



PARKWAY HEIGHTS MIDDLE SCHOOL MODERNIZATION - PHASE II PROJECT 01-18

Addendum 04

March 20, 2018

DSA File Number: 41-28
DSA Application Number: 01-116522
PTN: 69070-97

Owner:
South San Francisco Unified School District
398 B Street
South San Francisco, CA 94080

Architect:
Quattrocchi Kwok Architects
636 Fifth Street
Santa Rosa, California 95404
P: 707.576.0829
F: 707.576.0295

District's Project No.: 01-18
Architect's Project No.: 1277.04

To: Prospective Bidders

The following changes, modifications and additions to Project Manual and Drawings described below are made a part thereof and are subject to all of the requirements thereof as if originally specified. The Bidder must acknowledge receipt of the Addendum in the space provided on the Bid Form; failure to do so may subject the Bidder to disqualification.

Table of Contents - Addendum 04

Deleted Text is shown in ~~strikeout type~~.

Added Text is shown in ~~Underlined~~ ***bold italicized type***.

ATTACHMENTS:

Project Manual

00 11 16	Notice to Bidders
00 21 13	Instructions t to Bidders
00 41 13	Bid Form and Proposal
00 52 13	Agreement
01 64 00	Owner-Furnished Products

Appendix

Appendix 1 Parkway Lead Spec
Appendix 2 Parkway Asbestos Abatement Spec

Drawings: (30 inch by 42 inch)

None

ADD Drawings (8.5 inch by 11 inch & 11 inch by 17 inch):

ADD 04.01	Project Description Notes
ADD 04.02	Sloped Walk-way for Bid Item 1
ADD 04.03	Student Drop off Details for Bid Item 1
ADD 04.04	Student Drop off Details for Bid Item 1
ADD 04.05	Partial site for Bid Item 1

Project Record

Pre-Bid Sign-in sheet: March 13, 2018

End of Table of Contents

A. CHANGES TO PREVIOUS ADDENDA

None

B. CHANGES TO THE BIDDING AND CONTRACT REQUIREMENTS

Item No. 4. 01

Replace previous section 00 11 16 Notice to Bidders with attached 00 11 16 Notice to Bidders
Replace previous section 00 21 13 Instructions to Bidders with attached 00 21 13 Instructions to Bidders
Replace previous section 00 41 13 Bid Form and Proposal with attached 00 41 13 Bid Form and Proposal
Replace previous section 00 52 13 Agreement with attached 00 52 13 Agreement

Item No. 4. 02

Add Section 01 64 00 Owner Furnished Products

Item No. 4. 03

Section 01 11 00-1 Summary of Work: Add the following paragraphs:

1.02 SUMMARY OF WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of this Contract May Consist of the Following:

Summary of work to include this clarification:

Bid Item No. 1

Modernization to include all Building work, ramps, rails and rain water leaders. Also to include all work to make new drop off accessible and functional. See ADD 01 & 02.

Sheds to be demolished East of building H2, see plan and keynotes Q, V and CC on sheet C1, Demolition Plan (in contract documents).

Bid Item No. 2

Site work to include all other work in the approved documents. Maintain power and signal to buildings at all times using temporary power and signal if required.

Bid Item No. 3

To include all work shown in approved documents except the concrete/site work at quad as defined in addendum 2, alternate 1.

Item No. 4. 04

Per the district's request, add BHM Construction; contact name: James Said;
Email: bids@bhmconstruction.com; p: 425-997-6356 to the prequalified bidders list.

C. CHANGES/ ADDITIONS TO THE SPECIFICATIONS

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Item No. 4. 05

ADP Lemco Inc, is an acceptable manufacturer but marker boards must comply with all features of drawings & specifications

Item No. 4. 06

Appendixes "1" & "2" as noted above, these sections are supplied by owner and are not administered by architect.

D. CHANGES/ ADDITIONS TO THE DRAWINGS

Item No. 4. 07

Sheet G-0.2 ABBREVIATIONS, SHT INDEX AND GENERAL NOTES
Revise note 3: buildings H1 and H2 to be painted only. See Add 04.01

Item No. 4. 08

Sheet C2.1 Grading Plan
Sloped walkway at North West corner of bldg H1 to be included in Bid Item 1 Building Package:
See Add 04.02

Item No. 4. 09

Sheet C3.1 Grading Plan
Student drop off area to be included in Bid Item 1 Building Package: See Add 04.03

Item No. 4. 10

Sheet C8.1 DETAILS
Student drop off area details to be included in Bid Item 1 Building Package: See Add 04.04

Item No. 4. 11

Sheet A-1.1 Site Plan – Access: Modified for Bid Item 1
Site work to be included in Bid Item 1 Building Package: See Add 04.05

Item No. 4. 12

Sheet A-8.1 DOOR & WINDOW SCHEDULE
Add note to Windows Types H01 – H06

STOREFRONTS SHALL BE DESIGNED TO BE SELF-SUPPORTING FOR GRAVITY & WIND LOADS AT SPAN OVER TOP OF THE EXISTING DOOR TO REMAIN. STOREFRONTS SHALL BE DESIGNED TO SUPPORT EXISTING DOOR TO REMAIN, INCLUDING DESIGN FOR ADDED OUT-OF-PLANE WIND LOADING. SEE DETAILS 4 & 5/A-9.1 FOR ATTACHMENT OF EXISTING DOOR FRAME TO STOREFRONT.

E. BIDDERS QUESTIONS

Item No. 4. 13

Q: There is NO area of indication, of WHERE EPOXY (096700) is to be applied found. No finish schedule indication where epoxy is to be applied.

A: Restrooms are to receive epoxy flooring and epoxy base. See addendum 1: Item No. 1.09 and Add sketch 01.07.

Item No. 4. 14

Q: Please provide Pre-Bid Sign-in sheet: March 13, 2018.

A: See attached sign-in sheet.

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END OF ADDENDUM

NOTICE TO BIDDERS

1. Notice is hereby given that the governing board ("Board") of the South San Francisco Unified School District ("District") will receive sealed bids for the following project, Bid No. 01-18, ("Project" or "Contract"):

Parkway Heights Middle School Modernization Phase II

2. The Project consists of:
 - (1) Modernization of a classroom building; or
 - (2) Sitework; or
 - (3) Combination modernization of a classroom building and sitework.
3. To bid on this Project, the Bidder is required to possess one or more of the following State of California contractors' license(s): **B**

The Bidder's license(s) must remain active and in good standing throughout the term of the Contract.
4. To bid on this Project, the Bidder is required to be registered as a public works contractor with the Department of Industrial Relations pursuant to the Labor Code. To perform work on this Project, the Bidder and all subcontractors of any tier are required to be registered with the Department of Industrial Relations.
5. Contract Documents will be available on or after **February 16, 2018**. Contract Documents are available for bidders' review at the Peninsula Builder's Exchange, (650) 591-4486. Plans and specifications can be viewed and downloaded on the District's website at: www.ssfusd.org/mjb Plans and specifications can be purchased directly from ARC, 945 Bryant St. San Francisco, CA 94103 and electronically on Planwell from ARC. Phone (415)-537-2200. www.e-arc.com Reference SSFUSD Project No. 01-18, Parkway Heights Middle School Modernization Phase II.
6. Sealed bids will be received until **2:00 p.m., March 27, 2018**, at the District Facilities Office, 634 El Camino, South San Francisco, California 94080, at or after which time the bids will be opened and publicly read aloud. Any bid that is submitted after this time shall be nonresponsive and returned to the bidder. Any claim by a bidder of error in its bid must be made in compliance with section 5100 et seq. of the Public Contract Code.
7. Pursuant to Public Contract Code section 20111.6, only prequalified bidders will be eligible to submit a bid for contracts \$1 million or more using or planning to use state bond funds. Any bid submitted by a bidder who is not prequalified shall be non-responsive and returned unopened to the bidder. Moreover, any bid listing subcontractors holding C-4, C-7, C-10, C-16, C-20, C-34, C-36, C-38, C-42, C-43 or

C-46 licenses, if used, who have not been prequalified, shall be deemed nonresponsive and will not be considered.

8. All bids shall be on the form provided by the District. Each bid must conform and be responsive to all pertinent Contract Documents, including, but not limited to, the Instructions to Bidders.
9. A bid bond by an admitted surety insurer on the form provided by the District, cash, or a cashier's check or a certified check, drawn to the order of the South San Francisco Unified School District, in the amount of ten percent (10%) of the total bid price, shall accompany the Bid Form and Proposal, as a guarantee that the Bidder will, within seven (7) calendar days after the date of the Notice of Award, enter into a contract with the District for the performance of the services as stipulated in the bid.
10. A mandatory pre-bid conference and site visit will be held on February 22, 2018 and March 1, 2018, at 10:00 a.m., at Parkway Heights Middle School, 650 Sunset Avenue, South San Francisco, California. All participants are required to sign in front of the project classroom building. The site visit is expected to take approximately 1 (one) hour. Failure to attend or tardiness to one of the site visits will render bid ineligible.
11. The successful Bidder shall be required to furnish a 100% Performance Bond and a 100% Payment Bond if it is awarded the Contract for the Work.
12. The successful Bidder may substitute securities for any monies withheld by the District to ensure performance under the Contract, in accordance with the provisions of section 22300 of the Public Contract Code.
13. The successful bidder will be required to certify that it either meets the Disabled Veteran Business Enterprise ("DVBE") goal of three percent (3%) participation or made a good faith effort to solicit DVBE participation in this Contract if it is awarded the Contract for the Work.
14. The Contractor and all Subcontractors under the Contractor shall pay all workers on all Work performed pursuant to this Contract not less than the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work as determined by the Director of the Department of Industrial Relations, State of California, for the type of work performed and the locality in which the work is to be performed within the boundaries of the District, pursuant to section 1770 et seq. of the California Labor Code. Prevailing wage rates are also available from the District or on the Internet at: <<http://www.dir.ca.gov>>.
15. This Project is subject to labor compliance monitoring and enforcement by the Department of Industrial Relations pursuant to Labor Code section 1771.4 and subject to the requirements of Title 8 of the California Code of Regulations. The Contractor and all Subcontractors under the Contractor shall furnish electronic certified payroll records directly to the Labor Commissioner weekly and within ten (10) days of any request by the District or the Labor Commissioner. The successful Bidder shall comply with all requirements of Division 2, Part 7, Chapter 1, Articles 1-5 of the Labor Code.

16. The District has entered into a Project Labor Agreement that is applicable to this Project. For questions or assistance concerning the Project Labor Agreement, contact Bill Savidge, bsavidge@ssfusd.org and/or Victoria Vargas at vmvargas@ssfusd.org.
17. The District's Board has found and determined that the following item(s) shall be used on this Project based on the purpose(s) indicated. (Public Contract Code section 3400(c).) A particular material, product, thing, or service is designated by specific brand or trade name for the following purpose(s):
 - (1) In order to match other products in use on a particular public improvement either completed or in the course of completion:
 - a. Door Hardware: Schlage/Ingersoll Rand product
 - b. EMS systems: Alerton/Honeywell Industries
 - c. Telephone system: CiscoCallManager
 - d. Security Control Pads and Equipment: Sonitrol
 - e. Security Door Contacts: Sonitrol
 - f. Security Card Readers: HID Global
 - g. Fire Detection and Alarm: Siemens, AG
18. The District reserves the right to award separate contracts, if it awards it at all, to the lowest responsive responsible bidder based on the base bid amount plus any alternate, if any, for (1) the modernization of the building or (2) the sitework, or a combined contract for both scopes of work. If the District receives responsive bids for a combined scope of work that is lower than the sum of the lowest prime bids for all of the scopes of work included in the combination bid, then the award of contract, if any, will be to the responsive, responsible bidder submitting the lowest combination bid.
19. The Board reserves the right to reject any and all bids and/or waive any irregularity in any bid received. If the District awards the Contract, the security of unsuccessful bidder(s) shall be returned within sixty (60) days from the time the award is made. Unless otherwise required by law, no bidder may withdraw its bid for ninety (90) days after the date of the bid opening.

END OF DOCUMENT

INSTRUCTIONS TO BIDDERS

Bidders shall follow the instructions in this document, and shall submit all documents, forms, and information required for consideration of a bid.

South San Francisco Unified School District ("District") will evaluate information submitted by the apparent low Bidder and, if incomplete or unsatisfactory to District, Bidder's bid may be rejected at the sole discretion of District.

1. Bids are requested for a general construction contract, or work described in general, for the following project ("Project" or "Contract"):

Parkway Heights Middle School Modernization Phase II, Project No. 01-18

The Project consists of the following categories:

- a. Modernization of a classroom building; and/or
 - b. Sitework.
2. Bids may be submitted for a single category. Bidders may combine more than one category in a bid. Bidders may also submit a separate bid for any of the categories that were included in the combination bid. The bid price for the combination bid does not have to equal the bid prices for the separate category bids. Bids for combined categories and/or any individual category must be submitted as separate proposals, in separate envelopes, complete with all bid documents required.

A person, firm, or corporation that has submitted a sub-proposal to a bidder, or that has quoted prices for materials to a bidder, is not thereby disqualified from submitting a sub-proposal or quoting prices to other bidders or making a prime proposal.

3. A Bidder and its subcontractors must possess the appropriate State of California contractors' license and must maintain the license throughout the duration of the project. Bidders must also be registered as a public works contractor with the Department of Industrial Relations pursuant to the Labor Code. Bids submitted by a contractor who is not properly licensed or registered shall be deemed nonresponsive and will not be considered.
4. The District has prequalified bidders pursuant to Public Contract Code section 20111.6 for contracts \$1 million or more using or planning to use state bond funds. Only prequalified bidders will be eligible to submit a bid for this Project. Any bid submitted by a bidder who is not prequalified shall be deemed nonresponsive and will not be considered. Moreover, any bid listing subcontractors holding C-4, C-7, C-10, C-16, C-20, C-34, C-36, C-38, C-42, C-43 or C-46 licenses, if used, who have not been prequalified, shall be deemed nonresponsive and will not be considered.
5. District will receive sealed bids from bidders as stipulated in the Notice to Bidders.

- a. All bids must be sealed in an envelope, marked with the name and address of the Bidder, name of the Project, the Project Number and/or bid number, and time of bid opening.
 - b. Bids must be submitted to the Facilities Office, 634 El Camino Real, South San Francisco, CA 94080, by date and time shown in the Notice to Bidders.
 - c. Bids must contain all documents as required herein.
6. Bidders are advised that on the date that bids are opened, telephones will not be available at the District Offices for use by bidders or their representatives.
7. Bids will be opened at or after the time indicated for receipt of bids.
8. If a bidder submitting a combination bid withdraws its separate bid, if any, for any scope of work included in the combination bid before bids are opened, then its combination bid will be rejected. If a bidder submitting a combination bid withdraws its combination bid before bids are opened, then separate bids, if any, by that bidder for any scopes of work included in the combination bid will be rejected.
9. Bidders must submit bids on the documents titled Bid Form and Proposal, and must submit all other required District forms. Bids not submitted on the District's required forms shall be deemed nonresponsive and shall not be considered. Additional sheets required to fully respond to requested information are permissible.
10. Bidders shall not modify the Bid Form and Proposal or qualify their bids. Bidders shall not submit to the District a re-formatted, re-typed, altered, modified, or otherwise recreated version of the Bid Form and Proposal or other District-provided document.
11. Bids shall be clearly written and without erasure or deletions. District reserves the right to reject any bid containing erasures, deletions, or illegible contents.
12. Bidders must supply all information required by each Bid Document. Bids must be full and complete. District reserves the right in its sole discretion to reject any bid as nonresponsive as a result of any error or omission in the bid. Bidders must complete and submit all of the following documents with the Bid Form and Proposal:
 - a. Bid Bond on the District's form, or other security.
 - b. Designated Subcontractors List.
 - c. Site Visit Certification, if a site visit was required.
 - d. Non-Collusion Declaration.
 - e. Iran Contracting Act Certification, if contract value is \$1,000,000 or more.
13. Bidders must submit with their bids a cashier's check or a certified check payable to District, or a bid bond by an admitted surety insurer of not less than ten percent (10%) of amount of Base Bid, plus all additive alternates ("Bid Bond"). If Bidder chooses to provide a Bid Bond as security, Bidder must use the required form of

corporate surety provided by District. The Surety on Bidder's Bid Bond must be an insurer admitted in the State of California and authorized to issue surety bonds in the State of California. Bids submitted without necessary bid security will be deemed nonresponsive and will not be considered.

14. If Bidder to whom the Contract is awarded fails or neglects to enter into the Contract and submit required bonds, insurance certificates, and all other required documents, within **SEVEN (7)** calendar days after the date of the Notice of Award, District may deposit Bid Bond, cash, cashier's check, or certified check for collection, and proceeds thereof may be retained by District as liquidated damages for failure of Bidder to enter into Contract, in the sole discretion of District. It is agreed that calculation of damages District may suffer as a result of Bidder's failure to enter into the Contract would be extremely difficult and impractical to determine and that the amount of the Bidder's required bid security shall be the agreed and conclusively presumed amount of damages.
15. Bidders must submit with the bid the Designated Subcontractors List for those subcontractors who will perform any portion of Work, including labor, rendering of service, or specially fabricating and installing a portion of the Work or improvement according to detailed drawings contained in the plans and specifications, in excess of one half of one percent (0.5%) of total bid. Failure to submit this list when required by law shall result in bid being deemed nonresponsive and the bid will not be considered.
16. All of the listed subcontractors are required to be registered as a public works contractor with the Department of Industrial Relations pursuant to the Labor Code.
 - a. An inadvertent error in listing the California contractor license number on the Designated Subcontractors List shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive if the correct contractor's license number is submitted to the District within 24 hours after the bid opening and the corrected number corresponds with the submitted name and location for that subcontractor.
 - b. An inadvertent error listing an unregistered subcontractor shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive provided that any of the following apply:
 - (1) The subcontractor is registered prior to the bid opening.
 - (2) The subcontractor is registered and has paid the penalty registration fee within 24 hours after the bid opening.
 - (3) The subcontractor is replaced by another registered subcontractor pursuant to Public Contract Code section 4107.
17. If a mandatory pre-bid conference and site visit ("Site Visit") is required as referenced in the Notice to Bidders, then Bidders must submit the Site Visit Certification with their Bid. District will transmit to all prospective Bidders of record such Addenda as District in its discretion considers necessary in response to questions arising at the Site Visit. Oral statements shall not be relied upon and will not be binding or legally effective. Addenda issued by the District as a result of the

Site Visit, if any, shall constitute the sole and exclusive record and statement of the results of the Site Visit.

