepted mockup.

E. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:

1. Paint the following work where exposed to view:

a. Equipment, including panelboards[and switch gear].
b. Uninsulated metal piping.
c. Uninsulated plastic piping.
d. Pipe hangers and supports.
e. Metal conduit.
f. Plastic conduit.
g. Tanks that do not have factory-applied final finishes.

3.4 FIELD QUALITY CONTROL

A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.

1. Contractor shall touch up and restore painted surfaces damaged by testing.

2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written instructions, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written instructions.

3.5 CLEANING AND PROTECTION

A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

1. Do not clean equipment with free-draining water and prevent solvents, thinners, cleaners, and other contaminants from entering into waterways, sanitary and storm drain systems, and ground.

2. Dispose of contaminants in accordance with requirements of authorities having jurisdiction.

3. Allow empty paint cans to dry before disposal.

4. Collect waste paint by type and deliver to recycling or collection facility.

B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 EXTERIOR PAINTING SCHEDULE

A. Concrete Substrates, Nontraffic Surfaces:

1. Latex System:

a. Prime Coat: Exterior, alkali-resistant, water-based primer.
b. Intermediate Coat: Matching topcoat.
c. Topcoat: Exterior latex paint, semigloss.

B. Concrete Substrates, Traffic Surfaces:

1. Latex Floor Paint System:

a. Prime Coat: Matching topcoat.
b. Intermediate Coat: Matching topcoat.
c. Topcoat: Latex floor paint, low gloss.

C. Concrete Masonry Unit Substrates:

1. Latex System:

a. Prime Coat: Exterior, latex block filler.
b. Intermediate Coat: Matching topcoat.
c. Topcoat: Exterior latex paint, semigloss.

D. Steel and Iron Substrates:

1. Water-Based, Light Industrial Coating System:

a. Prime Coat: [Zinc-rich, inorganic primer] [Alkyd metal primer] [Epoxy metal primer] [Shop primer specified in Section in which substrate is specified].
b. Intermediate Coat: Matching topcoat.
c. Topcoat: Exterior, water-based, light industrial coating, semigloss.

2. Water-Based, Light Industrial Coating over Epoxy System:

a. Prime Coat: Epoxy metal primer.
b. Intermediate Coat: High-build epoxy paint, low gloss.
c. Topcoat: Exterior, water-based, light industrial coating, semigloss.

E. Galvanized-Metal Substrates:

1. Latex System:

a. Prime Coat: Water-based, galvanized-metal primer.
b. Intermediate Coat: Matching topcoat.
c. Topcoat: Exterior latex paint, semigloss.

2. Water-Based, Light Industrial Coating System:

a. Prime Coat: Water-based, galvanized-metal primer.
b. Intermediate Coat: Matching topcoat.
c. Topcoat: Exterior, water-based, light industrial coating, semigloss.

F. Aluminum Substrates:

1. Latex System:

a. Prime Coat: Quick-drying aluminum primer.
b. Intermediate Coat: Matching topcoat.
c. Topcoat: Exterior latex paint, semigloss.

2. Water-Based, Light Industrial Coating System:

a. Prime Coat: Quick-drying aluminum primer.
b. Intermediate Coat: Matching topcoat.
c. Topcoat: Exterior, water-based, light industrial coating, semigloss.

G. Copper Substrates:

1. Latex System:

a. Prime Coat: Quick-drying aluminum primer.
b. Intermediate Coat: Matching topcoat.
c. Topcoat: Exterior latex paint, semigloss.

H. Exposed Wood-Framing Substrates:

1. Latex over Latex Primer System:

a. Prime Coat: Exterior, latex wood primer.
b. Intermediate Coat: Matching topcoat.

c. Topcoat: Exterior latex paint, semigloss.

I. Existing Wood Fascia and Shade Trellis, Previously Coated and Repaired:

1. Exterior Acrylic Latex Repainting System::

a. Prime Coat: Exterior wood primer on bare, repaired, and replacement wood; stain-blocking primer where required. Prime sound retained coatings with compatible bonding primer or tie coat where required by coating manufacturer's written recommendations. Provide full-surface priming where required by the approved system.
b. Intermediate Coat: Exterior acrylic latex paint, matching topcoat; one full coat over all exposed wood surfaces.
c. Topcoat: Exterior acrylic latex paint, semigloss; one full coat over all exposed wood surfaces. Use the specified exterior acrylic latex finish product, in color selected by Architect.

J. Portland Cement Plaster Substrates:

1. Latex System:

a. Prime Coat: Matching topcoat.
b. Intermediate Coat: Matching topcoat.
c. Topcoat: Exterior latex paint, semigloss.

K. Exterior Gypsum Board Substrates:

1. Latex System:

a. Prime Coat: Exterior, latex wood primer, reduced in accordance with manufacturer's written instructions for substrate and topcoat.
b. Intermediate Coat: Matching topcoat.
c. Topcoat: Exterior latex paint, semigloss.

END OF SECTION

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SECTION 31 10 00 – SITE CLEARING

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Clearing and protection of vegetation.
B. Grubbing of root systems of trees and shrubs, abandoned utility lines and structures and other below grade obstructions and debris.
C. Removal of existing debris.

1.2 REFERENCE STANDARDS

A. Section 01 10 00 - Summary: Limitations on Contractor's use of site and premises.

B. Section 01 50 00 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.

C. Section 01 57 19 – Temporary Environmental Controls.

D. Section 01 70 00 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products.

E. Section 02 41 19 – Selective Demolition: Removal of built elements and utilities.

1. Removal of paving and removal if indicated of abandoned utilities.

2. Within building footprint, removal of designated walls, partitions, and other elements; capping and identifying utilities; and removal of concrete foundations.

3. Sitework (Area of Work), removal of designated fences, walls, and other elements; capping and identifying utilities; landscape paving, and removal of concrete foundations.

F. Section 31 23 16 - Excavation: Site preparation for structure and paving.

G. Section 31 23 23 - Fill: Filling holes, pits, and excavations generated as a result of removal operations.

1.3 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Site Plan: Showing:

1. Areas for temporary construction and field offices.

1.4 QUALITY ASSURANCE

A. Clearing Firm: Company specializing in the type of work required.

1. Minimum of five years of documented experience.

PART 2 - PRODUCTS

2.1 QUALITY ASSURANCE

A. Fill Material: As specified in Section 31 23 23 - Fill

PART 3 - EXECUTION

3.1 SITE CLEARING

A. Comply with other requirements specified in Section 01 70 00.

B. Minimize production of dust due to clearing operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

3.2 SURVEY STAKING IN UNCLEARED EASEMENTS

A. Flag centerline of utility lines prior to clearing. Contractor shall set offsets for clearing limits to suit the Work.

B. When the clearing is completed, survey for utility construction in accordance with requirements specified in Section 01 70 00 - Execution and Closeout Requirements.

C. Contractor shall replace all controls and stakes damaged or destroyed, at no change in Contract Time or Contract Price.

3.3 EXISTING UTILITIES AND BUILT ELEMENTS

A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.

B. Protect existing utilities to remain from damage.

C. Do not disrupt public utilities without permit from authority having jurisdiction.

D. Protect existing structures and other elements that are not to be removed.

3.4 CLEARING

A. Perform clearing Work within confines of Project area indicated on Drawings or specified elsewhere herein and with strict adherence to the Contract Documents and Geotechnical recommendations.

3.5 VEGETATION

A. Scope: Remove trees, shrubs, brush, and stumps in areas to be covered by building structure, paving, lawns, and planting beds.

B. Do not begin clearing until vegetation to be relocated has been removed.

C. Do not remove or damage vegetation beyond the limits indicated on drawings.

D. Install substantial, highly visible fences at least 3 feet (1 m) high to prevent inadvertent damage to vegetation to remain:

1. At vegetation removal limits.

E. Remove only trees within area to be cleared that have been marked for removal. Confirm trees to be removed with Owner and Architect before beginning removal process.

1. Cut trunks close and parallel to ground.

2. Remove roots where under or within five feet of proposed structures.

3. Neither remove nor prune trees and shrubbery in public rights-of-way except by written approval of authorities having jurisdiction.

F. In areas where vegetation must be removed but no construction will occur other than pervious paving, remove vegetation with minimum disturbance of the subsoil.

G. Vegetation Removed: Do not burn, bury, landfill, or leave on site, except as indicated.

1. Chip, grind, crush, or shred vegetation for mulching, composting, or other purposes; preference should be given to on-site uses.

2. Trees: Sell if marketable; if not, treat as specified for other vegetation removed; remove stumps and roots to depth of 18 inches (450 mm).

3. Existing Stumps: Treat as specified for other vegetation removed; remove stumps and roots to depth of 18 inches (450 mm).

4. Sod: Re-use on site if possible; otherwise sell if marketable, and if not, treat as specified for other vegetation removed.

H. Dead Wood: Remove all dead trees (standing or down), limbs, and dry brush on entire site; treat as specified for vegetation removed.