18. Bidders shall submit the Non-Collusion Declaration with their bids. Bids submitted without the Non-Collusion Declaration shall be deemed nonresponsive and will not be considered.
19. The Contractor and all Subcontractors under the Contractor shall pay all workers on all work performed pursuant to the Contract not less than the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work as determined by the Director of the Department of Industrial Relations, State of California, for the type of work performed and the locality in which the work is to be performed within the boundaries of the District, pursuant to sections 1770 et seq. of the California Labor Code. Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by Director of the Department of Industrial Relations, are available upon request at the District's principal office. Prevailing wage rates are also available on the internet at <http://www.dir.ca.gov>.
20. The District has entered into a Project Labor Agreement that is applicable to this Project. Project Stabilization Agreement for the South San Francisco School District for the Measure J Bond Improvement Program is attached.
21. Section 17076.11 of the Education Code requires school districts using funds allocated pursuant to the State of California School Facility Program for the construction and/or modernization of school building(s) to have a participation goal for disabled veteran business enterprises ("DVBE") of at least three percent (3%) per year of the overall dollar amount expended on projects that receive state funding or demonstrate its good faith effort to solicit DVBE participation in this Contract. In order to meet this requirement by demonstrating a good faith effort, Bidder must advertise for DVBE-certified subcontractors and suppliers before submitting its Bid. For any project that is at least partially state-funded, the lowest responsive responsible Bidder awarded the Contract must submit certification of compliance with the procedures for implementation of DVBE contracting goals with its signed Agreement. DVBE Certification form is attached. Do not submit this form with your Bid. Submit forms within four (4) days after Notice of Award
22. Submission of bid signifies careful examination of Contract Documents and complete understanding of the nature, extent, and location of Work to be performed. Bidders must complete the tasks listed below as a condition to bidding, and submission of a bid shall constitute the Bidder's express representation to District that Bidder has fully completed the following:
 - a. Bidder has visited the Site, if required, and has examined thoroughly and understood the nature and extent of the Contract Documents, Work, Site, locality, actual conditions, as-built conditions, and all local conditions and federal, state and local laws, and regulations that in any manner may affect cost, progress, performance, or furnishing of Work or that relate to any aspect of the means, methods, techniques, sequences, or procedures of construction to be employed by Bidder and safety precautions and programs incident thereto;

- b. Bidder has conducted or obtained and has understood all examinations, investigations, explorations, tests, reports, and studies that pertain to the subsurface conditions, as-built conditions, underground facilities, and all other physical conditions at or contiguous to the Site or otherwise that may affect the cost, progress, performance, or furnishing of Work, as Bidder considers necessary for the performance or furnishing of Work at the Contract Sum, within the Contract Time, and in accordance with the other terms and conditions of Contract Documents, including specifically the provisions of the General Conditions; and no additional examinations, investigations, explorations, tests, reports, studies, or similar information or data are or will be required by Bidder for such purposes;
- c. Bidder has correlated its knowledge and the results of all such observations, examinations, investigations, explorations, tests, reports, and studies with the terms and conditions of the Contract Documents;
- d. Bidder has given the District prompt written notice of all conflicts, errors, ambiguities, or discrepancies that it has discovered in or among the Contract Documents and the actual conditions, and the written resolution(s) thereof by the District is/are acceptable to Bidder;
- e. Bidder has made a complete disclosure in writing to the District of all facts bearing upon any possible interest, direct or indirect, that Bidder believes any representative of the District or other officer or employee of the District presently has or will have in this Contract or in the performance thereof or in any portion of the profits thereof;
- f. Bidder must, prior to bidding, perform the work, investigations, research, and analysis required by this document and that Bidder represented in its Bid Form and Proposal and the Agreement that it performed prior to bidding. Contractor under this Contract is charged with all information and knowledge that a reasonable bidder would ascertain from having performed this required work, investigation, research, and analysis. Bid prices must include entire cost of all work "incidental" to completion of the Work.
- g. Conditions Shown on the Contract Documents: Information as to underground conditions, as-built conditions, or other conditions or obstructions, indicated in the Contract Documents, e.g., on Drawings or in Specifications, has been obtained with reasonable care, and has been recorded in good faith. However, District only warrants, and Bidder may only rely, on the accuracy of limited types of information.
 - (1) As to above-ground conditions or as-built conditions shown or indicated in the Contract Documents, there is no warranty, express or implied, or any representation express or implied, that such information is correctly shown or indicated. This information is verifiable by independent investigation and Bidder is required to make such verification as a condition to bidding. In submitting its Bid, Bidder shall rely on the results of its own independent investigation. In submitting its Bid, Bidder shall not rely on District-supplied information regarding above-ground conditions or as-built conditions.

- (2) As to any subsurface condition shown or indicated in the Contract Documents, Bidder may rely only upon the general accuracy of actual reported depths, actual reported character of materials, actual reported soil types, actual reported water conditions, or actual obstructions shown or indicated. District is not responsible for the completeness of such information for bidding or construction; nor is District responsible in any way for any conclusions or opinions that the Bidder has drawn from such information; nor is the District responsible for subsurface conditions that are not specifically shown (for example, District is not responsible for soil conditions in areas contiguous to areas where a subsurface condition is shown).
- h. Conditions Shown in Reports and Drawings Supplied for Informational Purposes: Reference is made to the document entitled Geotechnical Data, and the document entitled Existing Conditions, for identification of:
 - (1) Subsurface Conditions: Those reports of explorations and tests of subsurface conditions at or contiguous to the Site that have been utilized by Architect in preparing the Contract Documents; and
 - (2) Physical Conditions: Those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that has been utilized by Architect in preparing the Contract Documents.
 - (3) These reports and drawings are **not** Contract Documents and, except for any "technical" data regarding subsurface conditions specifically identified in Geotechnical Data and Existing Conditions, and underground facilities data, Bidder may not in any manner rely on the information in these reports and drawings. Subject to the foregoing, Bidder must make its own independent investigation of all conditions affecting the Work and must not rely on information provided by District.
- 23. Bids shall be based on products and systems specified in Contract Documents or listed by name in Addenda. Whenever in the Specifications any materials, process, or article is indicated or specified by grade, patent, or proprietary name, or by name of manufacturer, that Specification shall be deemed to be followed by the words "or equal." Bidder may, unless otherwise stated, offer any material, process, or article that shall be substantially equal or better in every respect to that so indicated or specified. The District is not responsible and/or liable in any way for a Contractor's damages and/or claims related, in any way, to that Contractor's basing its bid on any requested substitution that the District has not approved in advance and in writing. Contractors and materials suppliers who submit requests for substitutions prior to the award of the Contract must do so in writing and in compliance with Public Contract Code section 3400. All requests must comply with the following:
 - a. District must receive any notice of request for substitution of a specified item a minimum of **TEN (10)** calendar days prior to bid opening. The Successful Bidder will not be allowed to substitute specified items unless properly noticed.

- b. Within 35 days after the date of the Notice of Award, the Successful Bidder shall submit data substantiating the request(s) for all substitution(s) containing sufficient information to assess acceptability of product or system and impact on Project, including, without limitation, the requirements specified in the Special Conditions and the Specifications. Insufficient information shall be grounds for rejection of substitution.
 - c. Approved substitutions, if any, shall be listed in Addenda. District reserves the right not to act upon submittals of substitutions until after bid opening.
 - d. Substitutions may be requested after Contract has been awarded only if indicated in and in accordance with requirements specified in the Special Conditions and the Specifications.
24. Bidders may examine any available "as-built" drawings of previous work by giving District reasonable advance notice. District will not be responsible for accuracy of "as-built" drawings. The document entitled Existing Conditions applies to all supplied "as-built" drawings.
25. All questions about the meaning or intent of the Contract Documents are to be directed via email to the District to Victoria Vargas. Interpretations or clarifications considered necessary by the District in response to such questions will be issued in writing by Addenda and emailed, faxed, mailed, or delivered to all parties recorded by the District as having received the Contract Documents or posted on the District's website at <http://www.ssfusd.org/mjb>. Questions received less than **SEVEN (7)** calendar days prior to the date for opening bids may not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
26. Addenda may also be issued to modify other parts of the Contract Documents as deemed advisable by the District.
27. Each Bidder must acknowledge each Addendum in its Bid Form and Proposal by number or its Bid shall be considered non-responsive. Each Addendum shall be part of the Contract Documents. A complete listing of Addenda may be secured from the District.
28. This Contract may include alternates. Alternates are defined as alternate products, materials, equipment, systems, methods, or major elements of the construction that may, at the District's option and under terms established in the Contract and pursuant to section 20103.8 of the Public Contract Code, be selected for the Work.
29. The District shall award the Contract, if it awards it at all, to the lowest responsive responsible bidder based on the criteria as indicated in the Notice to Bidders. In the event two or more responsible bidders submit identical bids, the District shall select the Bidder to whom to award the Contract by lot. However, if the District receives a responsive bid for a combined scope of work that is lower than the sum of the lowest prime bids for all the scopes of work included in the combination bid, then the award of the contract, if any, will be to the lowest responsive, responsible bidder submitting the combination bid. In the event that one or more categories receive no responsive bids, the District reserves the right to award a contract to the bidder submitting the

lowest responsive combination bid that includes the categories that received no responsive bids.

30. Time for Completion: District may issue a Notice to Proceed within **NINETY (90)** days from the date of the Notice of Award. Once Contractor has received the Notice to Proceed, Contractor shall complete the Work within the period of time indicated in the Contract Documents.
- a. In the event that the District desires to postpone issuing the Notice to Proceed beyond this 90-day period, it is expressly understood that with reasonable notice to the Contractor, the District may postpone issuing the Notice to Proceed.
 - b. It is further expressly understood by Contractor that Contractor shall not be entitled to any claim of additional compensation as a result of the postponement of the issuance of the Notice to Proceed beyond a 90-day period. If the Contractor believes that a postponement of issuance of the Notice to Proceed will cause a hardship to the Contractor, the Contractor may terminate the Contract. Contractor's termination due to a postponement beyond this 90-day period shall be by written notice to District within **TEN (10)** calendar days after receipt by Contractor of District's notice of postponement.
 - c. It is further understood by the Contractor that in the event that Contractor terminates the Contract as a result of postponement by the District, the District shall only be obligated to pay Contractor for the Work that Contractor had performed at the time of notification of postponement and which the District had in writing authorized Contractor to perform prior to issuing a Notice to Proceed.
 - d. Should the Contractor terminate the Contract as a result of a notice of postponement, District shall have the authority to award the Contract to the next lowest responsive responsible bidder.
31. The Bidder to whom Contract is awarded shall execute and submit the following documents by 5:00 p.m. of the **SEVENTH (7th)** calendar day following the date of the Notice of Award. Failure to properly and timely submit these documents entitles District to reject the bid as nonresponsive.
- a. Agreement: To be executed by successful Bidder. Submit four (4) copies, each bearing an original signature.
 - b. Escrow of Bid Documentation: This must include all required documentation. See the document titled Escrow Bid Documentation for more information.
 - c. Performance Bond (100%): On the form provided in the Contract Documents and fully executed as indicated on the form.
 - d. Payment Bond (Contractor's Labor and Material Bond) (100%): On the form provided in the Contract Documents and fully executed as indicated on the form.

- e. Insurance Certificates and Endorsements as required.
 - f. Workers' Compensation Certification.
 - g. Prevailing Wage and Related Labor Requirements Certification.
 - h. Disabled Veteran Business Enterprise Participation Certification.
 - i. Drug-Free Workplace Certification.
 - j. Tobacco-Free Environment Certification.
 - k. Hazardous Materials Certification.
 - l. Lead-Based Materials Certification.
 - m. Imported Materials Certification.
 - n. Criminal Background Investigation/Fingerprinting Certification.
 - o. Registered Subcontractors List: Must include Department of Industrial Relations (DIR) registration number of each subcontractor for all tiers.
32. Any bid protest by any Bidder regarding any other bid must be submitted in writing to the District, before 5:00 p.m. of the **THIRD (3rd)** business day following bid opening.
- a. Only a Bidder who has actually submitted a bid, and who could be awarded the Contract if the bid protest is upheld, is eligible to submit a bid protest. Subcontractors are not eligible to submit bid protests. A Bidder may not rely on the bid protest submitted by another Bidder.
 - b. A bid protest must contain a complete statement of any and all bases for the protest and all supporting documentation. Materials submitted after the bid protest deadline will not be considered.
 - c. The protest must refer to the specific portions of all documents that form the basis for the protest.
 - (1) Without limitation to any other basis for protest, an inadvertent error in listing the California contractor's license number on the Designated Subcontractors List shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive if the correct contractor's license number is submitted to the District within 24 hours after the bid opening and the corrected number corresponds with the submitted name and location for that subcontractor.
 - (2) Without limitation to any other basis for protest, an inadvertent error listing an unregistered subcontractor shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive provided that any of the following apply:

- (i) The subcontractor is registered prior to the bid opening.
 - (ii) The subcontractor is registered and has paid the penalty registration fee within 24 hours after the bid opening.
 - (iii) The subcontractor is replaced by another registered subcontractor pursuant to Public Contract Code section 4107.
 - d. The protest must include the name, address and telephone number of the person representing the protesting party.
 - e. The party filing the protest must concurrently transmit a copy of the protest and any attached documentation to all other parties with a direct financial interest that may be adversely affected by the outcome of the protest. Such parties shall include all other bidders or proposers who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.
 - f. The procedure and time limits set forth in this paragraph are mandatory and are each bidder's sole and exclusive remedy in the event of bid protest. Failure to comply with these procedures shall constitute a waiver of any right to further pursue the bid protest, including filing a Government Code Claim or legal proceedings.
33. District reserves the right to reject any or all bids, including without limitation the right to reject any or all nonconforming, nonresponsive, unbalanced, or conditional bids, to re-bid, and to reject the bid of any bidder if District believes that it would not be in the best interest of the District to make an award to that bidder, whether because the bid is not responsive or the bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by District. District also reserves the right to waive any inconsequential deviations or irregularities in any bid. For purposes of this paragraph, an "unbalanced bid" is one having nominal prices for some work items and/or enhanced prices for other work items.
34. Discrepancies between written words and figures, or words and numerals, will be resolved in favor of figures or numerals.
35. It is the policy of the District that no qualified person shall be excluded from participating in, be denied the benefits of, or otherwise be subjected to discrimination in any consideration leading to the award of contract, based on race, color, gender, sexual orientation, political affiliation, age, ancestry, religion, marital status, national origin, medical condition or disability. The Successful Bidder and its subcontractors shall comply with applicable federal and state laws, including, but not limited to the California Fair Employment and Housing Act, beginning with Government Code section 12900, and Labor Code section 1735.
36. Prior to the award of Contract, District reserves the right to consider the responsibility of the Bidder. District may conduct investigations as District deems necessary to assist in the evaluation of any bid and to establish the responsibility, including, without limitation, qualifications and financial ability of Bidders, proposed subcontractors, suppliers, and other persons and organizations to perform and

furnish the Work in accordance with the Contract Documents to District's satisfaction within the prescribed time.

END OF DOCUMENT

BID FORM AND PROPOSAL

To: Governing Board of the South San Francisco Unified School District ("District")

From: _____
(Proper Name of Bidder)

The undersigned declares that Bidder has read and understands the Contract Documents, including, without limitation, the Notice to Bidders and the Instructions to Bidders, and agrees and proposes to furnish all necessary labor, materials, and equipment to perform and furnish all work in accordance with the terms and conditions of the Contract Documents, including, without limitation, the Drawings and Specifications of Bid No. 01-18

PROJECT: Parkway Heights Middle School Modernization, Phase 2

("Project" or "Contract") and will accept in full payment for the Work included in a bid item the following total lump sum amount, all taxes included:

BID ITEM NO. 1: This work includes all work for the modernization of the classroom building only.

_____ dollars \$ _____
<i>Bid Item No. 1</i>

BID ITEM NO. 2: This work includes all site work only.

_____ dollars \$ _____
<i>Bid Item No. 2</i>
<i>Bidder acknowledges and agrees that the Bid Item No. 2 accounts for any and all Allowance(s).</i>

BID ITEM NO. 3: This work includes all work for the modernization of the classroom building and the site work.

_____ dollars \$ _____
<i>Bid Item No. 3</i>
<i>Bidder acknowledges and agrees that the Bid Item No. 3 accounts for any and all Allowance(s).</i>

Alternate #1

_____ dollars \$ _____
Additive

Alternate #1 Concrete /site work at quad as indicated on contract documents.

Descriptions of alternates are primarily scope definitions and do not necessarily detail the full range of materials and processes needed to complete the construction.

Additional Detail Regarding Calculation of Base Bid

1. **Allowance.** \$40,000 for installation of 2 (two) owner furnished electronic signs. One sign requires a foundation, the other sign replaces an existing sign on the library.

The above allowance shall only be allocated for labor, material and equipment required for the installation of the electronic sign that requires a foundation and the replacement of the existing electronic sign on the exterior library wall. Contractor shall not bill for or be due any portion of this allowance unless the Contractor has submitted a price for that work or the District has proposed a price for that work, the District has accepted the cost for that work, and the District has prepared an Allowance Expenditure Directive incorporating that work. Contractor hereby authorizes the District to execute a unilateral deductive change order at or near the end of the Project for all or any portion of the allowance not allocated.

2. The undersigned has reviewed the Work outlined in the Contract Documents and fully understands the scope of Work required in this Proposal, understands the construction and project management function(s) is described in the Contract Documents, and that each Bidder who is awarded a contract shall be in fact a prime contractor, not a subcontractor, to the District, and agrees that its Proposal, if accepted by the District, will be the basis for the Bidder to enter into a contract with the District in accordance with the intent of the Contract Documents.
3. The undersigned has notified the District in writing of any discrepancies or omissions or of any doubt, questions, or ambiguities about the meaning of any of the Contract Documents, and has contacted the Construction Manager before bid date to verify the issuance of any clarifying Addenda.
4. The undersigned agrees to commence work under this Contract on the date established in the Contract Documents and to complete all work within the time specified in the Contract Documents.
5. The liquidated damages clause of the General Conditions and Agreement is hereby acknowledged.
6. It is understood that the District reserves the right to reject this bid and that the bid shall remain open to acceptance and is irrevocable for a period of ninety (90) days.
7. The following documents are attached hereto:
 - Bid Bond on the District's form or other security
 - Designated Subcontractors List
 - Site Visit Certification
 - Non-Collusion Declaration
 - Iran Contracting Act Certification

8. Receipt and acceptance of the following Addenda is hereby acknowledged:

No. _____, Dated _____	No. _____, Dated _____
No. _____, Dated _____	No. _____, Dated _____
No. _____, Dated _____	No. _____, Dated _____

9. Bidder acknowledges that the license required for performance of the Work is a B license.
10. The undersigned hereby certifies that Bidder is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the Work.
11. Bidder specifically acknowledges and understands that if it is awarded the Contract, that it shall perform the Work of the Project while complying with all requirements of the Department of Industrial Relations and with all requirements of the Project Labor Agreement.
12. The Bidder represents that it is competent, knowledgeable, and has special skills with respect to the nature, extent, and inherent conditions of the Work to be performed. Bidder further acknowledges that there are certain peculiar and inherent conditions existent in the construction of the Work that may create, during the Work, unusual or peculiar unsafe conditions hazardous to persons and property.
13. Bidder expressly acknowledges that it is aware of such peculiar risks and that it has the skill and experience to foresee and to adopt protective measures to adequately and safely perform the Work with respect to such hazards.
14. Bidder expressly acknowledges that it is aware that if a false claim is knowingly submitted (as the terms "claim" and "knowingly" are defined in the California False Claims Act, Gov. Code, § 12650 et seq.), the District will be entitled to civil remedies set forth in the California False Claim Act. It may also be considered fraud and the Contractor may be subject to criminal prosecution.
15. The undersigned Bidder certifies that it is, at the time of bidding, and shall be throughout the period of the Contract, licensed by the State of California to do the type of work required under the terms of the Contract Documents and registered as a public works contractor with the Department of Industrial Relations. Bidder further certifies that it is regularly engaged in the general class and type of work called for in the Contract Documents.

[SIGNATURES ON FOLLOWING PAGE]

Furthermore, Bidder hereby certifies to the District that all representations, certifications, and statements made by Bidder, as set forth in this bid form, are true and correct and are made under penalty of perjury.

Dated this _____ day of _____ 20 ____

Name of Bidder: _____

Type of Organization: _____

Signed by: _____

Title of Signer: _____

Address of Bidder: _____

Taxpayer Identification No. of Bidder: _____

Telephone Number: _____

Fax Number: _____

E-mail: _____ Web Page: _____

Contractor's License No(s): No.: _____ Class: _____ Expiration Date: _____

No.: _____ Class: _____ Expiration Date: _____

No.: _____ Class: _____ Expiration Date: _____

Public Works Contractor Registration No.: _____

END OF DOCUMENT

4. TIME FOR COMPLETION *(will be dependent upon selected Bid Item(s))*

Time for Completion for Bid Item 1: It is hereby understood and agreed that the Work under this Contract shall be completed, with the building suitable for occupancy, within **ONE HUNDRED SEVEN (107)** consecutive calendar days ("Contract Time") from the date specified in the District's Notice to Proceed. In addition, within **THIRTY (30)** consecutive calendar days all Work under this Contract, as noted on the drawings, associated with removal of temporary electrical power and temporary low voltage systems serving the existing portable classrooms on the lower playground, shall be completed.

Time of Completion for Bid Item 2: It is hereby understood and agreed that the Work under this Contract shall be completed, with the site work suitable for occupancy, within **NINETY-FIVE (95)** consecutive calendar days ("Contract Time") from the date specified in the District's Notice to Proceed. Time for completion shall remain the same whether Alternate 1 is awarded or not awarded.

Time for Completion for Bid Item 3: It is hereby understood and agreed that the Work under this Contract shall be completed, with the building and site work suitable for occupancy, within **ONE HUNDRED SEVEN (122)** consecutive calendar days ("Contract Time") from the date specified in the District's Notice to Proceed. In addition, within **THIRTY (30)** consecutive calendar days all Work under this Contract, as noted on the drawings, associated with removal of temporary electrical power and temporary low voltage systems serving the existing portable classrooms on the lower playground, shall be completed. Time for completion shall remain the same whether Alternate 1 is awarded or not awarded.

- 5. Completion - Extension of Time:** Should the Contractor fail to complete this Contract, and the Work provided herein, within the time fixed for completion, due allowance being made for the contingencies provided for herein, the Contractor shall become liable to the District for all loss and damage that the District may suffer on account thereof. The Contractor shall coordinate its Work with the Work of all other contractors. The District shall not be liable for delays resulting from Contractor's failure to coordinate its Work with other contractors in a manner that will allow timely completion of Contractor's Work. Contractor shall be liable for delays to other contractors caused by Contractor's failure to coordinate its Work with the Work of other contractors.

- 6. Liquidated Damages:** Time is of the essence for all work under this Agreement. It is hereby understood and agreed that it is and will be difficult and/or impossible to ascertain and determine the actual damage that the District will sustain in the event of and by reason of Contractor's delay; therefore, Contractor agrees that it shall pay to the District the sum of **TWO THOUSAND DOLLARS (\$2,000.)** per day as liquidated damages for each and every day's delay beyond the time herein prescribed in finishing the Work.

It is hereby understood and agreed that this amount is not a penalty.

In the event that any portion of the liquidated damages is not paid to the District, the District may deduct that amount from any money due or that may become due the Contractor under this Agreement, and such deduction does not constitute a

withholding or penalty. The District's right to assess liquidated damages is as indicated herein and in the General Conditions.

The time during which the Contract is delayed for cause, as hereinafter specified, may extend the time of completion for a reasonable time as the District may grant, provided that Contractor has complied with the claims procedure of the Contract Documents. This provision does not exclude the recovery of damages by either party under other provisions in the Contract Documents.

- 7. Loss Or Damage:** The District and its agents and authorized representatives shall not in any way or manner be answerable or suffer loss, damage, expense, or liability for any loss or damage that may happen to the Work, or any part thereof, or in or about the same during its construction and before acceptance, and the Contractor shall assume all liabilities of every kind or nature arising from the Work, either by accident, negligence, theft, vandalism, or any cause whatsoever; and shall hold the District and its agents and authorized representatives harmless from all liability of every kind and nature arising from accident, negligence, or any cause whatsoever.
- 8. Insurance and Bonds:** Prior to issuance of the Notice to Proceed by the District, Contractor shall provide all required certificates of insurance, insurance endorsements, and payment and performance bonds as evidence thereof.
- 9. Prosecution of Work:** If the Contractor should neglect to prosecute the Work properly or fail to perform any provisions of this Contract, the District, may, pursuant to the General Conditions and without prejudice to any other remedy it may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor.
- 10. Authority of Architect, Project Inspector, and DSA:** Contractor hereby acknowledges that the Architect(s), the Project Inspector(s), and the Division of the State Architect ("DSA") have 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 and regulations. The Contractor shall be liable for any delay caused by its non-compliant Work.
- 11. Assignment of Contract:** Neither the Contract, nor any part thereof, nor any moneys due or to become due thereunder, may be assigned by the Contractor without the prior written approval of the District, nor without the written consent of the Surety on the Contractor's Performance Bond (the "Surety"), unless the Surety has waived in writing its right to notice of assignment.
- 12. Classification of Contractor's License:** Contractor hereby acknowledges that it currently holds valid Type B Contractor's license(s) issued by the State of California, Contractors' State License Board, in accordance with division 3, chapter 9, of the Business and Professions Code and in the classification called for in the Contract Documents.
- 13. Registration as Public Works Contractor:** The Contractor and all Subcontractors currently are registered as public works contractors with the Department of Industrial Relations, State of California, in accordance with Labor Code section 1771.1.

- 14. Payment of Prevailing Wages:** The Contractor and all Subcontractors shall pay all workers on all Work performed pursuant to this Contract not less than the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work as determined by the Director of the Department of Industrial Relations, State of California, for the type of work performed and the locality in which the work is to be performed within the boundaries of the District, pursuant to sections 1770 et seq. of the California Labor Code.
- 15.** This Project is subject to labor compliance monitoring and enforcement by the Department of Industrial Relations pursuant to Labor Code section 1771.4 and Title 8 of the California Code of Regulations. Contractor specifically acknowledges and understands that it shall perform the Work of this Agreement while complying with all the applicable provisions of Division 2, Part 7, Chapter 1, of the Labor Code, including, without limitation, the requirement that the Contractor and all of its Subcontractors shall timely submit complete and accurate electronic certified payroll records as required by the Contract Documents, or the District may not issue payment.
- 16. Contract Price:** In consideration of the foregoing covenants, promises, and agreements on the part of the Contractor, and the strict and literal fulfillment of each and every covenant, promise, and agreement, and as compensation agreed upon for the Work and construction, erection, and completion as aforesaid, the District covenants, promises, and agrees that it will well and truly pay and cause to be paid to the Contractor in full, and as the full Contract Price and compensation for construction, erection, and completion of the Work hereinabove agreed to be performed by the Contractor, the following price:

_____ **Dollars**
(\$ _____),

in lawful money of the United States, which sum is to be paid according to the schedule provided by the Contractor and accepted by the District and subject to additions and deductions as provided in the Contract. This amount supersedes any previously stated and/or agreed to amount(s).

- 17. No Representations:** No representations have been made other than as set forth in writing in the Contract Documents, including this Agreement. Each of the Parties to this Agreement warrants that it has carefully read and understood the terms and conditions of this Agreement and all Contract Documents, and that it has not relied upon the representations or advice of any other Party or any attorney not its own.
- 18. Entire Agreement:** The Contract Documents, including this Agreement, set forth the entire agreement between the parties hereto and fully supersede any and all prior agreements, understandings, written or oral, between the parties hereto pertaining to the subject matter thereof.
- 19. Severability:** If any term, covenant, condition, or provision in any of the Contract Documents is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remainder of the provisions in the Contract Documents shall remain in full force and effect and shall in no way be affected, impaired, or invalidated thereby.

IN WITNESS WHEREOF, accepted and agreed on the date indicated above:

CONTRACTOR

**SOUTH SAN FRANCISCO UNIFIED
SCHOOL DISTRICT**

By: _____

By: _____

Title: _____

Title: _____

NOTE: If the party executing this Contract is a corporation, a certified copy of the by-laws, or of the resolution of the Board of Directors, authorizing the officers of said corporation to execute the Contract and the bonds required thereby must be attached hereto.

END OF DOCUMENT

OWNER-FURNISHED PRODUCTS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions;
- B. Special Conditions; and
- C. Materials and Equipment.

1.02 SECTION INCLUDES

- A. Requirements for the following:
 - (1) Installing Owner-furnished materials and equipment.
 - (2) Providing necessary utilities, connections and rough-ins.

1.03 DEFINITIONS

- A. Owner: District, who is providing/furnishing materials and equipment.
- B. Installing Contactor: Contractor, who is installing the materials and equipment furnished by the Owner.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Receive, store and handle products in accordance with the manufacturer's instructions.
- B. Protect equipment items as required to prevent damage during storage and construction.

PART 2 – PRODUCTS

2.01 GENERAL PRODUCT REQUIREMENTS

- A. Installing Contractor's Responsibilities:
 - (1) Verify mounting and utility requirements for Owner-furnished materials and equipment items.
 - (2) Provide mounting and utility rough in for all items where required.

- (a) Rough in locations, sizes, capacities, and similar type items shall be as indicated and required by product manufacturer.

B. Owner and Installing Contractor(s) Responsibilities:

- (1) Owner-Furnished/Contractor Installed ("OFCI"): Furnished by the Owner; installed by the Installing Contractor.
 - (a) General: Owner and Installing Contractor(s) will coordinate deliveries of materials and equipment to coincide with the construction schedule.
 - (b) Owner will furnish specified materials and equipment delivered to the site. Owner/vendor's representative shall be present on Site at the time of delivery to comply with the contract requirements and Specifications Section 01 43 00, Materials and Equipment, Article 1.04.
 - (c) The Owner furnishing specified materials and equipment is responsible to provide manufacturer guarantees as required by the Contract to the Installing Contractor.
 - (d) The Installing Contractor shall:
 - 1) Review, verify and accept the approved manufacturer's submittal/Shop Drawings for all materials and equipment required to be installed by the Installer Contractor and furnished by the Owner. Any discrepancies, including but not limited to possible space conflicts, should be brought to the attention of the Project Manager and/or Program Manager, if applicable.
 - 2) Coordinate timely delivery. Installing Contractor shall receive materials and equipment at Site when delivered and give written receipt at time of delivery, noting visible defects or omissions; if such declaration is not given, the Installing Contractor shall assume responsibility for such defects and omissions.
 - 3) Store materials and equipment until ready for installation and protect from loss and damage. Installing Contractor is responsible for providing adequate storage space.
 - 4) Coordinate with other bid package contractors and field measurement to ensure complete installation.
 - 5) Uncrate, assemble, and set in place.
 - 6) Provide adequate supports.

- 7) Install materials and equipment in accordance with manufacturer's recommendations, instructions, and Shop Drawings, supply labor and material required, and make mechanical, plumbing, and electrical connections required to operate equipment.
- 8) Be certified by equipment manufacturer for installation of the specific equipment supplied by the Owner.
- 9) Provide anchorage and/or bracing as required for seismic restraint per Title 24, UBC Standard 27-11 and all other applicable codes.
- 10) Provide the contract-required warranty and guarantee for all work, materials and equipment, and installation upon its completion and acceptance by the District. Guarantee includes all costs associated with the removal, shipping to and from the Site, and re-installation of any equipment found to be defective.

C. Compatibility with Space and Service Requirements:

- (1) Equipment items shall be compatible with space limitations indicated and as shown on the Contract Documents and specified in other sections of the Specifications.
- (2) Modifications to equipment items required to conform to space limitations specified for rough in shall not cause additional cost to the District.

D. Manufacturer's printed descriptions, specifications, and instructions shall govern the Work unless specifically indicated or specified otherwise.

2.02 FURNISHED MATERIALS AND EQUIPMENT

- A. All furnished materials and equipment are indicated or scheduled on the Contract Documents.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. Install equipment items in accordance with the manufacturer's instructions.
- B. Set equipment items securely in place, rigidly or flexibly mounted in accordance with manufacturers' directions.
- C. Make electrical and mechanical connections as indicated and required.
- D. Touch-up and restore damaged or defaced finishes to the Owner's satisfaction.

3.02 CLEANING AND PROTECTION

- A. Repair or replace items not acceptable to the Architect or Owner.
- B. Upon completion of installation, clean equipment items in accordance with manufacturer's recommendations, and protect from damage until final acceptance of the Work by the Owner.

END OF DOCUMENT

Lead-Based & Lead-Containing Materials
Instructions to All Contractors/Bidders

Parkway Heights Middle School

Not Reviewed by Architect

Buildings 17 to 21 & 29 to 33
650 Sunset Avenue
South San Francisco, California
APPENDIX 1

PREPARED FOR

South San Francisco Unified School District

398 B Street
South San Francisco, CA 94080

PART 1 - INTRODUCTION

1.0 GENERAL

- A. This section deals with general requirements and procedures in conjunction with lead-containing materials as identified by ProTech Consulting & Engineering in our report titled Pre-Demolition/Renovation Asbestos & Lead Survey & Evaluation (**Rpt no. 064-MA16**).
- B. This specification delineates the basic safety and work requirements for the project. The provisions set forth in this specification will apply as minimum rules to be followed by the contractor, its employees, and any sub-contractors. The sub-contractors may elect to modify these provisions, but only to upgrade or increase the safety requirements, and only with concurrence of the Owner and/or Owner's representative.
- C. Contractor must visit the work site to obtain first-hand knowledge of all existing conditions. Contractor is responsible for all unusual conditions or deviations from the specifications that exist at the time of their site examination, and such conditions must be reflected in the bid proposal. Contractor will not be given extra payments above the accepted bid prices for conditions that can be determined by examining the site and all Contract Documents prior to the submission of proposals.

1.1 SCOPE OF WORK

- A. The work of this specification includes the classroom soft demolition, exterior painting and other tasks. These, and other components on the project are coated with lead paint that may be impacted during construction.

(See ProTech Consulting & Engineering's report titled Pre-Demolition/Renovation Asbestos & Lead Survey & Evaluation - rpt no 064-MA16)

- B. Each contractor who performs work at this site and impacts painted/coated surfaces shall:
1. Review lead-paint inspection data to assess if their particular work will impact lead-based paint (LBP) and/or lead-paint containing paint (LCP);
 2. Ensure that all work is performed in accordance with applicable regulatory standards, this specification and other applicable contract documents;
 3. **Ensure that loose and peeling LBP is stabilized and/or contained so that the site is not impacted/contaminated with lead (Pb).**
- C. Three (3) types of lead-related construction materials have been found to be present at this project as follows:

Types of Lead Materials			
Lead Level		Analysis Type	Standard
1.	High Lead: Lead-based paint/materials (LBP)	By XRF: By Paint Chip:	≥1 mg/cm ² or greater ≥0.5 weight % or 5,000 mg/kg
2.	Low Lead: Lead containing material (LCM)	By XRF: By Paint Chip:	<1 mg/cm ² <0.5 wt % of 5,000 mg/kg
3.	No lead: no lead detected by paint chip analysis	By XRF: By Paint Chip:	Requires paint chip confirmation No lead Detected or <0.006 wt %

- C. For purposes of this project, any coated surfaces/components for which no data are available shall be assumed to contain detectable lead for Cal OSHA compliance purposes. The Contractor may, at Contractor's sole expense, perform additional paint testing and analysis by Atomic absorption (AA) spectroscopy to exclude building components from the special lead handling requirements of this specification. Deviations from this specification as a result of such testing must be submitted by the Contractor in writing. Deviations shall be subject to the review and approval of the Owner's Representative.
- D. The Contractor shall obtain any necessary building or waste permits and notify local authorities if jurisdiction requires it.

1.2 CONTRACTOR QUALIFICATIONS

- A. The work specified herein shall be performed by competent persons trained, knowledgeable and qualified in the state-of-the-art techniques of lead-related construction work, handling and subsequent cleaning of lead contaminated areas.
- C. Project Supervisor – Competent Person:
The Contractor must provide a full-time General supervisor who is experienced in administration and supervision of lead-related construction projects. The supervisor shall possess current credentials as follows:
- Training required by Cal OSHA per Title 8 CCR 1532.1.
 - Certification issued by the California Department of Public Health
 - Training and certification compliant with US EPA per 40 CFR 745.80, Subpart E

The Contractors' competent person shall be capable of preventing, eliminating and identifying existing lead hazards associated with the project. The supervisor shall have a working knowledge of, and the ability to read, understand and correctly interpret all the project documents and applicable regulatory standards. The Supervisor shall be trained, as required by Cal OSHA, and be CDPH certified. In addition, the Supervisor shall demonstrate that he/she has a minimum of two (2) years on-the-job experience.

C. Training – Lead Worker:

All workers assigned to tasks involving lead-related work shall possess current credentials as follows:

- Training required by Cal OSHA (per Title 8 CCR 1532.1) and . US EPA (per 40 CFR 745.80, Subpart E).
- Certification issued by the California Department oh Public Health

D. Licensing, Certification:

- The Contractor must hold a current, valid license issued by the California State Contractors Licensing Board.
- Firms performing lead-based paint work in target housing or child occupied facilities must be certified by the US EPA (per 40 CFR 745.80, Subpart E).