I. Restoration: If vegetation outside removal limits or within specified protective fences is damaged or destroyed due to subsequent construction operations, replace at no cost to Owner.

3.6 GRUBBING

A. At pipelines, remove all trees or stumps within five feet of the pipeline.

B. Perform grubbing where indicated on Drawings or as specified herein. Grubbing shall include removal from the ground of all stumps, roots, buried logs and other vegetation not otherwise indicated to remain, and removal and disposal of resulting refuse.

C. Completely grub areas where unsuitable surface material is to be removed.

3.7 DAMAGED VEGETATION

A. Neatly prune damaged branches and severed roots.

B. Apply wound paint to above-ground cuts and abrasions.

C. If trees and shrubs indicated to remain are damaged excessively, as determined by Construction Manager, Architect or authorities having jurisdiction, remove and replace damaged plants with comparable plants.

3.8 DEBRIS

A. Remove debris, junk, and trash from site.

B. Remove logs, rocks and other debris.

C. Dispose of Debris resulting from clearing and thoroughly clean rights-of-way.

D. Leave site in clean condition, ready for subsequent work.

E. Clean up spillage and wind-blown debris from public and private lands.

3.9 DISPOSAL

A. Debris Disposal: Dispose of all cleared and grubbed materials in a legal manner off site.

B. Hazardous Materials:

1. Immediately notify the Construction Manager should hazardous materials or suspected hazardous materials be encountered.

2. Dispose of such materials in accordance with all applicable laws and regulations and as directed by authorities having jurisdiction.

3. Unforeseen conditions will be resolved in accordance with the Conditions of the Contract.

C. Saleable Materials:

1. Unless otherwise indicated, all felled trees from which merchantable lumber or firewood can be produced shall become the property of the Contractor.

2. Unless otherwise indicated, all metallic debris of salvageable value shall become the property of the Contractor.

3. The Contractor shall remove all saleable materials from the site in a timely manner.

4. Sale of salvaged and merchantable materials shall be done on site only with prior approval of the Owner.

D. Stockpiling Vegetation: Only if specified or indicated under landscape work, stockpile vegetation for subsequent mulching.

E. Burial and Burning: Debris shall not be buried or burned on site.

3.10 DUST CONTROL

A. Refer to requirements of:

1. Section 01 50 00 - Temporary Construction Facilities and Controls.

2. Section 31 22 00 - Grading.

B. Minimize dust during clearing and grubbing to protect adjoining property and vehicles parked in the vicinity.

C. Clean-up: Keep public thoroughfares clear of dust and debris by periodic sweeping and washing down, at least daily at the end of working hours.

END OF SECTION

SECTION 31 22 00 – GRADING

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. This section compliments and shall be coordinated with the Civil Drawings/requirements. The most stringent requirements shall be utilized.

B. Removal and storage of topsoil.

C. Rough grading and consolidation/compaction the site for site structures, building pads, and related site work.

1. Preparation for excavation, trenching, backfilling, and compacting work.

D. Excavation of subsoil, stockpiling for later reuse, and removal of excess from the site.

E. Preparing of subgrade for walks, pavements and site retaining walls.

F. Excavating, backfilling and compaction for wet utility lines.

G. Finish grading.

1.2 RELATED REQUIREMENTS

A. Section 01 40 00 - Quality Requirements.

B. Section 01 45 33 - Code Required Special Inspections and Procedures.

C. Section 01 70 00 - Execution and Closeout Requirements.

D. Section 00 31 00 - Available Project Information: Subsurface Investigations.

E. Section 31 10 00 - Site Clearing.

F. Section 31 23 16 - Excavation.

G. Section 31 23 16.13 - Trenching: Trenching and backfilling for utilities.

H. Section 31 23 23 - Fill: Filling and compaction.

I. Section 32 12 16 - Asphalt Paving.

J. Section 32 13 13 - Concrete Paving.

1.3 SUBMITTALS

A. Project Record Documents: Accurately record actual locations of utilities remaining by horizontal dimensions, elevations or inverts, and slope gradients.

1. Accurately record location of all changes in finish elevations and gradients which materially affect drainage.

1.4 QUALITY ASSURANCE

A. Regulatory Requirements: For conditions not covered in this Section, refer to applicable provisions of the California Building Code (CBC), Chapter 18A - Soils and Foundations, as amended and adopted by authorities having jurisdiction.

B. Perform Work in accordance with local of, Public Works Department standards.

1. Maintain one copy on site.

1.5 PROTECTION

A. Dust Control: Comply with requirements specified in Section 01 50 00 - Temporary Facilities and Controls.

B. Protection:

1. Comply with general requirements specified in Section 01 50 00 - Temporary Facilities and Controls.

2. Provide protection for walks, curbs, drains, and trees and boxing around corners of existing buildings to prevent damage.

3. Keep adjacent roads, streets and drives clear of dirt and debris from earthwork operations.

C. Underground Utilities:

1. Buried utility lines may exist.

2. If such are encountered, notify Construction Manager, Architect and Owner and for directions to be followed for preservation, relocation or demolition of utilities.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Topsoil: See Section 31 23 23.

B. Subsoil: Excavated material, graded free of lumps larger than 3-inches, rocks larger than 6- inches, and debris; or in accordance with trench backfill requirements.

C. Other Fill Materials: See Section 31 23 23.

D. Shoring and Bracing: Provide all materials and services necessary to properly engineer and construct shoring for excavations. Selection of materials and design of shoring, underpinning and bracing of new and existing structures shall be solely the responsibility of the Contractor.

1. Shoring design shall comply with State of California Trenching and Shoring Manual issued by Offices of Structure Construction; 2011.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that survey bench mark and intended elevations for the Work are as indicated.

B. Upon discovery of unknown utility or concealed conditions, discontinue affected Work and notify Construction Manager, Architect and Owner for direction. Unforeseen conditions shall be resolved in accordance with the General Conditions.

3.2 PREPARATION

A. Identify required lines, levels, contours, and datum. See requirements specified in Section 01 70 00 - Execution.

B. Stake and flag locations of known utilities.

C. Locate, identify, and protect from damage above- and below-grade utilities to remain.

1. Maintain and protect existing utilities remaining which pass through Project area.

D. Notify utility company to remove and relocate utilities, as required.

E. Protect site features to remain, including but not limited to bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs, from damage by grading equipment and vehicular traffic.

F. Protect trees to remain by providing substantial fencing around entire tree at the outer tips of its branches; no grading is to be performed inside this line.

G. Protect plants, lawns, and other features to remain as a portion of final landscaping.

3.3 ROUGH GRADING

A. Remove topsoil from areas to be further excavated, re-landscaped, or re-graded, without mixing with foreign materials.

B. Do not remove topsoil when wet.

C. Remove subsoil from areas to be further excavated, re-landscaped, or re-graded.

D. Do not remove wet subsoil, unless it is subsequently processed to obtain optimum moisture content.

E. When excavating through roots, perform work by hand and cut roots with sharp axe.

F. See Section 31 23 23 for filling procedures.

G. Benching Slopes: Horizontally bench existing slopes greater than 5:1 (H:V) to key fill material to slope for firm bearing.

H. Stability: Replace damaged or displaced subsoil to same requirements as for specified fill.

3.4 SOIL REMOVAL AND STOCKPILING

A. Topsoil Excavation:

1. Stockpile topsoil to be re-used on site; remove remainder from site.
2. Do not excavate wet topsoil.

B. Subsoil Excavation:

1. Excavate subsoil from areas to be filled with topsoil, to construct foundations, footings, slabs on grade, paving and to achieve final finish grades.
2. Stockpile subsoil to be re-used on site; remove remainder from site.
3. Do not excavate wet subsoil.
4. Over-excavate to working elevations for backfilling and compaction operations.
5. Over-excavate to provide suitable space and access for Work. Do not excavate into normal 45-degree influence line of bearing of footings without written direction from Architect. Generally, footings require additional depth and other provisions to avoid interference.
6. Underpin adjacent structures, paving and other existing features which may be damaged by excavation Work, including utilities and pipe chases.
7. Remove all lumped subsoil, boulders and rock in excess of 6 inch (150 mm) in greatest dimension.
8. Stockpile subsoil on site for backfill, if soil is appropriate. Stockpile subsoil to depth not exceeding 8-feet. Remove from the site excess subsoil not to be reused.
9. When excavation through roots is necessary, perform work by hand and cut roots with a sharp axe.
10. Grade top perimeter of excavations to prevent surface water from draining into excavation. Provide dewatering of excavations as required to ensure suitable conditions for concrete and backfilling operations.
11. Hand trim excavations to accurate configurations and depths. Remove loose matter.
12. Machine slope banks of excavations to minimum 1 to 1 ratio horizontal to vertical or angle of repose, if less, until shored. Slope must comply with local codes, ordinances and requirements of agencies having jurisdiction. See Section 00 31 00 - Available Project Information for Subsurface Investigations by Owner.
13. Where excavations are made to a depth greater than that indicated, such additional depth shall be filled with concrete having the same compressive strength as specified for the footing. Correct unauthorized and erroneous excavation at no change in Contract Time or Contract Sum.