D. Reporting Unusual Events:

When an event of unusual and significant nature occurs at the site (examples: failure of the containment system, injury, environmental exposure, etc.), prepare and submit a special report listing chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. When such events are known or predictable in advance, advise Owner in advance at earliest possible date. Except as otherwise indicated, submit special reports directly to Owner within one day of occurrence requiring special report, with copy to Owner's Representative and others affected by occurrence.

E. Reporting Accidents:

Prepare and submit reports of significant accidents, at site and anywhere else work is in progress. Record and document data and actions; comply with industry standards. For this purpose, a significant accident is defined to include events where personal injury is sustained, or property loss of substance is sustained, or where the event posed a significant threat of loss or personal injury.

F. Daily Logs and Journals:

During the work, Contractor shall maintain a daily log that will be kept at the job site. Items to be included in the daily log shall include but are not limited to the following:

1. Meetings; purpose, attendees, discussions, items of resolution (brief)
2. Visitations; authorized and unauthorized
3. Sign-in sheets of all personnel entering and leaving the work area
5. Personal air monitoring results – submit within 24 hours of sample collection

1.3 PRE-JOB SUBMITTALS

Before the start of work, submit the following to the Owner's Representative for review. No work shall begin until these submittals have been approved by the Owner or Owner's representative.

A. Written Compliance program.

Prior to commencement of the job the Contractor shall establish and implement a written compliance program to achieve compliance with Cal OSHA requirements and HUD guidelines. The written programs shall be available at the worksite for examination and

copying. The written plan shall include at least the following:

1. A description of each activity in which lead is emitted; e.g. equipment used, material involved, controls in place, crew size, employee job responsibilities, operating procedures and maintenance practices;
2. A description of the specific means that will be employed to achieve compliance and, where engineering controls are required engineering plans and studies used to determine methods selected for controlling exposure to lead;
3. A report of the technology considered in meeting the PEL;
4. Air monitoring data, which documents the source of lead emissions;
5. A detailed schedule;
6. A work practice program that includes items required by Cal OSHA and prescribed by HUD.
7. An administrative control schedule as required by Cal OSHA
8. A description of arrangements made among contractors on multi-contractor sites with respect to informing affected employees of potential exposure to lead and of regulated areas.
9. Other relevant information.
10. Schedule of frequent and regular inspections of job sites, regulated areas, materials, and equipment to be made by a supervisor.
11. Include in the plan specific procedures for decontamination and work area isolation and set-up. Provide diagrams showing negative air placement (if applicable), decontamination locations, staging areas and waste bag-out areas. Note that nothing in this specification should impede safe exiting or providing of adequate medical attention in the event of an emergency.

C. Lead Waste

Submit copies of proof of all EPA, DOT, and DHS, licenses, registrations, and certifications for all hazardous waste haulers and active lead waste sites intended for use on this project.

D. Worker Documentation:

Provide current documentation for each qualified competent Person and workers who will be assigned to the project. Submit documentation as follows:

1. Cal OSHA and CDPH Training Certification.
2. Biological - blood lead test for all Workers prior to project commencement.
3. Physician medical release for each Worker – written approval to don respiratory protection without restriction.
3. Respiratory fit test documentation.

E. Notifications:

Submit copies of any required notifications sent to federal, state and/or local agencies as required by applicable local, state and federal regulations.

F. Permits:

Submit copies of any required permits required by state and/or local regulations.

- G. Licenses:
Submit copies of: valid California State Contractors License, and Local licenses and permits necessary to carry out the work of this contract.
- H. Material Safety Data Sheets:
Submit the Material Safety Data Sheet, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for applicable material proposed for use on the work including but not limited to encapsulant, surfactant, spray adhesive etc. Include a separate attachment for each sheet indicating the specific worker protective equipment proposed for use with the material indicated.

1.4 PUBLIC SAFETY AND PUBLIC CONVENIENCE

- A. The Contractor(s) shall take all necessary measures to ensure the safety of the general public and adjacent residents throughout the course of this project. The Contractor shall take adequate measures to make the building or work areas inaccessible to the public (such as temporary fencing if necessary).
- B. The Contractor shall ensure that lead (in any form) does not contaminate the project site or adjacent property during this demolition process.

1.5 REGULATIONS

- A. Contractors are required to follow all Federal, State, and local standards that regulate lead-related construction work and lead disposal including but not limited to: the California Department of Public Health, U.S. Environmental Protection Agency (EPA), the California Department of Occupational Safety and Health (Cal-OSHA), and any other applicable federal, state and local government regulations pertaining to lead containing materials, lead-based paints (LBP) and other lead-containing wastes.
- B. The Contractor and all subcontractors shall ensure that each employee who will or may handle, impact, or otherwise disturb lead or encounter lead contaminated areas:
- 1 Receive proper and sufficient Cal OSHA and CDPH compliant training.
 - 2 Receive proper and sufficient personal protection equipment
- C. Lead-based paint and lead-containing paint materials and waste shall be handled in accordance with applicable laws and regulation. In the event of conflict, the more stringent requirement will apply. The Contractor(s) is alerted to, and shall become familiar with all laws and regulations regarding the generation, management, handling, characterization and disposal of lead (Hazardous materials) including:
- 1 Environmental Protection Agency National Ambient Air Quality
 - 2 Standards, as applicable (40 CFR 61)
 - 3 Occupational Safety and Health Administration (inclusive of OSHA 29 CFR 1919.134 and 1926.62)
 - 4 California Department of Occupational Safety and Health (inclusive of Cal/OSHA 8 CCR 1532.1, 3203, 5155, 5194, 5216)
 - 5 California Environmental Protection Agency (Cal-EPA), (22 CCR Section 66000, et seq.)
 - 6 California Department of Public Health (17 CCR Sections 3500061000)
 - 7 Resources Conservation and Recovery Act (42 U.S.C. Section 6901 et seq., and regulations 40CFR part 260 et seq.)
 - 8 California Health and Safety Code (Division 20 and regulations, and 22 CCR section 66000 et seq.).

- 9 Resource Conservation and Recovery Act
- 10 Federal Occupational Safety and Health Administration (Fed/OSHA) (29CFR 1910.134 and 1926.62)
- 11 Federal Environmental Protection Agency (Fed/EPA) (40 CFR50 et seq.) Federal Department of Transportation (49 CFR)
- 12 Other applicable federal, state, and local governmental regulations pertaining to lead hazards and lead waste.

PART 2 - WORKER PROTECTION

2.0 DESCRIPTION

- A. This program is essential in minimizing risk of lead exposure to workers. The Contractor will minimize exposure to hazards through the use of engineering controls and good work practices. Respirators will not to be used as the primary or sole means of protection. Work practices and engineering controls will be implemented to reduce employee exposure to the greatest extent possible. Wetting the materials thoroughly will be the major engineering control. A negative air machine is running to help eliminate some of the air-borne lead materials. All debris will be cleaned up promptly.
- B. Worker Protection will include respirator protection, protective clothing, gloves, and equipment, housekeeping, hygiene practices and medical surveillance.
- C. Inhalation of lead dust and fumes, and ingestion resulting from contact with lead-contaminated food, cigarettes, clothing, or other objects, are the major routes of worker exposure to lead. Once absorbed, lead accumulates in the blood, soft tissues, and bones, with the highest accumulation initially in the liver and kidneys. Lead is stored in the bones for decades, and may cause toxic effects in adults as it is slowly released overtime. Chronic overexposure to lead results in damage to the kidneys, the central nervous system, the reproductive system, and the blood-forming organs. Adverse health effects in adults include: abdominal discomfort, anemia, colic, constipation, excessive tiredness, fine tremors, headache, high blood pressure, irritability, loss of appetite, muscle joint pain, sexual impotence, pigmentation on the gums, and others.
- D. There are two primary routes of lead poisoning in occupation settings, they are;
 - 1. Ingestion:
Ingestion generally occurs by normal hand-to-mouth activity (such as eating) after hands have been in contact with lead dust or contaminated items.
 - 2. Inhalation:
Inhalation, or breathing of airborne lead generally occurs when lead coated surfaces or lead contaminated dust is disturbed and lead dust is released into the working environment.
- E. Employers of employees who perform lead-related work are responsible for the development and implementation of a worker protection program in accordance with Title 8 CCR 1532.1. This program is essential in minimizing the worker risk of lead exposure.
- F. The most effective way to protect workers is to minimize exposure through the use of engineering controls and good work practices. It is OSHA policy that respirators are not to be used as the sole means of protection when engineering controls are feasible to reduce employee exposure.

G. At a minimum, the following elements should be included in the employer's worker protection program for employees exposed to lead.

- Hazard Determination
- Worker Protection including: respirator protection, protective clothing and equipment, housekeeping, hygiene practices and medical surveillance.
- Worker Training and record keeping

2.1 WORKER EXPOSURE

- A. The Contractor will limit airborne exposure to lead dusts in the workplace to the greatest extent possible with engineering controls and/or respiratory protection.
- B. Initial monitoring will be performed that is representative of each affected employees 8-hour time weighted average (TWA) exposure to lead. The contractor shall collect full-shift personal air samples for affected employees that is representative of daily exposure to lead. Personal exposure monitoring shall include one sample for each job classification in each work area. Employee lead exposures shall be monitored by the Contractor in accordance with Cal OSHA standard Title 8 CCR 1532.1.
- C. If the initial monitoring shows exposure levels to be below the Action Level of $30 \mu\text{g}/\text{m}^3$, no further exposure assessment is required unless there is a change of equipment, process, control methods, personnel, or a new task is initiated.
- D. If the action level (AL) of 30 micrograms per cubic meter of air ($\mu\text{g}/\text{m}^3$) is exceeded, without regard to respiratory protection, compliance activities with Title 8 CCR 1532.1 will be implemented. Exposures above the permissible exposure limit (PEL) of $50 \mu\text{g}/\text{m}^3$ will not be permitted. Proper respiratory protection will be enforced to maintain exposure limits below the PEL (see respiratory protection).

2.2 MONITORING

A. Personal monitoring

1. Personal air monitoring shall be the responsibility of the Contractor. The contractor shall collect full-shift personal air samples representative of each affected employee and each lead-related work task. Initial monitoring will be performed that is representative of each affected employees 8-hour time weighted average (TWA) exposure to lead. Daily personal monitoring will be performed on a minimum of 20% of the employees for each lead-related work activity. The Contractor shall post personal air monitoring results on the job site within 48 hours from collection. Employees will be given the opportunity to observe monitoring results.
2. If the initial monitoring shows exposure levels to be below the Action Level of $30 \mu\text{g}/\text{m}^3$ for a particular activity, the Contractor shall implement a periodic monitoring schedule (for that particular activity).
3. Additional monitoring is required if there is a change of equipment, process, control methods, personnel, or a new task is initiated.

B. Environmental Monitoring

1. Air sampling may be conducted in areas adjacent to lead related work activities to document and monitor the effectiveness of engineering control procedures. Air samples shall be collected at the perimeter (outside) of active lead-related construction work. Perimeter monitoring will be performed to detect contamination outside of the regulated work area as a result of inadequate engineering controls and/or work practices. Samples may be collected as needed immediately adjacent to the lead abatement work in locations most vulnerable to contamination migration. Environmental air sampling, when conducted will be performed by the Owner's Representative.
2. If the environmental monitoring yields results in excess of 30 micrograms per cubic meter of air (ug/m³) or background levels (which ever is greater) as established by pre-construction monitoring, the Contractor shall extend the regulated area to include all affected areas. The Contractor shall contaminate all areas until HUD clearance criterion can be established.

2.3 RESPIRATORY PROTECTION

- A. Until an exposure assessment is made by the Contractor, all employee performing lead-related trigger activities shall be treated as if exposed above the personal exposure limit (PEL, 50 mg/m³) based on the following table:

Trigger Activity	Anticipated Exposure (µm/m ³)
• Manual demolition • Manual scraping and sanding • Heat gun use • Use of power tools with dust collection systems • Spray painting with lead paint • Any other activity that the employer has any reason to believe that an employee may be exposed in excess of the PEL.	Greater than 50
• Using lead containing mortar • Lead burning • Rivet busting • Power tool cleaning without dust collection system • Clean-up of dry abrasive blast residue.	Greater than 500
• Abrasive blasting • Welding • Cutting • Torch burning.	Greater than 2500

- B. The following respiratory protection is required for exposure to lead aerosols:

Anticipated Exposure	Required Respirator
Greater than 50 µm/m ³	Half-mask, air purifying
Greater than 500 µm/m ³	Full-face, air purifying, or Tight fitting PAPR, or Supplied air, contiguous flow
Greater than 2500 µm/m ³	Supplied air, pressure demand

- C. All respirators are required to be equipped with high efficient particulate air (HEPA) filters.

- D. When chemicals and/or other restorable hazards are introduced into the project appropriate respiratory protection and other personal protective equipment will be utilized in accordance with manufacture and MSDS recommendations.
- E. Respirators (NIOSH-approved) will be provided by Contractor when such equipment is deemed necessary to protect the health of the employee. Contractor shall provide respiratory protection devices that are applicable and suitable for the purpose intended. Contractor shall be responsible for the establishment and maintenance of the respiratory program.
- F. Employees are required to wear a respirator when employee exposure to lead exceeds the PEL. The employer will provide a respirator to the employee at no cost. The employer will provide respirator training to all employees who wear a respirator. Medical exams per Title 8 CCR 1532.1 and CCR Subchapter 7. General Industry Safety Orders § 5144 will be provided at no cost to all employees who wear a respirator. The employee will be fit tested at initial assignment and at every 6 months, or after weight gain/loss of 15 pounds or more, growing/shaving mustache, facial deformation-dental work. The employer shall institute a written respiratory protection program.
- G. For the safe use of any respirator, it is essential that the user be properly instructed in its operation and maintenance. Both supervisors and employees of Contractor, and its sub-contractors, shall be so instructed. Employees of Contractor, and its sub-contractors, shall be instructed and trained in the proper selection and use of respirators and their limitations. The Contractor employee, and those of sub-contractors, shall use the provided respirator in accordance with instructions and training received. All training shall be documented with records retained in the employee's training files.
- H. A written Respiratory Protection Program which complies with 29 CFR, part 1910, section 134, and California Code of Regulations (CCR) Title 8 CCR, sections 1532.1 will be maintained and kept on site throughout the project.

2.4 PERSONAL PROTECTIVE EQUIPMENT

- A. Until an exposure assessment is performed by the Contractor, the Contractor shall implement employee protective measures as described in Title 8 CCR 1532.1:
 - 1. Appropriate respiratory protection
 - 2. Appropriate personal protective clothing and equipment
 - 3. Appropriate change areas
 - 4. Appropriate hand wash facilities
 - 5. Biological monitoring (blood testing)
 - 6. Appropriate training
- B. The Contractor will provide protective clothing to all employees potentially exposed to lead dusts during the work shift. Clean protective clothing will be provided to the employee on a daily basis at no cost to the employee. Lead contaminated work clothing will be removed in change rooms before lunch and at the end of the work shift. Soiled work clothes will be stored in closed, labeled containers. Waste work clothes will be sampled for lead content prior to disposal.
- C. Protective goggles, gloves, hard-hats , disposable clothing, etc. will be provided to all employees potentially exposed to lead dusts or debris during the work shift.

2.5 MEDICAL MONITORING

A. Blood Testing:

1. Contractor(s) shall implement a biological monitoring program for this project. The program will consist of biological monitoring (blood testing) and analysis for lead and zinc protoporphyrin levels.
2. Employees will be tested immediately at the start of the project, no employees shall be assigned to this project whose blood lead is at or above 40 µg/dl.

B. Physical Examination:

1. Contractor(s) whose employees who are required to don respiratory protection shall implement a Medical Surveillance Program. Employees must be cleared by the examining physician to wear a respirator and protective clothing while performing their project duties.
2. All personnel on-site shall have successfully completed a pre-placement or periodic medical examination in accordance with established Contractor policies and procedures, and consistent with the provisions of the OSHA respiratory standard 29 CFR 1910.134 and Cal OSHA lead standard Title 8, 1532.1.

2.6 EMPLOYEE INFORMATION AND TRAINING

The Contractor will provide an information and training program, at least annually, to all employees potentially exposed to lead. This program will inform employees of the health hazards associated with lead exposure, the contents of Title 8 Section 1532.1, the proper selection, fitting and use of respirators, the medical surveillance program, the employees access to records, engineering controls and work practices associated with the employees job assignment

2.7 RECORD KEEPING

The Contractor will keep records of all exposure monitoring for airborne lead. The records shall include the following information for each sample: date collected, sample number, duration, result, analytical method, activity represented, employees names and SS#'s represented, type of respiratory protection used.

PART 3 - EXECUTION

3.1 REGULATED AREAS

- A. The Contractor will establish a regulated area where lead may be impacted and/or disturbed. Only authorized personnel may enter the regulated area. All persons entering the regulated area will be supplied with and required to wear appropriate personal protective equipment and respiratory protection.
- B. Warning signs will be posted at the entrance to each regulated area. The sign will read as follows:

WARNING
LEAD WORK AREA
POISON
NO SMOKING OR EATING

AUTHORIZED PERSONNEL ONLY

3.2 CAL OSHA COMPLAINEE

A. All Contractors/employers whose employees may impact or perform trigger activity associated with lead-based paint or lead containing materials shall comply with the requirements, standards and work practices codified by Cal OSHA lead construction standard per CCR Title 8 § 1532.1. Each Contractor/employer shall:

1. Make an assessment as to the applicability of the Cal OSHA lead construction standard relative their specific work. Cal OSHA standards are designed to regulate and enforce on-the-job worker safety. Employers are required by law to ensure that employees are not exposed to airborne lead levels which exceed the permissible exposure limit (PEL). The standard requires worker exposure monitoring, medical surveillance, training, special work practices, etc.
2. Contractors/employers whose employees will be working on this project are required to assess lead exposure risk to their employees (as per Cal OSHA lead standard CCR Title 8 § 1532.1). In making this evaluation, contractors should:
 - a. Review all lead related documents and reports.
 - b. Become familiar and comply with Cal OSHA and other applicable lead regulations.
 - c. Make an assessment to determine potential worker exposure relative to the various lead-related construction work to be performed.
 - d. Collect supplemental data/samples if necessary.
 - e. Assess and monitor worker lead exposure levels during the performance of lead trigger tasks or other activities that may potentially expose workers to levels above the Cal OSHA permissible exposure level.
 - f. Determine compliance requirement relative to DOSH notification rules.
3. Cal OSHA requires compliance with their lead construction regulation when:
 - a. The permissible exposure limit (PEL) will or may be exceeded. The PEL is an exposure to airborne lead dust of 50 micrograms of lead per cubic meter of air (50 µg/m³) over an 8 hour time weighted average (TWA).
 - b. Employees perform "trigger activities" that impact a material containing lead in any detectable amount. Cal OSHA mandates that an employer assume the PEL will be exceeded when his/her employees conduct "trigger activities" involving lead.

Trigger Activity	
Level 1	• Manual demolition • Manual scraping and sanding • Heat gun use • Use of power tools with dust collection systems • Spray painting with lead paint • Any other activity that the employer has any reason to believe that an employee may be exposed in excess of the PEL.
Level 2	• Using lead containing mortar

	• Lead burning • Rivet busting • Power tool cleaning without dust collection system • Clean-up of dry abrasive blast residue.
Level 3	• Abrasive blasting • Welding • Cutting • Torch burning.

4. If Cal OSHA lead compliance is required, contractor(s) shall adhere with the following requirements:

- a. Construct Project Hygiene Facilities and implement decontamination policies in accordance with the Cal OSHA lead construction standard. Worker decontamination station shall be provided at all locations where worker enter or exit the work area. The decon station shall be placed at the most strategic location to allow easy worker access. The Contractor must install a filtering system for removing contaminants from the drained water. The system must have as a two stage cascading filtering system capable of filtering down to 5 μm or smaller. Filtered water may then be disposed of into the sanitary sewer. The Contractor shall maintain a supply of filters for the filtering system. The filters will be changed as often as needed to prevent the system from clogging.
- b. Determine if any employee may be exposed to lead at or above the action level (30 mg/m^3). This assessment is made by taking at least one full shift personal air sample for each job classification.
- c. Until an exposure assessment is made, any employee performing a trigger activity, shall be treated as if exposed above the personal exposure limit (PEL, 50 mg/m^3).
- d. Until an exposure assessment is performed, the employer must implement employee protective measures per Cal OSHA - CCR Title 8 § 1532.1 including:
 - Appropriate respiratory protection
 - Appropriate personal protective clothing and equipment
 - Appropriate change areas
 - Appropriate hand wash facilities
 - Biological monitoring (blood testing)
 - Appropriate training
- e. Implement engineering controls and work practice controls, including administrative controls, to reduce and maintain employee exposure to lead at or below the PEL or to the lowest feasible level. If engineering controls can not reduce exposures below the PEL, supplement controls with appropriate respiratory protection.
- f. Prior to the job, establish and implement a written compliance program to ensure that no employee is exposed to lead above the PEL. The program must address the specific issues outlined in Cal OSHA - CCR Title 8 § 1532.1.
- g. Respirator use is required when:
 - Employee exposure exceeds the PEL
 - Employee requests it
 - During the initial exposure assessment

- h. If required, implement a respiratory protection program addressing the specific elements outlined in the OSHA respiratory protection standard (CCR Subchapter 7. General Industry Safety Orders § 5144).
- i. If required, implement a medical surveillance program for employees exposed on any day to lead at or above the action level. The medical surveillance program must address the specific elements in the standard including (but not limited to):
 - Initial medical surveillance consisting of biological monitoring (blood testing) and analysis for lead and zinc protoporphyrin levels.
 - Employee notification of blood test results.
 - Medical examinations and consultation under certain circumstances.
- j. Post appropriate warning signs (as prescribed in the standard) in each regulated area or work area where an employee's exposure to lead is above the PEL.
- k. The employer must establish and maintain an accurate record of:
 - Exposure assessment data
 - Medical surveillance data
 - Observation procedures
- l. Contractors/Employers whose employees disturbs more than 100 sq ft of lead-based paint (LBP) are required to submit written notification to Cal OSHA (per Health and Safety Code, Title 17 CCR Section 36000 (c)). The Cal OSHA LBP notification rule under requires 24-hour advance notice prior to LBP disturbance.

3.3 SITE PROTECTIVE CONTROLS

- A. Where containment is required to prevent migration of lead paint contaminants to another property, containment barriers shall be at least as effective at protecting human health and the environment as those contained in HUD's Guideline for the Evaluation and Control of Lead-Based Paint Hazards in Housing and Lead Paint Removal Guide published by the Steel Structure Painting Council.
- C. General Dust Controls: Implement engineering controls as necessary to reduce airborne exposures to lead to the greatest extent possible. Engineering controls shall include but not necessarily be limited to:
 - 1. Misting of the work area as necessary to eliminate visible emissions beyond the regulated area during active demolition.
 - 2. Collect all lead debris and lead contaminated waste for proper waste profiling, packaging, labeling, and disposal.
 - 3. Power tools used for lead-paint removal (if performed) shall be equipped with attached HEPA vacuums to collect lead dust emissions generated by the power tool(s).
 - 4. Install worker decontamination facilities immediately adjacent to the work area entry/exit.
 - 5. If any of the containment systems are damaged in any way, repairs will be made immediately.

3.4 METHODS OF COMPLIANCE

- A. The following work practices shall be used to reduce employee and environmental exposure during any/all work where exposure to lead could potentially exceed Cal OSHA's action level:
- 1) Wet removal of lead-containing materials.
 - 2) Routine clean-up of loose lead containing debris.
 - 3) Use of vacuum cleaners and Local exhaust ventilation machines equipped with high efficiency particulate air (HEPA) filters.
 - 4) A containment system to control disbursement of leaded dust and debris.

3.5 CONTAMINATION

Should lead be detected outside of the regulated work area at or above 30 mg/m³ or in excess of baseline air sample or dust wipe levels, the area will be considered contaminated. The areas outside the work area will be HEPA vacuumed and wet wiped with a sufficient detergent until clearance or baseline levels are achieved.

3.6 PERSONNEL AND EQUIPMENT DECONTAMINATION PROCEDURES

- A. When exiting the lead regulated work area, workers will remove gross contamination with a HEPA vacuum and dispose of work garments in a provided waste container dedicated for the disposal of lead-contaminated items. Workers will then proceed to a decontamination station equipped, at a minimum with running water, soap and disposable towels will be provided. All personnel exposed or potentially exposed to lead will be required to use the wash station at the beginning of each break, before lunch, and at the end of each shift to clean hands and face.
- B. All tools, equipment, and non-disposable items used inside the work area shall be completely decontaminated before removal from the regulated area. Decontamination shall be accomplished by HEPA vacuum (when possible) and wet wiping with a mild detergent and water solution.
- C. 3-Stage Decontamination Facility shall be provided IF workers are shown to be exposed at levels exceeding the permissible exposure limit.
1. A 3-stage decontamination facility equipped with a shower unit (equipped with hot and cold running water) shall be constructed for any/all work where lead exposures are expected to exceed the PEL.
 2. The decontamination facility and decontamination procedures may be down-graded to a hand wash facility once (if) personal air monitoring data show all work activities generate lead exposures below the PEL.
 3. Worker decontamination station shall be provided at all locations where worker enter or exit the work area. The decon station shall be placed at the most strategic location to allow easy worker access
 - a. The 3-stage decontamination facility shall consist of the following
 - Clean Room: The clean room will be sized to accommodate the size of the work crew. If lockers are not available storage of the workers personal equipment and street clothing, the contractor may use plastic bags. The contractor must keep

the change area clean and dry. Do not allow shower overflow water in the change room. Damp wipe all surfaces twice after each shift with a disinfectant.

- Shower Room: The shower room shall be constructed with a minimum of a single shower or what ever is adequate for the size of the work crew. Each shower head shall be supplied with hot and cold water. The shower shall be constructed to prevent leakage.
 - Install a totally submersible waterproof sump pump with a integral float switch inside the collection water pan. Provide sump pump size to pump twice the flow capacity of all showers or hoses supplying the water to the sump. Install a sump capable of pumping debris, sand, plaster or other materials which may wash off during decontamination procedures.
 - The contractor must install a filtering system for removing contaminants from the drained water. The system must have as a two stage cascading filtering system capable of filtering down to **5 µm or smaller**. Filtered water may then be disposed of into the sanitary sewer.
 - The contractor shall maintain a supply of filters for the filtering system. The filters will be changed as often as needed to prevent the system from clogging.
 - Equipment/Dirty Room: The equipment room will be used for storage of tools and equipment. Workers will remove dirty protective clothing in this space.
4. Each room of the decontamination unit will shall be constructed of materials that are leak-tight and air-tight. Each room shall be connected in succession separated by 6 mil polyethylene air locks. Access between any two rooms in the decontamination unit will be through air locks with at least 3 feet separating each curtained door way.
 5. Require all workers to adhere to the following personal decontamination procedures whenever they leave the work area. Upon entering the asbestos abatement project, **remove street cloths** in the clean change room and put on a respirator and clean protective clothing before entering the equipment room or work area. Before exiting the work area, the following procedures are required;
 - a. Remove gross contamination from clothing with a HEPA vacuum.
 - b. Proceed to the equipment room and remove all clothing except the respirator.
 - c. Deposit contaminated clothing in labeled disposal container.
 - d. Still wearing the respirator, proceed to the shower and clean the outside of the respirator with soap and water while showering.
 - e. Remove respirator.
 - f. Thoroughly wash and shampoo hair and body.
 - g. Remove filters from respirator, if breathing has becomes restricted or as often as the user feels is needful. Dispose of the filter elements in the container supplied for this purpose.
 - h. Wash and rinse the inside of the respirator.

- i. Following showering and drying off, proceed directly to the clean change room and put on street cloths
- j. Contaminated footwear shall be stored in the equipment room or disposed of as contaminated waste or cleaned thoroughly inside and out using soap and water before removing from the shower area.

3.7 DAILY AND FINAL CLEANING OF LEAD WORK AREAS

- A. Contractor shall ensure that lead work areas undergo daily and final cleaning.
- B. Contractor shall conduct work area cleaning as follows:
 - 1. Work area cleaning shall begin with a thorough HEPA vacuuming of all surfaces, starting at the ceilings, proceeding down the walls and including window, doors and door trim and floor. The floor shall be vacuumed last, beginning at the farthest corners from the entrance to the work area.
 - 2. Contractor shall next wash or mop the same surfaces with a tri- sodium phosphate (TSP) detergent solution (five percent) or other equally effective cleaning agent and allow surfaces to dry.
 - 3. After TSP wash and dry cycle, HEPA vacuuming shall again be performed as noted above

3.8 PROJECT CLEARANCE

- A. The project shall not be deemed complete until the Contractor performs a final cleaning of the work area(s). Completion of the project will be determined by the Owner's representative during a visual inspection of the work area(s).
- B. Completion of the project may also be determined by the results of post clean dust and/or soil samples. At the Owners option, final wet wipe and/or soil samples may be collected and analyzed for lead content to establish conformity to clearance criteria. To be deemed acceptable, wipe samples must pass the clearance standards established by the U.S. EPA and CDPH.
- C. Should Contractor fail a visual inspection or fail to pass the testing criteria, Contractor shall reclean areas as directed by the Owner's representative. Contractor shall perform all recleaning at Contractors own expense.

3.9 WASTE CHARACTERIZATION, DISPOSAL AND MANIFESTING PROCEOURES

- A. All lead and lead-contaminated debris shall be collected and kept separate from all/any non-lead waste. Laboratory costs associated with analyses required for disposal, will be at the Contractor's expense. Lead-waste streams shall be tested to characterize hazard levels as follows:

Test 1 - California : SW846, Total Threshold Limit Concentration (TTLC)

If: TTLC is less than 50 mg/kg STOP testing - classify as non-hazardous waste.

If: TTLC is greater than 50 mg/kg but less than 1000 mg/kg perform test 2 to determine Cal-Haz status.

Test 2 - California : Waste Extraction Test (WET), Soluble Threshold Limit Concentration (STLC)

If: STLC is less than 5 mg/l - classify as a Non Hazardous Waste.

If: STLC is greater than 5 mg/l AND TTLC is greater than 100 – perform test 3 to determine RCRA requirements - classify as a California Hazardous Waste or RCRA Waste (pending TCLP)

Test 3 - Federal : Soluble Threshold Limit Concentration (TCLP)

If: TCLP is less than 5 mg/l - classify as non-RCRA waste.

If: TCLP is greater than 5 mg/l - classify as RCRA waste, stabilize waste.

- B. The contractor shall be responsible for the proper storage, packaging, labeling, manifesting, transportation, and disposal of lead containing and lead hazardous materials.
- C. Packing, labeling, transporting, and disposing of hazardous waste shall comply with Cal-EPA regulations under 22 CCR, including completion of the Uniform Hazardous Waste Manifest Form (OTSC 8022A and EPA 8700-22).
- D. Segregate, containerize, and characterize construction debris including rags, protective coveralls, polyethylene sheeting, and other consumable items. Waste will be packaged in accordance with the applicable U.S. Department of Transportation regulations included in 49 CFR Parts 173, 178, and 179.
- E. A "Waste Manifest" will be completed for disposal of hazardous waste. The Hazardous waste transporter will possess a valid EPA Transporter ID number. The Contractor's Supervisor will notify the Owner's Inspector at least 48 hours before the time that the Manifest is required to be signed by the Owner.
- F. Warning labels will be affixed to all waste containers that contain lead wastes in concentrations considered hazardous. The labels will conform to RCRA, DOT, and DTSC guidelines.
- G. Any lead contaminated water generated during the work for decontamination purposes will be filtered to 5 µm and drummed. If TTLC/STLC testing can prove that the water is non-hazardous, it will be discharged into the sanitary sewer system (pending approval from the local PUC). If the water is shown as hazardous per TTLC/STLC testing, it will be disposed as such.

PART 3 - DEFINITIONS

- A. Aerosol: A system consisting of particles, solid or liquid, suspended in air.
- B. Air Monitoring: The process of measuring the lead content of a specific volume of air.
- C. AL: Action level - employee exposure, without regard to the use of respirators, to an airborne concentration of lead of 30 micrograms per cubic meter of air (30 µg/m³) calculated as an 8-hour time-weighted average (TWA).

- D. Authorized Visitor: The Owner, Owner's Representative, testing lab personnel, emergency personnel or a representative of any federal, state, and local regulatory or other agency having authority over the project.
- E. Barrier: Impermeable membrane (e.g. Plastic) that captures, hold, or otherwise contains and inhibit the movement of dust.
- F. Blood Lead Monitoring: Each worker potentially exposed to hazardous levels of lead must routinely give a blood sample which is to be tested for lead.
- G. Breathing Zone: A hemisphere forward of the shoulders with a radius of approximately 6 to 9 inches.
- H. CDPH: California Department of Public Health previously known as California Department of Health Services (DHS).
- I. Ceiling Concentration: The concentration of an airborne substance that shall not be exceeded.
- J. Certified Industrial Hygienist (C.I.H.): An industrial hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene.
- K. Daily and Final Clean up: Process includes thorough HEPA vacuuming of all surfaces next wash or mop the same surfaces with a tri- sodium phosphate (TSP) detergent solution (five percent) or other equally effective cleaning agent and allow surfaces to dry. Then a second HEPA Vacuuming.
- L. Demolition: The wrecking or taking out of any building component, system, finish or assembly of a facility together with any related handling operations.
- M. Disposal Bag: A properly labeled leak-tight, 6-mil thick leak-tight plastic bag used for transporting lead waste from work area to disposal site.
- N. DHS: California Department of Health Services – now known as California Department of Public Health (CDPH).
- O. EBL: Elevated Blood-lead Level. For adult workers, OSHA set 40 micrograms of lead per deciliter of blood, and NIOSH set 25 micrograms per deciliter.
- P. Final Clean up: A minimum of a HEPA-vacuuming, wet wiping and a second HEPA-vacuuming is required. This procedure is repeated until area passes final inspection.
- Q. Final Inspection: After the final clean up is complete, the final inspection takes place which consists of the post-construction visual inspection.
- R. HEPA Filter: A High Efficiency Particulate Air (HEPA) filter capable of trapping and retaining 99.97% of airborne material greater than 0.3 microns in diameter.
- S. HEPA Filter Vacuum Collection Equipment (or Vacuum cleaner): High efficiency particulate air filtered vacuum collection equipment with a filter system capable of collecting and retaining lead dust. Filters should be 99.97% efficient for retaining particles greater than 0.3 microns in diameter.
- T. High-efficiency particulate air filter: (HEPA) refers to a filtering system capable of trapping and retaining 99.9% of all monodispersed particles 0.3 microns in diameter or larger.

- U. HUD: U. S. Department of Housing and Urban Development. Responsible for the Lead-Based Paint Guidelines for the Public and Indian Housing Authorities.
- V. LBP: Lead-Based Paint. Coating containing lead in concentrations at or above 1 milligrams of lead per square centimeter (mg/cm^2), 5000 ppm, or ,5% weight percent.
- W. LCP: Lead-Containing Paint. Coating containing detectable amounts of lead on concentrations below 1 milligrams of lead per square centimeter (mg/cm^2), 5000 ppm, or ,5% weight percent.
- X. Lead: metallic lead, all inorganic lead compounds, and organic lead soaps. Excluded from this definition are all other organic lead compounds.
- Y. Medical Removal: An employee must be removed from any job with lead exposure. When the employees blood level levels reach certain regulator levels prescribed by Cal OSHA.
- Z. Micrograms: Is one millionth of a gram. This is used for reporting lead concentrations in wipe samples (micrograms per square foot) and blood level (micrograms per deciliter).
- AA. Negative Pressure Respirator: A respirator in which the air pressure inside the respiratory-inlet covering is positive during exhalation in relation to the air pressure of the outside atmosphere and negative during inhalation in relation to the air pressure of the outside atmosphere.
- BB. Negative Pressure Ventilation System: A differential and ventilation system used to reduce atmospheric pressure within the work area relative to areas outside the work area.
- CC. NIOSH: National Institute of Occupational Safety and Health (NIOSH), U.S. Department of Health and Human Services or designee.
- DD. Owner's Representative: The Owner's Representative will represent the Owner during construction. The Owner's Representative will advise and consult with the Owner. The owner's instructors to the Contractor will be forwarded through the Owner's Representative.
- EE. PEL: Permissible exposure limit - employee exposure, without regard to the use of respirators, to an airborne concentration of lead of 30 micrograms per cubic meter of air ($50 \text{ mg}/\text{m}^3$) calculated as an 8-hour time-weighted average (TWA).
- FF. Personal Monitoring: Sampling of the lead concentrations within the breathing zone of an employee.
- GG. Post-construction Visual Inspection: Inspector insures that lead-related construction work has been completed.
- HH. Protection Factor: The ratio of the ambient concentration of an airborne substance tot he concentration of the substance inside the respirator at the breathing zone of the wearer. The protection factor is a measure of the degree of protection provided by a respirator to the wearer.
- II. Respirator: A device designed to protect the wearer form the inhalation of harmful atmospheres.
- JJ. Supervisor: one who is capable of identifying existing and predictable lead hazards in the surroundings or working conditions and who has authorization to take prompt corrective

measures to eliminate them. Supervisors shall be trained, as required by Cal OSHA, and, when required, be CDPH certified.