14. Protect excavations from cave-in and from loose soil and other matter from falling in. Comply with all applicable industrial safety regulations.

15. All permanent cut or fill slopes shall have a maximum slope of 2:1 (H:V) ratio, horizontal to vertical and shall comply with applicable requirements of the California Building Code (CBC).

C. Stockpiles: Use areas designated on site; pile depth not to exceed 8 feet (2.5 m); cover to protect from erosion.

3.5 GRADING

A. Uniformly grade areas as shown on Drawings to tolerances specified below. Evenly grade between points where elevations are shown or between points of Work and existing grades.

B. Slope grade away from building perimeter at gradient indicated.

1. Slope shall be not less 1/4 inch per foot or 2 percent in unpaved areas.

C. Make grade changes gradual. Blend slopes into level areas.

3.6 FINISH GRADING

A. Before Finish Grading:

1. Verify building and trench backfilling have been inspected.

2. Verify subgrade has been contoured and compacted.

B. Remove debris, roots, branches, stones, in excess of 1/2 inch (13 mm) in size. Remove soil contaminated with petroleum products.

C. Where topsoil is to be placed, scarify surface to depth of 3 inches (75 mm).

D. In areas where vehicles or equipment have compacted soil, scarify surface to depth of 6 inches (150 mm).

E. Place topsoil in areas indicated.

F. Place topsoil where required to level finish grade.

G. Place topsoil to thickness as scheduled.

H. Place topsoil during dry weather.

I. Remove roots, weeds, rocks, and foreign material while spreading.

J. Near plants spread topsoil manually to prevent damage.

K. Fine grade topsoil to eliminate uneven areas and low spots. Maintain profiles and contour of subgrade.

L. Lightly compact placed topsoil.

3.7 TOLERANCES

A. Top Surface of Subgrade: Plus or minus 0.10 foot (1-3/16 inches) (30 mm) from required elevation.

B. Top Surface of Finish Grade: Plus or minus 0.04 foot (1/2 inch) (13 mm).

C. Top Surface Under Paving: Plus or minus 1/2-inch (0.05-foot) from required elevation.

D. Top Surface Under Footings and Foundations: Plus 0, minus 0.2 foot.

E. Top Surface Under Slabs on Grade: Plus 0, minus 1/2-inch (0.05-foot).

3.8 REPAIR AND RESTORATION

A. Existing Facilities, Utilities, and Site Features to Remain: If damaged due to this work, repair or replace to original condition.

B. Trees to Remain: If damaged due to this work, trim broken branches and repair bark wounds; if root damage has occurred, obtain instructions from Architect as to remedy.

C. Other Existing Vegetation to Remain: If damaged due to this work, replace with vegetation of equivalent species and size.

3.9 FIELD QUALITY CONTROL

A. See Section 31 23 23 for compaction density testing.

B. Field Quality Control: Field inspections and testing shall be performed in accordance with requirements specified in Section 01 40 00 - Quality Requirements. Make required quality control submittals in accordance with requirements specified.

C. Non-compliance: Should grade elevations, tests of fill or backfill indicate non-compliance with required elevations or density, Contractor shall over-excavate, recompact and retest until specified grade or density is obtained.

1. Costs and Time associated with remedial Work and retesting shall be in accordance with provisions of the General Conditions.

2. Retesting to demonstrate compliance shall be by a testing laboratory acceptable to Owner and shall be at Contractor's expense.

3.10 CLEANING

A. Remove unused stockpiled topsoil and subsoil. Grade stockpile area to prevent standing water.

B. Leave site clean and raked, ready to receive landscaping.

3.11 PROTECTION

A. Protect completed grading from erosion from weather and traffic.

B. Over-excavate and recompact areas damaged by construction activities and weather

END OF SECTION

SECTION 31 23 23 - FILL

PART 1 - GENERAL

1.1 SECTION INCLUDES

A . This section compliments and shall be coordinated with the Civil Drawings/requirements. The most stringent requirements shall be utilized.

B. Filling, backfilling, and compacting for building volume below grade, footings, slabs-on-grade, paving, and site structures.

C. Backfilling and compacting for utilities outside the building to utility main connections.

D. Filling holes, pits, and excavations generated as a result of removal (demolition) operations.

1.2 RELATED REQUIREMENTS

A. Document 00 31 00 - Available Project Information: bore hole locations and findings of subsurface materials.

B. Section 03 30 00 - Cast-in-Place Concrete.

C. Section 31 22 00 - Grading: Site grading.

D. Section 31 23 16 - Excavation: Removal and handling of soil to be re-used.

E. Section 31 23 16.13 - Trenching: Excavating for utility trenches outside the building to utility main connections.

F. Section 31 23 16.26 - Rock Removal: Removal of rock during excavating.

1.3 DEFINITIONS

A. Finish Grade Elevations: Indicated on drawings.

B. Subgrade Elevations: Indicated on drawings.

1.4 REFERENCE STANDARDS

A. AASHTO T 180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54 kg (10-lb) Rammer and a 457 mm (18 in.) Drop; American Association of State Highway and Transportation Officials; 2010

B. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2018 is current; use 2018 as indicated in 2022 CBC Referenced Standards.

C. ASTM D1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method; 2007.

D. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN m/m3)); 2012.

E . ASTM D2487 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System); 2011.

F. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth); 2010.

1.5 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Samples: 10 lb (4.5 kg) sample of each type of fill; submit in air-tight containers to testing laboratory.
   1. Submit samples directly to Geotechnical Engineer for testing and analysis copy transmittals to Architect and Owner.
C. Materials Sources: Submit name of imported materials source.
D. Fill Composition Test Reports: Results of laboratory tests on proposed and actual materials used.
E. Compaction Density Test Reports.

1.6 DELIVERY, STORAGE, AND HANDLING

A. When necessary, store materials on site in advance of need.
B. When fill materials need to be stored on site, locate stockpiles where agreed to.
   1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
   2. Prevent contamination.
   3. Protect stockpiles from erosion and deterioration of materials.

PART 2 - PRODUCTS

2.1 FILL MATERIALS

A. All fill materials shall be in conformance with the approved Soils Report, addenda and geotechnical data indicated in Section 00 31 00 - Available Project Information.
B. General Fill: Subsoil excavated on-site.
   1. Graded.
   2. Free of lumps larger than 3 inches (75 mm), rocks larger than 6 inches (150 mm), and debris.
   3. Conforming to ASTM D2487 Group Symbol SP, SW, SM, or GM.
C. Structural Fill: Subsoil excavated on-site.
   1. Graded.
   2. Free of organic matter, debris, and lumps larger than 3 inches (75 mm), rocks larger than 6 inches (150 mm). Fill shall contain at least fifty percent of material smaller than 1/4-inch in size.
   3. Imported fill materials: The soil shall be tested for potential contamination in accordance with DTSC protocols.
   4. On-site soils should only be used as specified in the Soils Report.
   5. Conforming to ASTM D2487 Group Symbol SP, SW, SM, or GM.
   6. Fill (SP, SW per ASTM D2487) may be used for structural backfill at the Contractor's option. However, sand shall not be placed within one foot of finished surface elevation. Material shall be free of perishable or spongy matter, trash, and all other vegetation.
D. Concrete for Fill: As specified in Section 03 30 00; compressive strength of 2500 psi (17.235 MPa); except concrete used under footings and foundations to correct over-excavation shall be same as for footings and foundation.
E. Granular Fill - Gravel - Fill Type GM, GW: Angular crushed washed stone; free of shale, clay, friable material and debris.

1. Class 2 Aggregate base per CT202 and Section 26-1.02B.
2. Graded in accordance with ASTM D2487 Group Symbol GM or GW.

F. Granular Fill - Pea Gravel: No. 84 or 89 stone per ASTM C33.

G. Sand: Natural river or bank sand; washed; free of silt, clay, loam, friable or soluble materials, and organic matter.
1. Grade in accordance with ASTM D2487 Group Symbol SP or SW.

H. Topsoil: Topsoil excavated on-site.
1. Select.
a. The soil shall be tested for potential contamination in accordance with DTSC protocols.
2. Graded.
3. Free of roots, rocks larger than 1/2 inch (12 mm), subsoil, debris, large weeds, and foreign matter.
4. Acidity range (pH) of 5.5 to 7.5.
5. Containing a minimum of 4 percent and a maximum of 25 percent inorganic matter.
6. Conforming to ASTM D2487 Group Symbol OH.
7. Limit decaying matter to 5 percent of total content by volume.

I. Blended Material: Conforming to type II material per the Uniform Standard Specifications for Public Works Construction, Off-Site Improvements.

J. Select Fill: Excavated granular materials with not more than 10% passing the No. 200 sieve; free from lumps, clay, organic materials, and rocks greater than 3 inches.

K. Type F - Subsoil: Reused, free of rocks larger than 3-inch size, and debris.

2.2 SOURCE QUALITY CONTROL

A . See Section 01 40 00 - Quality Requirements, for general requirements for testing and analysis of soil material.