KK. Time Weighted Average (TWA): The average concentration of a contaminant air during a specific time period.

LL. TSP: Trisodium Phosphate. Contractor may elect to use an equivalent Detergent.

MM. Visible Emissions: Any emissions containing particulate material that are visually detectable with the aid of instruments. This does not include condensed uncombined water vapor.

NN. Wet Cleaning: The process of reducing lead dust contamination from building surfaces and objects by using cloths, mops, or other cleaning utensils which have been dampened with water in a minimum of 5% TSP solution (or equivalent detergent). Wash water should be changed frequently. Dry sweeping is prohibited. Dispose of all cleaning materials in an appropriate manner.

OO. Wipe Sample: A commercial wipe pre-moistened with a non-alcohol wetting agent is used to clean a set surface area, usually one square foot, to test for lead. These are taken mostly during the Pilot Project and during the Final Inspection.

PP. Work Area: The area where lead-related activities are performed which is defined and/or isolated to prevent the spread of lead dust or debris, and entry by unauthorized personnel.



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Not Reviewed by Architect

**ASBESTOS ABATEMENT PROJECT SPECIFICATION
&
APPENDIX 2
LEAD-CONTAINING MATERIALS
INSTRUCTIONS TO ALL CONTRACTORS/BIDDERS**

ASBESTOS ABATEMENT PROJECT

Parkway Heights Middle School

Buildings 17 to 21 & 29 to 33
650 Sunset Avenue
South San Francisco, California

PREPARED FOR

South San Francisco Unified School District
398 B Street
South San Francisco, CA 94080

PREPARED BY:

PROTECH CONSULTING AND ENGINEERING

February 2018

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ASBESTOS ABATEMENT

PART 1 - GENERAL AND ADMINISTRATIVE REQUIREMENTS

1.00 DESCRIPTION

- A. The asbestos abatement contractor shall furnish all labor, material, facilities, equipment, services, employee training and testing, permits and agreements necessary to perform the work required for asbestos removal, encapsulation, decontamination, disposal, and all other work in accordance with these specifications, the latest regulations from the US. Environmental Protection Agency (EPA), Cal-EPA, the Occupational Safety and Health Administration (OSHA), the State of California Department of Industrial Relations (Cal/OSHA), the recommendations of the National Institute of Occupational Safety and Health (NIOSH), and any other applicable federal state and local government regulations. Whenever there is a conflict or overlap of the above references, the most stringent provision shall apply.
- B. Contractor must visit the work site to obtain first-hand knowledge of all existing conditions including ACM quantities. Contractor is responsible for all unusual conditions or deviations from the specifications that exist at the time of their site examination, and such conditions must be reflected in the bid proposal. Contractor will not be given extra payments above the accepted bid prices for conditions that can be determined by examining the site, all Contract Documents, and drawings prior to the submission of proposals.
- C. No signs may be displayed on or about the Owner's property (except those required by law) without the Owner's specific approval; the size, content, and location to be as specified by the Owner. Advertising signs displaying the word "asbestos" or implying asbestos abatement are prohibited at the work site or around the facility.

1.01 DESCRIPTION OF WORK

- A. The work specified herein includes the abatement, encapsulation, and disposal of ACM/ACCM by qualified persons who are knowledgeable, trained, and certified to perform such work in compliance with all applicable federal, state, and local codes and regulations.
1. Pre-Abatement Tasks
- Submit required pre-job submittals prior to mobilization
 - Certify proper function of HEPA equipped air filtration devices. Challenge test each unit with an accepted polydispersed aerosol agent.
 - Individually fit test each worker with appropriate respiratory protection.
 - Seal and/or lock-out HVAC supply duct servicing abatement work areas
 - Install GFI power sources
2. Work Area Preparation
- Perform non-asbestos pre-cleaning
 - Pre-clean work area surfaces affected by asbestos dust, debris, fall-out or contamination.
 - Prepare work area containment systems as specified
 - Initiate negative air, HEPA filtration machinery
 - Construct decontamination facilities as specified
 - Install magnehelic gage with continuous disc chart recorder

3. Asbestos Abatement Activities

- Maintain negative pressure inside of the asbestos abatement work areas for two (2) hours prior to any ACM removal.
- Wet removal all ACM as specified. Where necessary, remove and dispose of non-ACM building components, finishes, fixtures, etc. that are scheduled for demolition to access all ACBM/ACCM.
- Detail clean all barriers and work area surfaces.
- Following final inspection of the work area, perform encapsulation of all work areas surfaces.
- Following visual and final clearance, remove all barriers and check for any residual ACM debris.
- Demobilize from site.
- Submit all project close-out submittal documents.

4. Asbestos Abatement Scope of Work

- The work specified herein includes the removal of various ACBM/ACCM at the subject site.
- The Contractor shall wet remove and dispose of all **ACBM/ACCM** as follows:

Building 17-21 & 29-33			
Material Description		Material Location(s)	Approx Quantity
1.	Pipe insulation	• Janitors closet • Store Room adjacent staff restroom • May be present behind walls/ceilings	10 linear ft visible (Assume 80 inside of the walls or ceilings)
2.	Pipe elbow insulation	• Janitors closet • May be present behind walls/ceilings	4 visible (Assume 30 inside of the walls)
3.	Gray cement pipe	Penetrates floor in girls restroom plumbing chase	4 In. ft. visible (Assume 20)

<i>Confirmed Less Than 1% Asbestos Materials</i>			
ACCM Material Description		Material Location(s)	Approx Quantity
Building 17-21 & 29-33			
1.	Smooth walls - drywall, joint tape and compound	Furnace closets, mechanical attics and rear soffits	8,000 sq ft.

1.02 DEFINITIONS

Abatement - Procedures to control fiber release from asbestos-containing building materials. Includes removal, enclosure or encapsulation.

Aggressive method - means removal or disturbance of building material by sanding, abrading, grinding or other method that breaks, crumbles, or disintegrates intact ACM.

Air Monitoring - The process of measuring the asbestos fiber content of a specific volume of air in a stated period of time using methods approved or recommended by OSHA, EPA, NIOSH or other method approved by Owner or Consultant.

Amended water - means water to which surfactant (wetting agent) has been added to increase the ability of the liquid to penetrate ACM.

Asbestos - includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any of these minerals that has been chemically treated and/or altered. For purposes of this standard, "asbestos" includes PACM, as defined below.

Asbestos-Containing Building Material (ACBM): Means any construction material that contains greater than 1% asbestos.

Asbestos-Containing Construction Material (ACCM): Means any construction material that contains $\frac{1}{10}$ of 1% to 1% asbestos by weight.

Asbestos-containing material (ACM) - means any material containing more than one percent asbestos.

Assistant Secretary - means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, or designee.

Authorized person - means any person authorized by the employer and required by work duties to be present in regulated areas.

Building/facility owner - is the legal entity, including a lessee, which exercises control over management and record keeping functions relating to a building and/or facility in which activities covered by this standard take place.

Certified Industrial Hygienist (CIH) - means one certified in the practice of industrial hygiene by the American Board of Industrial Hygiene.

Class I asbestos work - means activities involving the removal of TSI and surfacing ACM and PACM.

Class II asbestos work - means activities involving the removal of ACM, which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastics.

Class III asbestos work - means repair and maintenance operations, where "ACM", including TSI and surfacing, is likely to ACM and PACM, may be disturbed.

Class IV asbestos work - means maintenance and custodial activities during which employees contact but do not disturb ACM or PACM and activities to clean up dust, waste and debris resulting from Class I, II, and III activities.

Clean room - means an uncontaminated room having facilities for the storage of employees' street clothing and uncontaminated materials and equipment.

Closely resemble- means that the major workplace conditions that have contributed to the levels of historic asbestos exposure, are no more protective than conditions of the current workplace.

Competent person - means, in addition to the definition in 29 CFR 1926.32 (f), one who is capable of identifying existing asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure, who has the authority to take prompt corrective measures to eliminate them, as specified in 29 CFR 1926.32(f): in addition, for Class I and Class II work who is specially trained in a training course which meets the criteria of EPA's Model Accreditation Plan (40 CFR 763) for supervisor, or its equivalent and, for Class II and Class IV work, who is trained in a manner consistent with EPA requirements for training of local education agency maintenance and custodial staff as set forth at [40 CFR 763.92 (a)(2)].

Consultant - For the purpose of the work described herein, ProTech Consulting and Engineering shall be the Consultant.

Critical barrier - means one or more layers of plastic sealed over all openings into a work area or any other similarly placed physical barrier sufficient to prevent airborne asbestos in a work area from migrating to an adjacent area.

Decontamination area - means an enclosed area adjacent and connected to the regulated area and consisting of an equipment room, shower area, and clean room, which is used for the decontamination of workers, materials, and equipment that are contaminated with asbestos.

Demolition - means the wrecking or taking out of any load-supporting structural member and any related razing, removing, or stripping of asbestos products.

Director - means the Director, National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, or designee.

Disturbance - means activities that disrupt the matrix of ACM or PACM, crumble or pulverize ACM or PACM, or generate visible debris from ACM or PACM. This term includes activities that disrupt the matrix of ACM or PACM, render ACM or PACM friable, or generate visible debris. Disturbance includes cutting away small amounts of ACM and PACM, no greater than the amount, which can be contained in one standard sized glove bag or waste bag in order to access a building component. In no event shall the amount of ACM or PACM so disturbed exceed that which can be contained in one glove bag or waste bag which shall not exceed 60 inches in length and width.

Employee exposure - means that exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

Equipment room (change room) - means a contaminated room located within the decontamination area that is supplied with impermeable bags or containers for the disposal of contaminated protective clothing and equipment.

Fiber - means a particulate form of asbestos, 5 micrometers or longer, with a length-to-diameter ratio of at least 3 to 1.

Glovebag - means not more than a 60 x 60 inch impervious plastic bag-like enclosure affixed around an asbestos-containing material, with glove-like appendages through which material and tools may be handled.

High-efficiency particulate air (HEPA) - filter means a filter capable of trapping and retaining at least 99.97 percent of all mono-dispersed particles of 0.3 micrometers in diameter.

Homogeneous area - means an area of surfacing material or thermal system insulation that is uniform in color and texture.

Industrial hygienist - means a professional qualified by education, training, and experience to anticipate, recognize, evaluate and develop controls for occupational health hazards.

Intact - means that the ACM has not crumbled, been pulverized, or otherwise deteriorated so that the asbestos it is no longer likely to be bound with its matrix.

Modification - means a changed or altered procedure, material or component of a control system, which replaces a procedure, material or component of a required system. Omitting a procedure or component, or reducing or diminishing the stringency or strength of a material or component of the control system is not a "modification" for purposes of paragraph (g)(6) of this section.

Negative Initial Exposure Assessment - means a demonstration by the employer, which complies with the criteria in paragraph (f)(2)(iii) of this section, that employee exposure during an operation is expected to be consistently below the PEL.

PACM - means "presumed asbestos containing material".

Permissible Exposure Level (PEL) - A level of airborne fibers specified by OSHA as an occupational exposure standard for asbestos. It is 0.1 fibers per cubic centimeter of air, 8-hour time weighted average, as measured by phase contrast microscopy.

Presumed Asbestos Containing Material - means thermal system insulation and surfacing material found in buildings constructed no later than 1980. The designation of a material as "PACM" may be rebutted pursuant to paragraph (k)(5) of this section.

Project Designer - means a person who has successfully completed the training requirements for an abatement project designer established by 40 U.S.C. Sec. 763.90(g).

Regulated area - means: an area established by the employer to demarcate areas where Class I, II, and III asbestos work is conducted, and any adjoining area where debris and waste from such asbestos work accumulate; and a work area within which airborne concentrations of asbestos, exceed or there is a reasonable possibility they may exceed the permissible exposure limit.

Requirements for regulated areas are set out in paragraph (e) of this section.

Removal - means all operations where ACM, ACCM, ACBM, and/or PACM is taken out or stripped from structures or substrates, and includes demolition operations.

Renovation - means the modifying of any existing structure, or portion thereof.

Repair - means overhauling, rebuilding, reconstructing, or reconditioning of structures or substrates, including encapsulation or other repair of ACM or PACM attached to structures or substrates.

Surfacing material - means material that is sprayed, troweled-on or otherwise applied to surfaces (such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, and other purposes).

Surfacing ACM - means surfacing material that contains more than 1% asbestos.

Thermal system insulation (TSI) - means ACM applied to pipes, fittings, boilers, breaching, tanks, ducts or other structural components to prevent heat loss or gain.

Thermal system insulation ACM - is thermal system insulation, which contains more than 1% asbestos.

1.03 ASBESTOS HAZARD

- A. Asbestos-containing material when damaged or disturbed is subject to fiber releases. Wet methods are a primary means of controlling fiber release. Strict compliance with each of the provisions outlined in these specifications for the encapsulation, repair and handling of asbestos-containing material is of great importance, because:
1. The inhalation of airborne asbestos fibers can cause very serious often fatal diseases.
 2. Workers may not be aware they are inhaling asbestos fibers.
 3. Symptoms of the diseases do not appear for many years.
 4. Only the contractor and his employees can prevent the inhalation of asbestos fibers that can lead to the development of asbestos-related disease.
- B. Proposition 65 Notice: Under California Health and Safety Code Sections 25249.5 through 25249.13, asbestos has been listed as a chemical known to the State of California to cause cancer. As a Contractor, you and your employees will be working in areas in which asbestos-containing materials are present. This notice constitutes the warning of the presence of a known carcinogen required by Proposition 65. It is your duty to follow all requirements of Proposition 65.

1.04 CONTRACTOR QUALIFICATIONS

- A. Licensing, Certification:
The Contractor shall possess all required licenses, registrations, and credentials to perform the work of this specification. All credentials shall be valid, current and in good standing prior to, and throughout all work performed by Contractor. Credentials shall include but not necessarily be limited to: asbestos license issued by the California State Contractors Licensing Board and Department of Occupational Safety and Health Administration (DOSH asbestos registration).
- B. Personnel training:
The work specified herein shall be performed by under the direct management and supervision of a competent person and technicians/workers who are trained, knowledgeable and qualified in the state-of-the-art techniques of asbestos abatement, handling and subsequent cleaning of contaminated areas.
- C. Project oversight and supervision:
The Contractor must provide a full-time supervisor who is experienced in administration and supervision of asbestos abatement projects including work practices, protective measures for building and personnel, disposal procedures, etc. This person shall be the Contractor's Competent Person as required by 40 CFR Part 763 and OSHA in CCR Title 8, § 1529. The Competent person shall be the Contractor's representative responsible for compliance with all applicable federal, state and local regulations, particularly those relating to asbestos-containing material. This person must have completed a course at an EPA Training Center or equivalent certificate course in asbestos abatement procedures, have had a minimum of two (2) years on-the-job training and meet any additional requirements set forth in CCR Title 8, § 1529 for a Competent Person.

1.05 NOTICES AND RECORD KEEPING

- A. Contractor shall maintain for at least thirty (30) years, a record for this asbestos project. The record shall include the following information: The name, address, and social security number of all personnel involved with the project, the name address and social security number of the OSHA "Competent Person" who supervised the work, the amount of asbestos material that was removed, repaired, encapsulated or disturbed, the commencement and completion date of the work, copies of Hazardous Waste Manifest(s), personal air monitoring results and any other appropriate information.
- B. Special Reports:
Except as otherwise indicated, submit special reports directly to Owner within one day of occurrence requiring special report, with copy to Owner's Representative and others affected by occurrence.
- C. Reporting Unusual Events:
When an event of unusual and significant nature occurs at the site (examples: failure of negative pressure system, rupture of temporary enclosures), prepare and submit a special report listing chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. When such events are known or predictable in advance, advise Owner in advance at earliest possible date.
- D. Reporting Accidents:
Prepare and submit reports of significant accidents, at site and anywhere else work is in progress. Record and document data and actions; comply with industry standards. For this purpose, a significant accident is defined to include events where personal injury is sustained, or property loss of substance is sustained, or where the event posed a significant threat of loss or personal injury.
- E. Daily Logs and Journals:
During the work, Contractor shall maintain a daily log, which will be kept at the job site. Items to be included in the daily log shall include but are not limited to the following:
 - 1. Meetings; purpose, attendees, discussions, items of resolution (brief)
 - 2. Visitations; authorized and unauthorized
 - 3. Sign-in sheets of all personnel entering and leaving the work area
 - 5. Personal air monitoring results

1.06 PROJECT SUBMITTALS AND ON SITE DOCUMENTS

- A. Pre-Job Submittals:
Before the start of work, submit the following to the Owner's Representative for review. No work shall begin until these submittals have been approved by the Owner or Owner's representative.
 - 1. Work Plan that contains specific information related to site preparation and containment construction, asbestos abatement/removal procedures and hazardous waste handling, load-out and disposal procedures. The Work Plan must also include an Emergency Contingency Plan that, at a minimum, addresses procedures that shall be followed in the event of an accident, breach of containment, power failure, water leakage and fire.

2. Written Respiratory Protection Program that complies with OSHA requirements CCR Title 8, § 1529, CCR subchapter 7 § 5144, CFR 1926.1101 and ANSI Z88.2 -1980 "Practices for Respiratory Protection".
 3. Detailed schedule of work to be performed; schedule shall include abatement activities and dates.
 4. Waste Transportation and Active Asbestos Waste:
Submit copies of proof of all EPA, DOT, and DHS, licenses, registrations, and certifications for all hazardous waste haulers and active asbestos waste sites intended for use on this project. Provide the name, address, telephone number, contact for each vendor entity.
 5. Personnel Training:
Provide documentation that certifies the training qualifications of the qualified competent Person and all workers who will be assigned to this project. Personnel training for this project shall comply with the training requirements of 40 CFR Part 763 and CCR Title 8, § 1529.
 6. Employee Medical Examinations:
Provide proof of medical examination conducted within the last 12 months in compliance with OSHA regulations, CCR Title 8, § 1529 for each worker who will be assigned to this project.
 7. Notifications:
Provide documentation that the Contractor has obtained all applicable permits and made required notifications from/to all appropriate regulating agencies, including, but not limited to the CAL/OSHA temporary work-site notification and the BAAQMD NESHAPs notification, and any applicable local agencies.
 8. Licenses:
Submit copies of: valid California State contractors license, California State asbestos certification, DOSH registration and all State and Local licenses and permits necessary to carry out the work of this specification.
 9. Material Safety Data Sheets:
Submit the Material Safety Data Sheet, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for materials, chemicals, and supplies proposed for use during the work of this specification.
- B. Post-Job Submittals:
Upon completion of the project, the Contractor shall provide 2 copies of all project documentation to the Owner. Post-job submittals shall be provided for final acceptance of the work by the Owner prior to final payment to the Contractor and normal termination of the Contract. This project documentation should include, but is not limited to:
1. A complete record, certified by the testing laboratory, of all personal air monitoring results with 8-hour TWA data.
 2. All hazardous waste manifests and/or waste shipment records documenting the acceptance of all asbestos waste generated during the project from the designated land fill. The contractor must provide documentation that the designated land fill has been made aware that the materials disposed at it's site contains asbestos.