B. Where fill materials are specified by reference to a specific standard, test and analyze samples for compliance before delivery to site.

C. If tests indicate materials do not meet specified requirements, change material and retest.

D. Provide materials of each type from same source throughout the Work.

E. Comply with EPA/DTSC requirements.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify structural or other backfill materials to be reused or imported are acceptable to the satisfaction of the Geotechnical Engineer. Approval shall be obtained in advance of re-use or importation onto the site.
1. The soil shall be tested for potential contamination in accordance with DTSC protocols.
2. Imported fill materials shall be compatible with on-site soils in addition to being suitable for its intended use.

3. Imported fill soil shall contain no rocks larger than 6-inch (150 mm) maximum dimension.

B. Verify that survey benchmarks and intended elevations for the Work are as indicated.

C. Identify required lines, levels, contours, and datum locations.

D. See Section 31 22 00 for additional requirements.

E . Verify sub-drainage, damp-proofing, or waterproofing installation has been inspected.

F. Verify structural ability of unsupported walls to support imposed loads by the fill.

G. Verify underground tanks are anchored to their own foundations to avoid flotation after backfilling.

3.2 PREPARATION

A. Scarify subgrade surface to a depth of 6-inches (150 mm) to identify soft spots.

B. Cut out soft areas of subgrade not capable of compaction in place. Backfill with Type II (Greenbook) or concrete fill and compact to density equal to or greater than requirements for subsequent backfill material.

C. Compact subgrade to density equal to or greater than requirements for subsequent fill material.

D. Prior to placement of aggregate base course material at paved areas, compact subsoil to 95 percent of its maximum dry density in accordance with ANSI/ASTM D1557.

E. Until ready to fill, maintain excavations and prevent loose soil from falling into excavation.

3.3 FILLING

A. Fill to contours and elevations indicated using unfrozen materials.

B. Fill up to subgrade elevations unless otherwise indicated.

C. Employ a placement method that does not disturb or damage other work.

1. Do not disturb or damage foundation perimeter drainage and foundation waterproofing and protective cover utilities in trenches.

D. Systematically fill and compact. Do not fill over porous, wet, frozen, or spongy subgrade surfaces.

E. Maintain optimum moisture content of fill materials to attain required compaction density.

F. Granular Fill: Place and compact materials in equal continuous layers not exceeding 6-inches (150 mm) compacted depth.

G. Soil Fill: Place and compact material in equal continuous layers not exceeding 8-inches (200 mm) compacted depth.

H. Slope grade away from building minimum 2-inches in 10 ft (50 mm in 3 m), unless noted otherwise. Make gradual grade changes. Blend slope into level areas.

I. Correct areas that are over-excavated.

1. Load-bearing foundation surfaces: Fill with concrete.

2. Other areas: Use general fill, flush to required elevation, compacted to minimum 90 or 95 percent of maximum dry density in subgrade zone.

J. Compaction Density Unless Otherwise Specified or Indicated:

1. Under paving, slabs-on-grade, and similar construction: 95 percent of maximum dry density.
2. At other locations: 90 percent of maximum dry density.

K. Reshape and re-compact fills subjected to vehicular traffic.

L. Remove surplus fill and backfill materials from site.

3.4 FILL AT SPECIFIC LOCATIONS

A. Use general fill unless otherwise specified or indicated.

B. Structural Fill:
1. Use general fill.
2. Fill up to subgrade elevations.
3. Maximum depth per lift: 6-inches (150 mm), compacted.
4. Compact to minimum 95 percent of maximum dry density.

C. Under Interior Slabs-On-Grade:
1. Use granular fill. Type A or B.
2. Depth: 4-inches (100 mm) deep.
3. Compact to 95 percent of maximum dry density.
4. Cover with sand.
a. Depth: 2-inches (50 mm).
b. Compact to 95 percent of maximum dry density.

D. At Footings:
1. Use general fill.
2. Fill up to subgrade elevation.
3. Compact each lift to 90 percent of maximum dry density.
4. Do not backfill against unsupported foundation walls.
5. Backfill simultaneously on each side of unsupported foundation walls until supports are in place.

E. Over Buried Utility Piping, Conduits, and Duct Bank in Trenches:
1. Bedding: Use general fill.
2. Cover with general fill.
3. Fill up to subgrade elevation.
4. Compact in maximum 8-inch (200 mm) lifts to 95 percent of maximum dry density.

F. At Lawn Areas:
1. Use general fill.
2. Compact to 90 percent of maximum dry density.
3. See Section 31 22 00 for topsoil placement.

G. At Planting Areas Other Than Lawns:
1. Use general fill.
2. Compact to 90 percent of maximum dry density.
3. See Section 31 22 00 for topsoil placement.

H. Under Monolithic Paving:
   1. Compact subsoil to 95 percent of its maximum dry density before placing fill.
   2. Use general fill.
   3. Fill up to subgrade elevation.
   4. Compact to 95 percent of maximum dry density.
   5. See Section 32 11 23 for aggregate base course placed over fill.

3.5 TOLERANCES

A . Top Surface of General Filling: Plus or minus 1 inch (25 mm) from required elevations.

B. Top Surface of Filling Under Paved Areas: Plus or minus 1/2 inch (12 mm) from required elevations.

3.6 FIELD QUALITY CONTROL

A . See Section 01 40 00 - Quality Requirements, for general requirements for field inspection and testing.

B. Perform compaction density testing on compacted fill in accordance with ASTM D1556 or ASTM D6938.
   1. Field inspections and testing shall be performed and submitted in accordance with requirements specified in Section 01 40 00 - Quality Requirements.

C. Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D 1557 ("modified Proctor") or AASHTO T 180.

D. Laboratory Tests and Analyses: Where backfill is required to be compacted to a specified density, tests for compliance shall be made in accordance with requirements specified in Section 01 40 00 - Quality Requirements.

E. Density Test Method: Density tests shall be in accordance with ASTM D1556 (Sand Cone Method) procedures. Allow testing service to inspect and approve each subgrade and fill layer before further fill, backfill or construction Work is performed.

F. Alternate Density Test Method: Field density tests may also be performed by the nuclear method in accordance with ASTM D6938, providing that calibration curves are periodically checked and adjusted to correlate to tests performed using ASTM D1556.
   1. In conjunction with each density calibration check, check the calibration curves furnished with the moisture gages in accordance with ASTM D6938.
   2. If field tests are performed using nuclear methods, make calibration checks of both density and moisture gages at beginning of Work, on each different type of material encountered, and at intervals as directed by Architect or Owner's testing and inspection agency.

G. Non-compliance: If tests indicate work does not meet specified requirements, remove work, replace, and retest.

H. Should tests of fill or backfill indicate non-compliance with required density, Contractor shall over-excavate, recompact and retest until specified density is obtained.
   1. Costs and Time associated with remedial Work and retesting shall be in accordance with provisions of the General Conditions.
      a. Retesting to demonstrate compliance shall be by a testing laboratory acceptable to Owner and shall be at Contractor's expense.

I. Frequency of Tests:

1. Footing Subgrade Testing: For each strata of soil on which footings will be placed, perform at least one test to verify required design bearing capacities. Subsequent verification and approval of each footing subgrade may be based on a visual comparison of each subgrade with related tested strata when acceptable to Geotechnical Engineer.
2. Paved Areas and Building Slab Subgrade Testing:
    a. Perform at least one field density test of subgrade for every 2,000 sf of paved area or building slab, but in no case fewer than three tests.
    b. In each compacted fill layer, perform one field density test for every 2,000 sf of overlaying building slab or paved area, but in no case fewer than three tests.

J. Proof roll compacted fill at surfaces that will be under slabs-on-grade.

3.7 CLEANING

A. Leave unused materials in a neat, compact stockpile.

B. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.

C. Leave borrow areas in a clean and neat condition. Grade to prevent standing surface water.

END OF SECTION

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SECTION 32 11 23 - AGGREGATE BASE COURSES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. This section compliments and shall be coordinated with the Civil Drawings/requirements. The most stringent requirements shall be utilized.

B. Aggregate base course.

C. Paving aggregates.

D. Soil sterilization.

1.2 RELATED REQUIREMENTS

A. Section 31 22 00 - Grading: Preparation of site for base course.

B. Section 31 23 16.13 - Trenching: Compacted fill over utility trenches under base course.

C. Section 31 23 23 - Fill: Topsoil fill at areas adjacent to aggregate base course.

D. Section 31 23 23 - Fill: Compacted fill under base course.

E. Section 31 23 16.13 - Trenching: Compacted fill over utility trenches under base course.

F. Section 32 12 16 - Asphalt Paving: Binder and finish asphalt courses.

G. Section 32 13 13 - Concrete Paving: Finish concrete surface course.

1.3 REFERENCE STANDARDS

A. ASTM D1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand- Cone Method; 2007.

B. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN m/m3)); 2012.

C. ASTM D2487 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System); 2011.

D. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil- Aggregate by Nuclear Methods (Shallow Depth); 2010.

E. Standard Specifications for Public Works Construction, latest edition.

1. Standard Specifications shall be as amended and adopted by authorities having jurisdiction, including the City or County.
2. Where reference is made to Standard Details, such reference shall be to the Standard Details accompanying the Standard Specifications, as amended, and adopted by the authorities having jurisdiction.
3. Wherever term "Agency" occurs in Standard Specifications, it shall be understood to mean Owner for purposes of the Contract.
4. Wherever term "Engineer" occurs in Standard Specifications, it shall be understood to mean Architect for purposes of the Contract.

1.4 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Samples: 10 lb (4.5 kg) sample of each type of aggregate; submit in air-tight containers to testing laboratory.

C. Materials Sources: Submit name of imported materials source.

D. Certificates of Conformance: Aggregate and sterilant materials.

E. Aggregate Composition Test Reports: Results of laboratory tests on proposed and actual materials used.

F. Compaction Density Test Reports.

1.5 QUALITY ASSURANCE

A. Regulatory Requirements: Where reference is made to Standard Specifications, the following shall apply.

1. Perform off-site work in public rights-of-way in accordance with requirements of authorities having jurisdiction, including Standard Specifications for Public Works Construction, as amended and adopted by those authorities. For conditions not indicated otherwise on Contract Drawings, conform to Standard Details adopted by authorities having jurisdiction, including Standard Details for Public Works Construction, as amended and adopted by those authorities.

2. Perform on-site Work as indicated and referenced on Contract Drawings and as specified herein.

B. The quantity of volatile organic compounds (VOC) used in weed killer, tack coat, primer and other materials shall not exceed limits permitted under current regulations of:

1. South Coast Air Quality Management District (AQMD).

C. Source Quality Control: Obtain materials from one source throughout.

1.6 DELIVERY, STORAGE, AND HANDLING

A. When necessary, store materials on site in advance of need.

B. Aggregate Storage, General:

1. Separate differing materials with dividers or stockpile separately to prevent intermixing.

2. Prevent contamination.

3. Protect stockpiles from erosion and deterioration of materials.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Sub-Base Material: Existing or imported materials as recommended in geotechnical report. Refer to Document 00 31 00 - Available Project Information.

B. Aggregate: Coarse or crushed aggregate, conforming to Green Book Standard Specifications 200-2.2.

C. Coarse Aggregate: Angular crushed stone; free of shale, clay, friable material, and debris.

1. Graded in accordance with ASTM D2487 Group Symbol GW.

D. Blended Aggregate: Pit run washed stone; free of shale, clay, friable material, and debris.

1. Graded in accordance with ASTM D2487 Group Symbol GW.

E. Medium Aggregate: Natural stone, pea gravel; washed, free of clay, shale, organic matter.

1. Grade in accordance with ASTM D2487 Group Symbol GM.

F. Fine Aggregate: Sand; conforming to Green Book Standard Specifications.

1. Green Book Standard Specifications 200-2.2.

G. Herbicide: Comply with all applicable environmental protection and hazardous materials laws and regulations.

1. Monobor-Chlorate non-selective weed and grass killer, by J.R. Simplot Co., Lathrop, CA;
2. Poly-Bor Chlorate or Mono-Bor-Chlorate by United States Borax.
3. Monobar-Chlorate by Occidental Chemical.
4. Casoron 50W by Uniroyal Chemical Co., Inc.
5. Substitutions: See Section 01 60 00 - Product Requirements.

H. Geotextile Fabric: Non-biodegradable, non-woven.

2.2 SOURCE QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements, for general requirements for testing and analysis of aggregate materials.

B. Where aggregate materials are specified using ASTM D2487 classification, testing of samples for compliance shall be provided before delivery to site.

C. If tests indicate materials do not meet specified requirements, change material and retest.

D. Provide materials of each type from same source throughout the Work.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that survey benchmarks and intended elevations for the work are as indicated.

B. Verify substrate has been inspected, gradients and elevations are correct, and is dry.

3.2 PREPARATION

A. Stockpiling:

1. Clear and level storage sites prior to stockpiling of material.
2. Stockpile all materials, including approved material available from excavation and grading, in the manner and at the locations designated.
3. Aggregates shall be stockpiled on the cleared and leveled areas designated by the Construction Manager to prevent segregation.

4. Materials obtained from different sources shall be stockpiled separately.

B. Soil Sterilant: Sterilize soil areas to receive paving. Apply soil sterilant in accordance with manufacturer's instructions and applicable environmental regulations. Take care to confine application to the areas to be paved.

C. Correct irregularities in substrate gradient and elevation by scarifying, reshaping, and re- compacting.

D. Do not place aggregate on soft, muddy, or frozen surfaces.

3.3 INSTALLATION

A . Place and compact aggregate base material in accordance with Standard Specifications, Subsection 301-2. Place aggregate base below curbs and gutters and paving also, compacted to 95 percent at vehicular traffic and 90 percent at pedestrian-only traffic.

B. Under Bituminous Concrete Paving:

1. Compact to 95 percent of maximum dry density and 90 percent at pedestrian- only traffic.

C. Under Portland Cement Concrete Paving:

1. Compact to 95 percent of maximum dry density and 90 percent at pedestrian- only traffic.

D. Place aggregate in maximum 4-inch (100 mm) layers and roller compact to specified density.

E. Level and contour surfaces to elevations and gradients indicated.

F. Add small quantities of fine aggregate to coarse aggregate as appropriate to assist compaction.

G. Add water to assist compaction. If excess water is apparent, remove aggregate and aerate to reduce moisture content.

H. Use mechanical tamping equipment in areas inaccessible to compaction equipment.

I. Apply herbicide to finished surface.

3.4 TOLERANCES

A. Flatness: Maximum variation of 1/4-inch (6.4 mm) measured with 10 foot (3 m) straight edge.

B. Scheduled compacted thickness: Within 1/4-inch (6.4 mm).

C. Variation from design elevation: Within 1/2 -inch (12.8 mm).

3.5 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements, for general requirements for field inspection and testing.

B. Compaction density testing shall be performed on compacted aggregate base course in accordance with ASTM D1556 or ASTM D6938.

C. Results will be evaluated in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D1557 ("modified Proctor").

D. If tests indicate work does not meet specified requirements, remove work, replace, and retest.

E. Proof roll compacted aggregate at surfaces that are under slabs-on-grade and paving.

3.6 CLEANING

A. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.

B. Leave borrow areas in a clean and neat condition. Grade to prevent standing surface water.

END OF SECTION

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SECTION 32 13 13 - CONCRETE PAVING

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. This section compliments and shall be coordinated with the Civil Drawings / requirements. The most stringent requirements shall be utilized.

B. Concrete sidewalks, integral curbs, and gutters.

C. Integrally colored Portland cement concrete paving.

1.2 RELATED REQUIREMENTS

A. Section 31 22 00 - Grading: Preparation of site for paving and base.

B. Section 31 23 23 - Fill: Compacted subbase for paving.

C. Section 32 17 26 - Detectable Warning Pavers: Plastic tactile and detectable warning tiles for pedestrian walking surfaces.

D. Section 32 17 23.13 - Painted Pavement Markings: Pavement markings.

1.3 REFERENCE STANDARDS

A. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete; American Concrete Institute International; 1991 (Reapproved 2002).

B. ACI 301 - Specifications for Structural Concrete; American Concrete Institute International; 2010 (Errata 2012).

C. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; American Concrete Institute International; 2000.

D. ACI 305R - Hot Weather Concreting; American Concrete Institute International; 2010.

E. ACI 306R - Cold Weather Concreting; American Concrete Institute International; 2010.

F. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2014 is current; use 2004a as indicated in 2022 CBC Referenced Standards.

G. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2011a is current; use 2018 as indicated in 2022 CBC Referenced Standards.

H. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2014.

I. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2014 is current; use 2004a as indicated in 2022 CBC Referenced Standards.

J. ASTM C150/C150M - Standard Specification for Portland Cement; 2012 is current; use 2007 as indicated in 2022 CBC Referenced Standards.

K. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete; 2011.

L. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete; 2013.

M. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types); 2004 (Reapproved 2013).

N. ASTM D1752 - Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction; 2004a (Reapproved 2013).

O. Standard Specifications for Public Works Construction, latest edition.
    1. Standard Specifications shall be as amended and adopted by local authorities having jurisdiction, including but not limited to County, City, Town, or other.
    2. Where reference is made to Standard Details, such reference shall be to the Standard Details accompanying the Standard Specifications, as amended and adopted by the authorities having jurisdiction.
    3. Wherever term "Agency" occurs in Standard Specifications, it shall be understood to mean Owner for purposes of the Contract.
    4. Wherever term "Engineer" occurs in Standard Specifications, it shall be understood to mean Architect for purposes of the Contract.