3. All field documentation including daily logs, journals, visitors log, HEPA challenge test results, special report, etc.
 6. Any and all documents delivered with the pre-job submittal package that that were updated, altered or amended in any way during the project.
 7. Employee training, fit test, and medical certificates for any and all personnel who performed work on the project whose certificates were not provided in the pre-job submittal package.
- C. On-Site Records
- The following records shall be maintained on-site and available for review throughout the entire course of the Work:
1. All pre-job submittal list above.
 2. Personal air monitoring results, including 30 minute excursion sampling results and calculated 8 hour TWA exposures for Contractor employees
 3. Work Area entry/exit log for each day and each shift of the Work
 6. Contractor's IIPP and Hazard Communication Programs
 7. Respiratory Protection Program
 8. Confined Space Entry Program (if applicable).
 9. The contractor will post in a visible place inside or directly outside (as is most convenient) of the clean room a copy of:
 - Emergency phone numbers.
 - Written work plan and Emergency Contingency Plan.
 - Required DOSH postings
 - Fire extinguisher locations and inspection data.

1.07 REFERENCE DOCUMENTS

- A. All work specified in this document shall conform to the following applicable codes, ordinances, rules, regulations, orders and standards. Where conflicting or overlapping requirements or specifications exist, the more stringent requirements shall apply.
- B. The Contractor shall assume full responsibility and liability for the compliance with all applicable Federal, State, and local regulations, standards and guidance documents pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and person occupying areas adjacent to the site.
- C. Laws and Regulations: Compliance is required with applicable federal, state, municipal, and local regulations, including but not limited to:
1. Federal laws and regulations:
 - 29 CFR 1910.1001 - Asbestos standard – general industry
 - 29 CFR 1926.1101 (not 1926.58) - Asbestos standard – construction industry
 - 29 CFR 1910.134 - Respiratory protection standard
 - 40 CFR Part 61, Subpart M - NESHAPS– asbestos emissions standard
 - 40 CFR Part 763 – AHERA - Asbestos in Schools Rule, identification & notification, 1982
 - PL 98-377 - Extends AHERA training for all asbestos work after 11/92

- 40 CFR Part 763 – AHERA, Asbestos in Schools Rule, final rule, 1987
 - Occupational Safety and Health Act, 29 USC 651 et seq.
 - Clean Air Act, 42 USC 7401 et seq.
 - Hazardous Materials Transportation Act, 49 USC 1801 et seq.
2. State of California laws and regulations:
- CCR Title 8, Section 5208 - Asbestos standard – general industry
 - CCR Title 8, Section 1529 - Asbestos standard – construction industry
 - Labor Code 9000 et. seq. - 1-time carcinogen user registration, any amount
 - Labor Code 6501.5 et. seq. - Annual contractor registration – asbestos work >100 sq ft
 - Labor Code 6501.9 - Obligation to inspect prior to activities that may release fibers
 - Health & safety Code 25359.7 - Owners (non-res.) duty to inform of hazardous. substance
 - Article 2.5, 341.9 - Contractor notification of each asbestos job
 - Injury Prevention Program - Includes asbestos hazard discussion
 - Article 2.6, 341.15 - Certification of each consultant and site-surveillance technician
 - B&P Code Section 7058.5 - Certification exam for contractors disturbing >100 sq ft asbestos
 - CSLB Open Book Asbestos Exam - All contractors, all trades
 - Cal/EPA – Hazardous waste disposal
 - Hazardous Substances Information and Training Act, Labor Code 6360 et seq.
 - Labor Code 6401.7, 6408, 6501.5 through 6501.9, 6503.5, 6505.5, 9021.5, 9030
 - CCR Title 8, Sections 340 through 342, 1531, 1509, 3202, 5144, 5156 through 5158, and 5194
 - Hazardous Waste Control Law, Health and Safety Code 25100 et seq.
 - Department of Toxic Substances Control (DTSC) including 22 CCR Div. 4.5 et seq.
 - Safe Drinking Water and Toxic Enforcement Act of 1986
 - Health & Safety Code 25249.5 et seq., including 22 CCR 12100 et seq.
3. All Applicable local laws and regulations including the local Air Quality Management District

D. Codes, Standards and Guidance Documents

1. National and State Fire Code, Electrical Code, Plumbing Code, Building Code, and other related codes where applicable.
2. ASTM - American Society for Testing and Materials
3. ANSI - American National Standards Institute
4. ULI - Underwriters Laboratories, Inc.

E. This Document if NOT a General Safety Plan:

This is an asbestos abatement specification only, general construction safety issues are not comprehensively addressed in the document. The contractor shall comply with all construction safety orders, rules, regulations, standards, and other project documents that apply this work, including but not limited to: general construction safety, electrical safety, fall protection, fire safety, ladder safety, etc.

1.08 CONSULTANT / OWNERS REPRESENTATIVE

At the Owner's option, ProTech Consulting and Engineering may act as The Consultant and will be the Owner's Representative to Perform the following:

- A. Have free access to all asbestos work areas.
- B. To assist in interpretation of procedures.

- C. To advise on all provisions of the contract documents pertaining to the control of asbestos.
- D. Advise client on work stoppage if a situation presenting a health hazard to workers or Owner's employees or occupants of the building is observed. The Consultant shall not have authority to stop work without the client's approval.
- E. To act as Owner's liaison in technical matters involving the asbestos-related work.
- F. To perform air sampling inside the asbestos work area during the project. The Contractor shall cooperate fully with Consultant, consultant's agents and employees, and ensure cooperation of his/her workers during collection of air samples and work area inspections.
- G. Consultant's role in advising the Owner on environmental health matters does not relieve the Contractor's obligation to comply with all applicable Federal, State, and local regulations, standards and guidance documents. Air monitoring results generated by Consultant shall not be used by the Contractor to represent compliance with regulatory agency requirements for monitoring of worker's exposure to airborne asbestos, nor shall any other activity on the part of Consultant represent the Contractor's compliance with applicable health and safety regulations.

PART 2 - MATERIALS AND EQUIPMENT

2.00 MATERIALS

- A. The Contractor shall provide all materials and equipment necessary to complete the Work in accordance with applicable regulations and this Specification. Equipment shall be free of asbestos-contamination resulting from use at previous job sites.
- B. Deliver all materials in original packages, containers, or bundles bearing the name of the manufacturer and the brand name.
- C. Store all materials subject to damage off the ground, away from wet or damp surfaces, and under cover sufficient to prevent damage of contamination. Damaged or deteriorating materials shall not be used and shall be removed from the premises. Materials that become contaminated shall be disposed of in accordance with this specification and applicable regulations.
- D. All enclosures shall be constructed of non-combustible materials. Rigid barriers, if applicable, shall have a minimum fire rating of 1 hour.
- E. The use of chemicals to remove asbestos-containing mastics or adhesives may not be a terpene based solvent.
- F. Ground Fault Circuit Interrupters shall be used on all equipment and temporary circuits.
- G. Electrical extension cords shall be of appropriate rigidity and gauge for intended use and shall have an operative ground prong.
- H. Electrical outlets and extension cords shall be provided by the Contractor for the purpose of air monitoring by the Owner or Owner's Representative. The Owner or Owner's Representative shall specify where the electrical outlets are needed, both inside and outside of the Regulated Area. Two electrical outlets shall be provided per designated area.
- I. Contractor shall have on-site at all times a minimum of one 2A, 10 B:C (or larger) fire extinguisher. For large work areas, Contractor shall provide one fire extinguisher per 10,000 sq. ft, and locate fire extinguishers no further than 75 feet apart, starting from decontamination area entry way. The fire extinguishers shall have been inspected and certified as operative within the past 12 months.
- J. The Contractor shall supply a fully stocked First Aid Kit in a visible place inside or directly outside (as is most convenient) of the clean room. The First Aid Kit shall remain on the job site at all times.
- K. Adhesive tape shall be capable of sealing joints of adjacent sheet of polyethylene and for use in attachment of polyethylene sheet to finished or unfinished surfaces of similar materials and shall be capable of adhering under dry and wet conditions, including use of amended water.
- L. Protective devices such as, but not limited to, disposable clothing, respirators, gloves, hard hats, etc. shall be used.
- M. Encapsulant materials shall be the bridging and penetrating type and conform with the following characteristics:

1. Encapsulants shall not be solvent-based or utilize a hydrocarbon in the liquid in which the solid parts of the encapsulant are suspended.
 2. Encapsulant shall not be flammable.
- N. Spray Cement: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.
- O. Polyethylene waste bags/containers shall be at least 6 mil's thick. All waste containers shall be leak-tight and bare appropriate labeling as required by this specification and/or applicable regulatory requirements.

2.01 TOOLS AND EQUIPMENT

- A. Provide suitable tools for removal of asbestos-containing materials and encapsulations of substrate as required.
- B. Provide sufficient number of HEPA-filtered vacuum cleaners equipped with pick-up adapters, steel floor wands, crevice tools, and carpet tools.
- C. Airless sprayers capable of spraying amended water shall be provided in sufficient number to allow continuous uninterrupted work.
- D. Asbestos filtration devices shall utilize high efficiency particulate air (HEPA) filtration systems.
- E. Transportation equipment, as required, shall be suitable for loading, temporary storage, and unloading of contaminated waste without exposure to persons or property, and shall be quiet in motion if used within the building.

PART 3 - EXECUTION

3.00 PROHIBITED ACTIVITIES

- A. The following work practices and engineering controls are prohibited and shall not be used under any circumstances:
1. High-speed abrasive disc saws that are not equipped at point of cut with HEPA filtered exhaust devices.
 2. Compressed air used to removed asbestos, unless the compressed air is used in conjunction with an enclosed HEPA filtered ventilation system designed to capture the dust cloud created by the compressed air.
 3. Dry sweeping, shoveling or other dry clean-up of dust and debris containing asbestos.
 4. Employee rotation as a means of reducing employee exposure to asbestos.
- B. Smoking, eating, drinking, applying cosmetics and chewing tobacco in regulated areas is prohibited. Hot work is prohibited unless authorized by Owner.

3.01 PERSONAL PROTECTION

- A. Because there is no known safe level of exposure to asbestos, it is prudent to reduce worker's exposure to as low a level as possible. Proper respiratory protection is critical in minimizing exposure. No worker shall be exposed to levels greater than 0.01 f/cc over an 8 hour time weighted average as determined by the protection factor of the respirator worn and the work area fiber concentration. In any event, respirator selection shall comply with the minimum requirements required by DOSH per CCR Title 8, § 1529. The following table has been included to aid in determining the proper level of respiratory protection.

Airborne concentration of fibrous dust	Required respirator
Not in excess of 1 f/cc (10 X PEL), or otherwise as required independent of exposure pursuant to (h)(2)(iv)	Half-mask air purifying respirator other than a disposable respirator, equipped with high efficiency filters.
Not in excess of 5 f/cc (50 X PEL)	Full facepiece air-purifying respirator equipped with high efficiency filters.
Not in excess of 10 f/cc (100 X PEL)	Any powered air-purifying respirator equipped with high efficiency filters or any supplied air respirator operated in continuous flow mode.
Not in excess of 100 f/cc (1,000 X PEL)	Full facepiece supplied air respirator operated in pressure demand mode.
Greater than 100 f/cc (1,000 X PEL) or unknown concentration	Full facepiece supplied air respirator operated in pressure demand mode, equipped with an auxiliary positive pressure self-contained breathing apparatus.

- B. The Contractor shall provide each employee with personally issued respirators equipped with high efficiency particulate filters. Respirators shall be approved by NIOSH to be worn in the designated work area and/or whenever a potential exposure to asbestos exists. A sufficient supply of filters shall be provided for replacement as required by the workers or applicable regulations. Disposable respirators shall not be used.

- C. The Contractor shall provide medical examinations for all employees who may encounter an airborne fiber level of 0.1 f/cc or greater for an eight-hour time-weighted average. In the absence of specific airborne fiber data, provide medical examinations for all workers who will enter the work area and who will be required to wear respiratory protection for reason. Examinations shall meet OSHA requirements as set forth in CCR Title 8, § 1529.
- D. The Contractor shall require that a respirator be worn by any person in any regulated work area. Respirators shall be worn at all times, regardless of activity until the area has been cleared for re-occupancy.
- E. During encapsulation operations or usage of other organic base aerosols (e.g., spray glue, expanding foam), workers shall be provided with combination cartridges consisting of organic vapor and HEPA section.
- F. The use of single-use, disposable, or quarter-face respirators for any purpose shall be prohibited.
- G. Fit Testing: Provide initial fitting of respiratory protection during a respiratory protection course of training as per CCR Title 8, § 1529. Fit the type(s) of respirator(s) to be actually worn by each individual. Allow an individual to use only those respirators for which he/she has been trained and fitted.
- H. Additional Protective Equipment:
 - 1. Coveralls: Provide disposable full-body coveralls and disposable head covers, and require that they be worn by all workers in the work area. Provide a sufficient number for all required changes, for all workers in the work area.
 - 2. Boots: Provide work boots with non-skid soles, for all workers. Provide boots at no cost to workers. Do not allow boots to be removed from the work area for any reason, after being contaminated with asbestos-containing material. Dispose of boots as asbestos contaminated waste at the end of the work.
 - 3. Goggles: Provide eye protective (goggles) as required by OSHA for all workers involved in scraping, spraying, or any other activity which may potentially cause eye injury.
 - 4. Gloves: Provide work gloves to all workers whose work may require protection of the hands and require that they be worn in the work area. Do not remove gloves from work area and dispose of as asbestos contaminated waste at the end of the work.
 - 5. Respirators, disposable coveralls, head covers, and footwear covers shall be provided by the contractor for the Owner, Owner's Representative, Project Administrator, and other authorized representatives who may inspect the job site. Provide two (2) respirators and six (6) complete coveralls and, where applicable, six (6) respirator filter changes per day.

3.02 AIR MONITORING

- A. Compliance Air Monitoring:
 - 1. Personal air monitoring "Exposure Monitoring". should be performed by the contractor as required to meet OSHA requirements as required by CCR Title 8, § 1529. Maintain an average airborne fiber counts within the regulated work area as follows:

Type of Work	Fiber Counts Standard
Work performed within a full negative pressure enclosure system.	0.5 fibers per cubic centimeter (f/cc) over an 8 hour Time Weighted Average (TWA)
Work performed in a regulated area but not in a full negative pressure enclosure system.	0.1 fibers per cubic centimeter (f/cc) over an 8 hour Time Weighted Average (TWA)
Work performed in open areas – glovebag removal, roof abatement, exterior siding removal, etc.	0.01 fibers per cubic centimeter (f/cc) over an 8 hour Time Weighted Average (TWA)

- 2.. The contractor shall maintain an average airborne fiber count inside of the abatement work area that does not exceed the standard specified above. If fiber counts rise above the standard for any sample taken, revise work procedures to lower fiber counts. If the time-weighted average (TWA) fiber count for any work shift or eight-hour period exceeds the standard, stop all work, leave negative air system in operation and notify Owner's Representative. Do not recommence work until authorization in given in writing by the Owner's Representative.

B. Environmental Air Monitoring:

- At the Owner's option, the Owner's representative will conduct environmental monitoring as the Owner's Representative and as the Owner's Air Sampling Specialist throughout the course of the project. The purpose of environmental (area) air monitoring by the Owner's Representative will be to detect faults in the work area isolation.
- If environmental air samples exceed 0.01 fibers/CC or are statistically higher than pre-abatement air samples, the Contractor shall:
 - * Immediately and automatically stop all work
 - Evacuate affected areas
 - Regulate and isolate affected areas
 - Decontaminate affected areas in accordance with this specification.
 - Leave critical barriers in place until final visual and air clearance is given.
 - Perform all such required cleaning or decontamination at no additional cost to the Owner.

C. Clearance Air Monitoring:

- Following visual clearance of work areas by the Owner's Representative, air sample will be taken to determine compliance with work area clearance standards. Work areas will be considered cleared when the following criterion are met:

	Air Sample Analysis - Type	Clearance Standard
a.	Transmission Electron Microscopy (TEM) collected under aggressive conditions.	less than 70 s/mm ²
b.	Phase Contrast Microscopy (PCM) collected under aggressive conditions.	less tan 0.01 f/cc
c.	No air samples required for open air work	N/A

2. The contractor may conduct his own air monitoring and laboratory testing if he elects to do so. The cost of such air monitoring and laboratory testing shall be at the contractor's expense.

3.03 SAFETY PROCEDURES FOR POWER AND LIGHTING

- A. The use of wet methods for removal, repair, encapsulation or cleaning procedures increases the potential for electrical shock when working around electrical panels, conduit, light fixtures, alarm systems, junction boxes, transformers, etc. In coordination with the Owner, de-energize as much electrical equipment as possible to prevent electrical shock to employees performing the work. The Contractor shall use the following precautions:
 1. Use non-conductive tools and vacuum attachments.
 2. Utilize "hot line" covers over energized cables and power lines when possible.
 3. Ensure all electrical equipment in use is properly grounded before the job starts. Check outlets, wiring, extension cords and power pickups.
 4. Avoid stringing wiring across floors. Elevate wiring if possible.
 5. Ensure electrical outlets are tightly sealed and taped to avoid water spray.
 6. Determine operating voltages of equipment and lines before working on or near energized parts.
 7. Energized parts must be insulated or guarded from employee contact and other conductive objects. Extension cords must be three-wire type and connected to a Ground Fault Interrupter (GFI) circuit.
 8. Lock or secure de-energized circuits at panel and post warning signs.

3.04 TEMPORARY FACILITIES

- A. Use qualified tradesmen for installation of temporary services and facilities. Locate temporary services and facilities where they will serve the entire project adequately and result in minimum interference with the performance of the work and operations of the building.
- B. Relocate, modify and extend services and facilities as required during the course of work so as to accommodate the entire work of the project. Provide new or used materials and equipment that are undamaged, clean and in serviceable condition. Provide only materials and equipment that are recognized as being suitable for the intended use, by compliance with appropriate standards.
 1. Electrical
Temporary electrical services (if required) shall comply with applicable NEMA, NECA and UL standards and governing regulations for materials and layout of temporary electric service. Provide receptacle outlets equipped with ground fault circuit interrupters, reset button and pilot light, for plug-in connection of power tools and equipment. Use only grounded extension cords; use "hard-service" cords where exposed to abrasion and traffic. Use single lengths or use waterproof connectors to connect separate lengths of electric cords, if single lengths will not reach areas of work.