1.4 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
B. Mix Design: Design mixes for each concrete mix.
C. Product Data: Provide data on joint filler, admixtures, and curing compound.
    1. Material Certificates signed by manufacturers for each of the following:
        a. Cementitious materials and aggregates.
        b. Steel reinforcement and reinforcement accessories.
        c. Admixtures.
        d. Curing compounds.
        e. Joint fillers.
    2. Colored concrete product data and color selections.
D. Samples: Submit two sample panels, 12 x 12 inch (300 x 300 mm) in size illustrating exposed aggregate finish.
E. Shop drawings: For pattern layout and verification.

1.5 QUALITY ASSURANCE

A. Industry Standard: Perform concrete paving Work in accordance with ACI 301.
B. Regulatory Requirements: Where reference is made to Standard Specifications, the following shall apply:
    1. Where reference is made to Standard Specifications, the following shall apply:
        a. Perform off-site Work in public rights-of-way as indicated on the Contract Drawings and in accordance with requirements of authorities having jurisdiction, including Standard Specifications for Public Works Construction, as amended and adopted those authorities.
    1) For conditions not indicated otherwise on Contract Drawings, conform to Standard Details adopted by authorities having jurisdiction, including Standard Details for Public Works Construction, as amended and adopted those authorities.
    b. Perform on-site work as indicated and referenced on the Contract Drawings and as specified herein.
    2. Conform to Standard Specifications for Public Works Construction.
    3. Conform to California Code of Regulations (CCR), Volume 2, Part 2, Chapters 18A and 19A.

4. Conform to California Building Code (CBC), Chapter 11B and ADAAG for accessibility requirements.
    a. Concrete paving and concrete finishes along accessible routes of travel shall be at least as slip-resistant as that described as a medium salted finish for slopes of less than 6%, and slip resistant at slopes of 6% or greater; CBC sections 11B-302 and 11B-403.
5. Comply with OSHA and Cal-OSHA requirements.
6. Continuous surfaces, including walks and sidewalks, shall have a continuous common surface, not interrupted by steps or by abrupt changes in level exceeding 1/4 inch (3 mm) vertical (CBC 11B-303.2), or beveled at 1:2 slope to a maximum height of 1/2 inch (12 mm) (CBC 11B-303.3) and shall have a minimum width of 48 inches (1219 mm); CBC 11B-403.5.1.
7. Surface cross slopes shall not exceed 2 percent on any accessible path of travel.
8. Surface slopes shall not exceed 2 percent in any direction for areas of flatwork that have no discernable path of travel. These areas are also known as plaza areas.

C. Source Quality Control: Obtain like materials from one source throughout.

D. Lines and Levels: Established by State of California licensed Surveyor or registered Civil Engineer. Costs of surveying services shall be included in the Contract Sum.

E. Portland cement concrete paving shall be stable, firm, and slip resistant and shall comply with CBC Sections 11B-302 and 11B-403.

1.6 MOCK-UP

A. Install minimum 48 x 48 inch (1219 x 1219 mm) mock-up of concrete flatwork for each texture or color specified.

B. Install mock-up one month prior to installation, located where directed by Architect.

C. Use identical forming system, subgrade type, reinforcing, expansion joints, score joints, finishing and edge trim as specified for installation.

D. Architect approval required prior to proceeding with finish installation. Acceptable sample shall serve as quality basis for evaluating subsequent work.
    1. Refinish mock-up area as required to produce acceptable work.
    2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.

E. Mock-up may not be used in final installation. Remove mock-up materials from site and dispose of legally.

1.7 DELIVERY, STORAGE AND HANDLING

A. Delivery, Storage and Handling: Comply with requirements specified for regular concrete in Section 03 30 00 - Cast in Place Concrete.

PART 2 - PRODUCTS

2.1 PAVING ASSEMBLIES

A. Comply with applicable requirements of ACI 301.

B Concrete Sidewalks: 3,000 psi (17.2 MPa) 28-day concrete, thickness as indicated on Civil drawings, minimum 4 inches (100 mm), natural grey color Portland cement.

C. Parking Area Pavement: 3,250 psi (20.7 MPa) 28-day concrete, thickness as indicated on Civil drawings, #4 reinforcing bars, 18 inches on-center, each direction at the mid-height of the slab, finish as indicated on drawings.

2.2 FORM MATERIALS

A. Wood form material, profiled to suit conditions.

B. Joint Filler: Preformed; non-extruding bituminous type (ASTM D 1751) or sponge rubber or cork (ASTM D 1752).

1. Thickness: 1/2 inch (12 mm).

2.3 REINFORCEMENT

A. General: As indicated on drawings. Reinforcement for portland cement concrete paving in public rights-of-way shall comply with all applicable requirements in the Standard Specifications for Public Works Construction and Standard Details, as adopted by local authorities having jurisdiction.

B. Reinforcing Steel: ASTM A615/A615M Grade 60 (420); deformed billet steel bars; unfinished finish.

1. Unless detailed otherwise on drawings, provide number 4 reinforcing bars at 18 inches (610 mm) on center, each way.

C. Tie Wires: 18 gage minimum, black annealed steel.

D. Construction Joint Reinforcing:

1. Dowels: ASTM A615/A615M, Grade 60 - 60,000 psi (420 MPa) yield strength; deformed billet steel bars; unfinished finish.

2.4 PERFORMANCE REQUIREMENTS

A. Albedo reflectance of finish concrete shall be minimum 0.30.

2.5 CONCRETE MATERIALS

A. Obtain cementitious materials from same source throughout.

B. Cement: ASTM C150/C150M Sulfate Resistant - Type V portland type, grey color.

C. Fine and Coarse Mix Aggregates: ASTM C33/C33M.

D. Water: Clean, and not detrimental to concrete.

E. Color Additives: Pure, concentrated mineral pigments specifically intended for mixing into concrete and complying with ASTM C979.

1. Concentration: Base dosage rates on weight of Portland cement, fly ash, silica fume, and other cementitious materials but not aggregate or sand.

2. Packaging: If pigments are to be added to mix at site, furnish pigments in premeasured disintegrating bags to minimize job site waste.

3. Color(s): As selected by Architect from manufacturer's full range.

a. Allow for three different pigment colors.

4. Products:

a. BRICKFORM; BRICKFORM Liquid Integral Color: www.brickform.com.

b. Butterfield Color: www.butterfieldcolor.com.

c. Davis Colors: www.daviscolors.com.

d. Lambert Corporation: www.lambertusa.com.

e. L.M. Scofield Company: www.scofield.com.

f. Solomon Colors: www.solomoncolors.com.

g. Substitutions: See Section 01 60 00 - Product Requirements.

F. Chemical Admixtures: ASTM C494/C494M, Type A - Water Reducing, Type B - Retarding, Type D - Water Reducing and Retarding, Type F - Water Reducing, High Range, and Type G - Water Reducing, High Range and Retarding.

1. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.

2.6 ACCESSORIES

A. Liquid Curing Compound: ASTM C 309, Type 1, Class A. Comply with all applicable air pollution requirements.

B. Liquid Surface Sealer:

1. High solids, acrylic curing and sealing compound: Minimum 30% non-yellowing, acrylic solids curing compound; shall conform to ASTM C 309 and ASTM C 1315, Type I, Class A, VOC compliant.

a. Acceptable Products:

1) L&M Construction Chemicals, Inc.; Dress & Seal WB: www.lmcc.com.

2) L.M. Scofield Company; Cureseal-W: www.scofield.com.

3) W. R. Meadows Company; Decra-Seal W/B: www.wrmeadows.com.

4) Substitutions: See Section 01 60 00 - Product Requirements.

C. Surface Retarder:

1. Color: As selected by Architect from manufacturer's custom range.

2. Acceptable Products:

a. Preco EAC-S, manufactured by Fosroc, Inc., Georgetown, KY, or approved equal.

b. WR Grace; Grace Top Cast: www.graceconstruction.com

c. Substitutions: See Section 01 60 00 - Product Requirements.

D. Tactile Warning Surfaces: See Section 32 17 26.

E. Concrete Paving Joint Sealant: Polyurethane, self-leveling; ASTM C920, Class 25, Uses T, I, M and A; single component.

1. Color: Gray.

2. Applications: Use for:

a. Joints in sidewalks and vehicular paving.

3. Products:

a. Pecora Corporation; NR-201 Self-Leveling Traffic and Loop Sealant: www.pecora.com.

b. BASF Construction Chemicals-Building Systems: www.buildingsystems.basf.com.

c. Sherwin-Williams Company; Stampede 1SL Polyurethane Sealant: www.sherwin-williams.com.

d. Substitutions: See Section 01 60 00 - Product Requirements.

F. Soil Sterilant: As specified in Standard Specifications for Public Works Construction. Soil sterilant shall comply with all applicable environmental protection and hazardous materials laws and regulations.

1. See Section 32 11 23 - Aggregate Base Course for product.

G. Headers and Stakes: Pressure preservative treated Douglas Fir, 2 x 6 inch (50 x 150 mm) nominal size except at curves provide laminated 1 x 6 inch (25 x 150 mm). Use hot dipped galvanized nails only.

H. Expansion Joint Filler: ASTM D1751, pre-molded, compressible 1/2 inch (12 mm) thick non-extruding bituminous type resilient filler, compatible with joint backing and sealing products.

2.7 PATTERN STAMPED CONCRETE

A. Stamping Patterns: Lithotex Pavecrafters by L.M. Scofield Company, Los Angeles, CA (800/800-9900); www.scofield.com.

1. Alternate Manufacturers:

a. The Bomanite Company; www.bomanite.com

2. Substitutions: See Section 01 60 00 - Product Requirements.

B. Pattern-matched interlocking tools, manufacturer's rigid design.

C. Pattern as indicated.

1. Provide custom pattern where indicated or not included in manufacturer's standard selections.

2.8 CONCRETE MIX DESIGN

A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.

B. Concrete Mix for Pedestrian (Sidewalk) Pavements, Natural Color, unless indicated otherwise: Standard Specification for Public Works Construction, Section 201-1.1.2 - Class 520-C-2500, with maximum slump of 4-inches, except concrete paving in public rights of way shall be as required authorities having jurisdiction.

C. Concrete Mix for Trash Enclosure and other Exterior Slabs on Grade: ASTM C94 - Ready-Mixed Concrete, Alternative No. 2, minimum 28- day compressive strength as indicated on Drawings or, if not indicated, 3,000 psi.

D. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI 301.

1. For trial mixtures method, employ independent testing agency acceptable to Architect for preparing and reporting proposed mix designs.

E. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended by manufacturer.

1. Use accelerating admixtures in cold weather or set retarding admixtures in hot weather only when approved by Architect. Do not use calcium chloride.

F. Colored Concrete: Add pigments in strict accordance with manufacturer's instructions to achieve consistent color from batch to batch.

G. Concrete Properties:

1. Compressive strength, when tested in accordance with ASTM C39/C39M at 28 days; As scheduled.
2. Water-Cement Ratio: Maximum 50 percent by weight.
3. Maximum Slump: 4 inches (100 mm).

2.9 MIXING

A. Transit Mixers: Comply with ASTM C94/C94M.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify compacted stabilized soil is acceptable and ready to support paving and imposed loads.
   1. Provide as indicated on Civil Drawings and as specified in Earthwork Sections.
B. Fine grading, checking, shaping, and compacting of subgrade shall be complete before start of concrete paving Work.
C. Verify gradients and elevations of base are correct.

3.2 SUBBASE

A. See Section 32 11 23 Aggregate Base Course for construction of base course for work of this Section.
B. For pavement subject to vehicular traffic, provide sub-base and aggregate base material specified in Section 32 11 23 - Aggregate Base Courses and as indicated on the Drawings.

3.3 PREPARATION

A. Project Conditions:
   1. Water and Dust Control: Maintain control of concrete dust and water at all times. Do not allow adjacent planting areas to be contaminated.
   2. Do not place pavement when base surface or ambient temperature is less than 40 degrees F (4 degrees C) or if base surface is wet or frozen.
   3. Maintain environmental conditions (temperature, humidity, and ventilation) within l imits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
B. Moisten base to minimize absorption of water from fresh concrete. Do not place concrete on standing water.
C. Coat surfaces of manhole frames with oil to prevent bond with concrete pavement.
D. Notify Architect a minimum of 24 hours prior to commencement of concreting operations.
E. Curbs and Gutters: Schedule Portland cement concrete curbs and gutters to be in place and cured prior to start of adjoining asphaltic concrete and Portland cement concrete paving work.

3.4 FORMING

A. Place and secure forms to correct location, dimension, profile, and gradient.

1. Surfaces and Edges: Except where special finishes and tooled edges are indicated, provide all exposed finish surfaces of dense concrete with sharp arises and outside corners.
2. Recesses and Openings: As indicated on Drawings or as directed.

B. Concrete Formwork:

1. Construct formwork accurately and to configurations and dimensions indicated for finish concrete Work.
2. Formwork shall be substantial, mortar-tight and braced to maintain position and shape during placement of reinforcing and concrete.
3. Hold forms rigidly in place by stakes, clamps, spreaders and braces where required to ensure rigidity.
4. Curbs:
    a. Construct curb forms with smooth side placed next to exposed concrete face.
    b. Curb forms shall have true, smooth upper edge.
    c. Depth of curb forms at back of curbs shall be equal to full depth of curb.
    d. Depth of face forms shall be equal to full face height of curb.
    e. Benders or thin plank forms may be used to form curves and at grade changes and curb returns.
    f. Back forms for curb returns may be made of 1/2 inch (12 mm) thick benders cleated together for full depth of the curb.
5. Formwork shall not deviate more than 1/4 inch (6 mm) maximum from required positions and levels.
6. Verify formwork alignment and levels as Work proceeds, promptly making adjustments and adding bracing as necessary.

C. Assemble formwork to permit easy stripping and dismantling without damaging concrete.

1. Remove the form on the front of curbs in not less than one hour nor more than 6 hours after the concrete has been placed.
2. Remove side forms for sidewalks, gutter depressions, island paving and driveways, not less than 12 hours after the finishing has been completed.

D. Place joint filler vertical in position, in straight lines. Secure to formwork during concrete placement.

3.5 REINFORCEMENT

A. Place reinforcement at mid-height of slabs-on-grade.

B. Reinforcement Placement, General: Locate reinforcement as indicated on Drawings or in Standard Specifications, whichever is more stringent.

1. Locate reinforcement to provide required cover by concrete. If not otherwise indicated on Drawings or in Standard Specifications, provide concrete cover in compliance with ACI 318, Table 20.5.1.3.1.
2. Place, support and secure reinforcement against displacement.

C. Reinforcement Spacing: Space reinforcement as indicated on Drawings or in Standard Specifications, whichever is more stringent. If not indicated, maintain clear spacing of two times

bar diameter but not less than 1-1/2 inch (38 mm) nor less than 1-1/3 times maximum size aggregate.

D. Coordination: Locate reinforcement to accommodate embedded products and formed openings and recesses.

E. Reinforcement Supports: Provide load bearing pads under supports or provide precast concrete block bar supports.

F. Interrupt reinforcement at contraction and expansion joints.

1. Provide doweled joints 24" O.C. with one end of dowel set in capped sleeve to allow longitudinal movement.

G. Place dowels to achieve pavement and curb alignment as detailed.

1. Secure tie dowels in place before depositing concrete. Provide No. 3 bars, 18 inch (457 mm) long at 24 inches (610 mm) O.C. for securing dowels where no other reinforcement is provided.

3.6 COLD AND HOT WEATHER CONCRETING

A. Follow recommendations of ACI 305R when concreting during hot weather.

B. Follow recommendations of ACI 306R when concreting during cold weather.

C. Do not place concrete when base surface temperature is less than 40 degrees F (4 degrees C), or surface is wet or frozen.

3.7 PLACING CONCRETE

A. Mixing: If batch plant is within travel time not exceeding maximum limits, transit mix concrete in accordance with ASTM C94. If travel time exceeds limits, provide alternative means for mixing and submit for review and approval.

B. Colored Concrete: Add pigments in strict accordance with manufacturer's instructions to achieve consistent color from batch to batch.

C. Place concrete in accordance with ACI 304R.

D. Do not place concrete when base surface is wet.

E . Ensure reinforcement, inserts, embedded parts, formed joints are not disturbed during concrete placement.

F. Place concrete continuously over the full width of the panel and between predetermined construction joints. Do not break or interrupt successive pours such that cold joints occur.

G. Use internal vibration to consolidate concrete around reinforcing per industry guidelines.

H. Place concrete to pattern indicated.

3.8 JOINTS

A. Align curb, gutter, and sidewalk joints.

B. Place 1/2 inch (12 mm) wide expansion joints as indicated on Drawings (if not indicated provide at 20 foot (6 m) intervals) and to separate paving from vertical surfaces and other components and in pattern indicated.

1. Place in all concrete walks, other exterior flatwork and concrete curbs and gutters.

2. If expansion joints are not indicated, comply with standard details and specifications of authorities having jurisdiction, including Standard Details for Public Works Construction and Standard Specification for Public Works Construction, as applicable.

3. Place expansion control filler to correct elevation and profile. Form joints with joint filler extending from bottom of pavement to within 1/2 inch (13 mm) of finished surface.
4. Secure to resist movement by wet concrete.
5. Coordinate locations to align expansion joints in adjoining concrete walks, curbs, gutters and other exterior flatwork.
6. Provide expansion joints also at beginning and end of all curved segments.
7. Provide expansion joints also at intersections of concrete curbs and gutters and building footing.
8. Provide expansion joints also at intersections of concrete paving and building footing.
9. Lay out expansion joint locations to occur where possible at penetrations such as handrail posts and columns.
10. Place expansion control filler to correct elevation and profile.

C. Provide scored joints:
1. As indicated on Drawings. If not indicated, locate joints in compliance with Standard Details and as indicated below.
2. Evenly spaced at maximum 5 feet (1.5 m) intervals for vehicular paving and 5 feet (1.5 m) for pedestrian paving.
3. Between sidewalks and curbs.
4. Between curbs and pavement.
5. Lay out control joint locations to occur at penetrations such as handrail posts and columns and where shown on Drawings.
6. Refer to Architectural, Landscape and Civil Drawings for additional information and joint locations.

D. Provide keyed joints as indicated.

E. Saw cut contraction joints 1/8 inch (3 mm) wide at an optimum time after finishing. Cut 1/3 into depth of slab.

3.9 EXPOSED AGGREGATE

A. Wash scheduled concrete surfaces with acid etch solution exposing aggregate to match sample panel.

B. Decorative Scoring at Exposed Aggregate Flatwork: Pattern as indicated.
1. Use saw-cuts 1/8-inch wide by one-fourth of slab depth, unless otherwise indicated. Commence work as soon as possible after concrete placement as recommended by Soff-Cut International, Corona, CA (800/776-3328).

3.10 FINISHING

A. Concrete Paving Finish: ACI 301, two-step trowel finish, followed after surface has achieved initial set by flooding of surface and light rubbing with bristle brush so that concrete fines are exposed slightly.
1. Finish surface less than 6 percent shall receive medium broom finish resembling medium grit sandpaper. CBC 11B-403 and 11B-302.1.
2. Finish surface greater than 6 percent shall receive heavy broom finish. CBC 11B-403 and 11B-302.1.

3. Surfaces shall have static coefficients of friction of 1.3 to 1.6 (dry) and 1.2 to 1.4 (wet) when field tested in accordance with ASTM C1028.

4. Portland cement concrete paving shall be stable, firm, and slip resistant and shall comply with CBC Sections 11B-302 and 11B-403.

B. Sidewalk Paving: Light broom, texture perpendicular to direction of travel with troweled and radiused edge 1/8 inch (3 mm) radius.

1. Broomed: Pull broom across freshly floated concrete to produce medium texture in straight lines perpendicular to main line of traffic. Do not dampen brooms.

2. Tooled Joints: 1-inch deep by 3/16-inch wide tooled joints with 1/8-inch radius corners.

C. Enhanced Sidewalk Paving: Light sandblast look finish using surface retarder.

1. Apply surface retarder in strict compliance with manufacturer's specifications and instructions.

2. Surface retarder shall be applied after concrete surface has been finished and while concrete is still moist.

a. Apply with a Hudson type sprayer with an adjustable or fan type nozzle with a .3-.5 gpm flow rate.

1) Apply at the rate of 175-350 sf/gal.

b. Once surface retarder is applied, protect per manufacturer's specifications.

c. Begin washing surface retarder off surface of concrete after 12 to 16 hours.

1) Wash with a power washer with 1500 psi and a 25 degree fan nozzle.

2) Keep power washer tip 6 to 10 inches away from surface of concrete to avoid deep scour marks.

3) A stiff bristle brush may be used to help achieve the desired finish.

4) Wash until clear water runs off the surface of the concrete paving.

d. Allow concrete to dry and cure before applying sealer.

e. Apply sealer per sealer manufacturer's specifications.

D. Curbs and Gutters: Comply with Standard Specifications.

E. Specific Finishes:

1. Salt Finish (Rock Salt):

a. Tamp concrete sufficiently to bring fines to surface. Bring to required grade with wood floats and steel trowel smooth.

b. Apply heavy textured salt finish, composed of particles 1/4-inch to 3/8-inch in size on approximately 80 percent of each square foot of concrete surface.

1) Sprinkle salt on concrete and press into surface leaving only tops of salt grains exposed.

c. After 24 hours, wash salt away with water and brush.

d. Allow surface and impressions to dry before applying curing compound.

e. Match approved mock-up sample panel.

2. Trowel: Precautions should be taken to ensure that the surface is uniformly troweled so that it is not slippery. Do not over-trowel or burnish the surface.

F. Curing and Sealing:

1. Place sealer on exposed concrete surfaces immediately after finishing. Apply in accordance with manufacturer's instructions.

2. Precautions shall be taken in hot weather to prevent plastic cracking resulting from excessively rapid drying at surface as described in CIP 5 Plastic Shrinkage Cracking published by the National Ready Mixed Concrete Association.

3. Do not cover concrete with plastic sheeting.

3.11 JOINT SEALING

A. See Section 07 92 00 - Joint Sealants for joint sealer requirements.

3.12 TOLERANCES

A. ACI 301, Class B, except paving in public rights-of-way shall comply with the Standard Specifications.

B . Maximum Variation of Surface Flatness: 1/4 inch (6 mm) in 10 ft (3 m).

C. Maximum Variation from True Position: 1/4 inch (6 mm).

3.13 FIELD QUALITY CONTROL

A. An independent testing agency will perform field quality control tests, as specified in Section 01 40 00.

1. Provide free access to concrete operations at project site and cooperate with appointed firm.

2. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of concrete operations.

3. Tests of concrete and concrete materials may be performed at any time to ensure conformance with specified requirements.

B. Compressive Strength Tests: ASTM C 39/C 39M. For each test, mold and cure three concrete test cylinders. Obtain test samples for every 75 cu yd (57 cu m) or less of each class of concrete placed each day.

1. Take one additional test cylinder during cold weather concreting, cured on job site under same conditions as concrete it represents.

2. Perform one slump test for each set of test cylinders taken.

C. Maintain records of placed concrete items. Record date, location of pour, quantity, air temperature, and test samples taken.

3.14 PROTECTION

A. Immediately after placement, protect pavement from premature drying, excessive hot or cold temperatures, and mechanical injury.

B . Do not permit pedestrian or vehicular traffic over pavement until 75 percent design strength of concrete has been achieved.

C. Prohibit all vehicular traffic across pedestrian paving unless suitable base and reinforcement have been added.

D. Provide lumber ramping and plywood covering where curbs and gutters are subject to vehicular and equipment traffic during construction.

E. Provide protection of colored concrete in accordance with colored concrete manufacturer's instructions and recommendations.

END OF SECTION

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SGW
A TENCATE COMPANY



TigerTurf™

Playground Fescue

· Built with TigerCool™ Technology which reduces turf temperatures up to 15%.

· IPEMA Certified reducing G-Max shock, perfect for playgrounds.

· K29 Quadruple-Layered Action Backing for greater seam strength and permeability.

GENERAL FEATURES:

Traffic Level:	Moderate to Heavy Traffic
Applications:	Landscape
Blade Colors:	Field Green / Mid-Olive Green

PRODUCT SPECIFICATIONS

Yarn Characteristics

Type: Monofilament PE with Thatch

Composition/Structure: Polyethylene

Denier: 10,800/5,000

Colors: Field Green/Mid-Olive Green

Blade Shape: 3D Curvy W & 3D Curvy N

Turf Characteristics

Total Product Weight: Approx. 84 Ounces Per Square Yard

Pile/Face Weight: Approx. 55 Ounces

Pile Height: Approx. 1.375 Inches

Machine Gauge: 3/8 Inch

Thatch Color: Green & Tan

Backing Characteristics

Primary Composition: K29 Quadruple-Layered Action Backing

Weight: 9 Ounces Per Square Yard | **Tuft Bind:** 10+ Pounds

Finish Coating: Polyurethane 20 Ounces Per Square Yard*

Manufactured Rolls

Width: 15 Feet | **Length:** 100 Feet

Shipping Weight: 876 Pounds*

Roll Diameter: 24 Inches

Particulate Infill

Type: Quality Infill

Weight: 1.5-2.5 Lbs Per Sq Ft*†

Colors: Green, Black, or Natural

MADE IN THE USA | 15 YEAR WARRANTY | NO INTENTIONALLY ADDED PFAS | LEAD FREE | RoHS COMPLIANT | TigerCOOL | IPEMA CERTIFIED ASTM F1292 IPEMA CERT. | PLAYGROUNDS | RESIDENTIAL | COMMERCIAL | PET

Main Advantages:

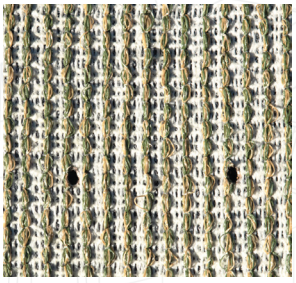
- Designed to truly replicate grass with enhanced recovery
- Heat and frost resistant - UV stabilized
- No harmful environmental effects, not water soluble
- Uniquely formulated backing for greater seam strength

Recommended Maintenance:
Rinse and groom as needed to limit matting

Drainage Rate: 400+ inches of rain per hour per square yard

* Approximate Weight

† **For IPEMA Certification, infill must be 2 pounds of Envirofill per sq ft**



Artificial grass is made from plastic and should not be subject/exposed to open flames or high heat producing items.

REV112425

Synthetic Grass Warehouse cares about environmental issues and only produces products certified as lead free and free of dioxin emissions. All of our products undergo rigorous stringent testing to ensure safety and non-toxicity. Our products contain no detectable traces of lead or other RCRA hazardous waste heavy metals.