2. Fire Protection
Contractor shall have on-site at all times a minimum of one 2A, 10 B:C (or larger) fire extinguisher. For large work areas, Contractor shall provide one fire extinguisher per 10,000 sq. ft, and locate fire extinguishers no further than 75 feet apart, starting from decontamination area entry way. The fire extinguishers shall have been inspected and certified as operative within the past 12 months.
3. General
At the completion of abatement work, clean all construction aids within the work area and/or wrap in one layer of 6 mil polyethylene sheet and seal before removal from the work area.

3.05 REGULATED WORK AREA – ACCESS CONTROL

- A. The area where asbestos abatement work takes place is considered an asbestos contaminated area. All asbestos work shall be conducted within a regulated area as follows:

1. Demarcation:
The regulated area shall be demarcated in any manner that minimizes the number of persons within the area and protects persons outside the area from exposure to airborne asbestos. Where critical barriers or negative pressure enclosures are used, they may demarcate the regulated area. Warning signs that demarcate the regulated area shall be provided and displayed at each regulated area. Signs shall be posted at such a distance from such a location that any person may read the signs and take necessary protective steps before entering the asbestos work area. Warning signs shall read as follows:

**DANGER ASBESTOS CANCER AND LUNG DISEASE HAZARD AUTHORIZED
PERSONNEL ONLY**

In addition, where the use of respirators and protective clothing is required in the regulated area, the warning signs shall include the following:

RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA

The contractor shall ensure that all persons working in and contiguous to regulated areas comprehend the warning signs. Means to ensure employee comprehension may include the use of foreign languages, pictographs and graphics.

2. Access:
Access to regulated areas shall be limited to authorized persons with proper training.
3. Respirators:
All persons entering a regulated area shall be supplied with an appropriate respirator.

- B. Visual Barrier:
Where the work area is immediately adjacent to or within view of the public, provide a visual barrier of opaque polyethylene sheeting at least 4 mil in thickness so that the work procedures are not visible to building occupants. Where this visual barrier would block natural light, substitute frosted sheet plastic in locations approved by the Owner's Representative.

- C. Physical Barrier and Public Access

1. Public access will need to be maintained. See additional information from client.
2. Where public or occupant areas are adjacent to the Regulated Area, the General Contractor shall **install fencing** on the public side of the Regulated Area to prevent access to non-authorized persons.
3. Physical barriers shall be constructed by qualified tradesmen and shall be engineered to ensure that the structural integrity of the barriers is sufficient to accommodate the work, protect the public, and protect workers.

3.06 WORK AREA PREPARATION

A. HVAC System

1. Where possible, disable Ventilating Systems or any other system bringing air into or out of the work area. Disable system by disconnecting wires, removing circuit breakers, by lockable switch or other positive means that will prevent accidental premature restarting of equipment.
2. Isolate the Heating Ventilating and Air Conditioning (HVAC) systems to prevent airflow into or out of the work area. Seal all openings to ducts, fans, louvers, plenums, etc. with two layers of 6-mil polyethylene sheeting and secure with duct tape. Shut down and isolate the HVAC system prior to the start of any asbestos disturbance work. Contractor shall repair any damage to duct work, grilles, dampers, louvers or other HVAC equipment at the completion of the work.

B. Pre-Cleaning

1. **General (non-asbestos) Pre-Cleaning**
Perform a general pre-cleaning of the entire work area prior to and following work areas set-up and containment so that it is generally free of non-asbestos trash, plastic, cardboard, debris, and gross amounts dust, etc. The work area shall be as clean as possible to give abatement workers an unencumbered working environment and limit the amount of asbestos waste to be disposed of.
2. All movable items of furnishings, equipment, etc., shall be secured in a clean uncontaminated room and covered with plastic sheeting. All non-movable items to be left in place shall be covered with 6 mil. polyethylene sheeting and sealed with duct tape.
3. **Asbestos Pre-Cleaning**
Pre-clean all surfaces that have been affected by asbestos dust, debris, fall-out or contamination. Pre-cleaning shall include HEPA vacuuming and wet wiping of all affected surfaces.

D. Containment system and engineering controls for ACM:

1. **Class 1 Material(s) – Surfacing materials & TSI and Class II Materials That May Exceed The PEL (Plaster, Drywall)**
 - a. **Negative Pressure Enclosure System (NPE):**
Class I asbestos removal shall be performed within a negative pressure enclosure system (NPE).
 - b. **Critical Barriers:**

Critical barriers shall be constructed by applying a double layer of 6 mil plastic sheeting, in an airtight fashion, over all penetrations into and out of the Regulated Area. Penetrations include, but are not limited to all doors, entry ways, openings, holes, penetrations, windows, vents, drains, etc.

c. Protective Barriers:

The regulated work area shall be protected by installing a double layer of 6 mil plastic sheeting, in an air tight fashion, over all work area surfaces not scheduled for abatement.

d. Drop Sheet:

A drop sheet of 4-6 mil plastic sheeting shall be used to protect all surfaces below and otherwise affected by the removal activity. Ensure that the drop sheet system covers the entire affected area so that all gross ACM debris is captured on the drop sheet system.

e. 3-Stage Decontamination Unit:

A **three stage decontamination unit** shall be connected to the NPE for personnel entry/exit of the Regulated Area and include an equipment room, shower area and clean room.

f. HEPA Air Filtration Devices (AFD):

Air filtration machines shall remain in operation 24-hours a day until final clearance of the work area has been achieved.

- A sufficient number of HEPA filtered air machines shall be installed within the NPE to maintain a pressure differential of **minus 0.03** column inches of water across the containment barriers at all times.
- A sufficient number of HEPA air filtration machines shall be installed within the Regulated Area so that the actual operating capacity of the units provides a minimum of 4 air changes per hour.
- A manometer shall be installed to continuously monitor pressure differential inside the Work Area. Air machines shall remain in operation 24 hours a day until final clearance of the Work Area has been achieved.

G. View Ports/Windows:

Transparent view ports shall be installed at locations and of sufficient number to view all of the abatement activities within the Regulated Area

2. Class 2 Material(s) – All other ACBM

Resilient Flooring Materials

a. Critical barriers:

Critical barriers shall be constructed by applying a single layer of 6 mil plastic sheeting, in an airtight fashion over all penetrations into and out of the regulated area. Penetrations include, but are not limited to all doors, entry ways, openings, holes, penetrations, windows, vents, drains, etc.

b. HEPA Air Filtration Devices (AFD):

Air filtration machines shall remain in operation 24-hours a day until final clearance of the work area has been achieved.

- A sufficient number of HEPA air filtration machines shall be installed within the Regulated Area so that the actual operating capacity of the units provides a minimum of 4 air changes per hour.
- Air machines shall be placed in a configuration, which allows ventilation of the **Regulated Area** and movement of contaminated air away from the breathing zone of abatement workers. Air machine exhaust shall be directed outside of buildings and away from occupied areas. Exact location(s) of air machine exhaust shall be arranged between Owner or Owner's Representative and Contractor prior to start of work.
- The Contractor shall provide enough HEPA air filtration units to maintain a pressure differential of **minus 0.03** column inches of water across the containment barriers at all times.
- A manometer shall be installed to continuously monitor pressure differential inside the Work Area. Air machines shall remain in operation 24 hours a day until final clearance of the Work Area has been achieved.

c. Wall Protection:

A single layer of 6 mil plastic sheeting shall be installed on work area walls at or near the affected removal area. The plastic shall extend from the flooring & wall interface up the wall a minimum 3 feet. The bottom edge (at the floor) of the plastic shall be completely sealed with duct or masking tape.

d. Protection of Components:

Components, doors, equipment and/or other items that have surfaces exposed to asbestos work shall be protected with 6 mil plastic and sealed with duct tape (or equivalent) during removal.

e. Decontamination:

An **equipment room** shall be connected to the regulated area for personnel entry/exit of the Regulated Area.

OR

A **decontamination area** shall be connected to the regulated area for personnel entry/exit of the Regulated Area.

Other Class II Low Exposure Materials

a. Critical barriers:

Critical barriers shall be constructed by applying a single layer of 6 mil plastic sheeting, in an airtight fashion over all penetrations into and out of the regulated area. Penetrations include, but are not limited to all doors, entry ways, openings, holes, penetrations, windows, vents, drains, etc.

b. Containment:

A layer of 6 mil plastic sheeting shall be installed directly beneath the work to be performed and shall be of sufficient dimensions to capture all debris generated as a result of the work.

c. Protection of Components:

Components, doors, equipment and/or other items that have surfaces exposed to asbestos work shall be protected with 6 mil plastic and sealed with duct tape (or equivalent) during removal.

d. HEPA Air Filtration Devices (AFD):

Air filtration machines shall remain in operation 24-hours a day until final clearance of the work area has been achieved.

- A sufficient number of HEPA air filtration machines shall be installed within the Regulated Area so that the actual operating capacity of the units provides a minimum of 4 air changes per hour.
- Air machines shall be placed in a configuration, which allows ventilation of the Regulated Area and movement of contaminated air away from the breathing zone of abatement workers. Air machine exhaust shall be directed outside of buildings and away from occupied areas. Exact location(s) of air machine exhaust shall be arranged between Owner or Owner's Representative and Contractor prior to start of work.
- The Contractor shall provide enough HEPA air filtration units to maintain a pressure differential of **minus 0.03** column inches of water across the containment barriers at all times.
- A manometer shall be installed to continuously monitor pressure differential inside the Work Area. Air machines shall remain in operation 24 hours a day until final clearance of the Work Area has been achieved.

e. Decontamination:

An **equipment room** shall be connected to the regulated area for personnel entry/exit of the Regulated Area.

OR

A **decontamination area** shall be connected to the regulated area for personnel entry/exit of the Regulated Area.

Other Class II Component (In Intact) Removal and/or Out Door Removal

a. Critical barriers:

Critical barriers shall be constructed by applying a double layer of 6 mil plastic sheeting, in an airtight fashion, over all openings within, and proximate to, the Regulated Area. Critical barrier locations include but are not limited to: HVAC air intakes, vents, holes, penetrations, etc.

b. Containment:

A single layer of 6 mil plastic sheeting shall be installed directly beneath the work to be performed and shall be of sufficient dimensions to capture all debris generated as a result of the work.

c. Protection of Components:

The bottom half of all affected doors, components, equipment and/or other items that have surfaces exposed to asbestos work shall be completely sealed with 6 mil plastic and sealed with duct tape (or equivalent) during removal.

d. Intact Removal:

To the greatest extent possible, ACM containing components shall be removed intact without disturbing the asbestos. If for any reason intact removal is not possible and ACM will be significantly disturbed, stop all work until an alternative plan is approved by the Owner's representative.

e. HEPA Air Filtration Units:

Air filtration machines shall remain in operation 24-hours a day until final clearance of the work area has been achieved.

- A sufficient number of HEPA air filtration machines shall be installed within the Regulated Area so that the actual operating capacity of the units provides a minimum of 4 air changes per hour.
- Air machines shall be placed in a configuration, which allows ventilation of the Regulated Area and movement of contaminated air away from the breathing zone of abatement workers. Air machine exhaust shall be directed outside of buildings and away from occupied areas. Exact location(s) of air machine exhaust shall be arranged between Owner or Owner's Representative and Contractor prior to start of work.
- The Contractor shall provide enough HEPA air filtration units to maintain a pressure differential of **minus 0.03** column inches of water across the containment barriers at all times.
- A manometer shall be installed to continuously monitor pressure differential inside the Work Area. Air machines shall remain in operation 24 hours a day until final clearance of the Work Area has been achieved.

f. Decontamination:

An equipment room shall be connected to the regulated area for personnel entry/exit of the Regulated Area.

Roofing Materials

a. Critical barriers:

Critical barriers shall be constructed by applying a double layer of 6 mil plastic sheeting, in an airtight fashion, over all openings within, and proximate to, the Regulated Area including but not limited to: HVAC air intakes, vents, and penetrations.

b. Prompt Clean-up:

Any debris generated during removal shall be promptly cleaned-up and packaged in leak-tight containers.

c. Control ACM Waste:

Asbestos-containing material that has been removed shall NOT be dropped or thrown to the ground. Unless the material is carried or passed to the ground by hand, it shall be lowered to the ground via crane; hoist; or covered, dust-tight chute utilizing negative air and HEPA equipment:

d. Non-Intact Waste:

Any ACM that is not intact shall be lowered to the ground as soon as is practicable, but in any event no later than the end of the work shift. While the material remains on the roof it shall either be kept wet, placed in an impermeable waste bag, or wrapped in plastic sheeting.

e. Waste Handling:

Upon being lowered, unwrapped material shall be transferred to a closed receptacle in such manner so as to preclude the dispersion of dust or debris outside the Regulated Area.

f. Decontamination:

A Decontamination Area shall be located adjacent to the Regulated Area for personnel entry/exit.

3.07 HEPA AIR FILTRATION DEVICES (AFDs)

- A. All Vacuums and air filtration devices (AFD) shall be equipped with HEPA filters.
- B. HEPA filtered AFD(s) shall be operated and maintained in accordance with the manufacturers specifications and guidelines. Proper operation shall include appropriate use and maintenance of the two stage pre-filter and primary HEPA filtration system.
- C. AFD exhaust shall be located so that makeup air enters work area primarily through decontamination facilities and traverses work area as much as possible.
- D. To the extent feasible, vent all AFD exhaust to the outside of building. The Contractor shall ensure that AFD exhaust does not spill directly into occupied areas.
- E. Start operation of HEPA AFD fan units before beginning work (before any asbestos containing material is disturbed). No work involving the removal or disturbance of asbestos shall commence until the specified negative pressure level is met and maintained for a period of **two (2)** hours.
- F. After abatement work has begun, run AFD units continuously to maintain a constant negative pressure until decontamination of the work area is complete. Do not turn off units at the end of the work shift or when abatement operations temporarily stop. Do not shut down pressured differential air system during encapsulating procedures, unless authorized by the Consultant in writing.
- G. Prior to final air testing, remove pre-filter and wipe out inside lip of HEPA filtered fan unit.
- H. When a final inspection and the results of final air tests indicate that the area has been decontaminated, exhaust units may be removed from the work area. Before removal from the work area, remove and properly dispose of pre-filter, and seal intake to the machine with 6 mil polyethylene to prevent environmental contamination from the filters.
- I. Prior to use, each filter shall be individually tested **on site** and certified to have an efficiency of not less than 99.97% when challenged with a 0.3 μ m polydispersed aerosol agent. Testing shall be performed as prescribed in ASME N510-1989, Section 10 or an equivalent accepted industry standard. The HEPA filter and its assembly will be acceptable if the percent leakage is equal to or less than 0.03%. If the in-place leakage exceeds 0.03% or other specified value and cannot be adjusted by correcting the sealing clamps, the HEPA filter shall promptly be replaced.

3.08 ASBESTOS ABATEMENT

- A. The Contractor shall:
 - 1. Clearly mark and label all emergency exits located within the Regulated Area. Emergency exits shall be kept free of obstructions at all times. A razor knife or other cutting tool shall be posted in the vicinity of each emergency exit located within the Regulated Area and used to facilitate quick exit of the Work Area in an emergency situation.
 - 2. Receive authorization from the Owner or Owner's Representative prior to initiating any asbestos removal activity. Owner or Owner's Representative shall conduct a pre-abatement inspection to ensure compliance with the Specification prior to authorizing start of any asbestos removal activities.

3. Inspect the integrity of all Regulated Area barriers and smoke test for leaks at the beginning of each shift. Any detected leaks shall be sealed prior to start of work.
4. Maintain a log of all personnel entering the Regulated Area. The Contractor shall not allow any person to enter the Regulated Area without prior approval of Owner or Owner's Representative. This includes Contractor employees newly assigned to the job site.
5. Provide authorized visitors with protective clothing, whenever they are required to enter the Regulated Area.
6. Ensure that each worker and authorized visitor shall follow the approved procedures established by the Contractor and the Owner.
7. Perform all work regardless of exposure using:
 - a. HEPA vacuum cleaners
 - b. wet methods
 - c. Prompt clean-up and disposal of asbestos in leak-tight containers
8. Remove all existing asbestos-containing building materials as identified in the project scope of work as follows:
 - a. Construct, install, and otherwise secure all barriers in such a manner that will ensure that they remain intact and serviceable throughout the duration of the project. All abatement work shall be halted in the event of any barrier breach. Breaches shall be immediately corrected/repared and no work shall recommence until approved by the Owner's representative.
 - b. Adequately wet asbestos- containing materials to be removed prior to stripping and/or tooling to reduce fiber dispersal into the air. Accomplish wetting by a fine spray (mist) of amended water or removal encapsulant.
 - c. Saturate material sufficiently to wet to the substrate without causing excess dripping. Allow time for water or removal encapsulant to penetrate material thoroughly.
 - d. Spray material repeatedly during the work process to maintain a continuously wet condition.
 - e. Mist work area continuously with amended water whenever necessary to reduce airborne fiber levels.
 - f. Waste shall be packaged prior to each break and at the end of each shift. If applicable, Contractor shall make arrangements with Owner to store ACM waste in a secured area until waste can be removed from the job site.
 - g. Contractor shall not drop or throw Asbestos-containing material to the ground from high elevations. ACM packaging that could potentially break, spit, puncture, etc. shall be carried or passed to the ground by hand, hoist, or crane.
 - h. Unwrapped ACM that is nonfriable and completely intact may be transferred to a closed receptacle in such manner so as to preclude the dispersion of any dust outside the Regulated Area.

9. Ensure that the level of respiratory protection worn by Contractor's employees is adequate to protect the employees from exposure to airborne asbestos fibers above the Permissible Exposure Limits.
10. Ensure airborne asbestos fiber levels inside the Work Area do not exceed a ceiling limit of 1 fiber per cubic centimeter (f/cc), as determined by personal or area air sampling, regardless of the level of respiratory protection worn by Contractors employees. If this level is exceeded, Contractor shall take immediate action to reduce airborne fiber concentrations. If this level is exceeded for 2 consecutive shifts, the Contractor shall cease asbestos removal operations and perform necessary clean-up to reduce the airborne asbestos fiber level to below 0.2 f/cc as indicated by subsequent air samplings.
11. Conduct personal exposure monitoring and provide monitoring results within 24 hours after samples are collected to Owner or Owner's Representative.
12. Notify Owner or Owner's representative immediately in the event of a breach of the containment barrier or spill of ACM outside of the Regulated Area. Take protective measures to ensure occupants adjacent to the spill or breach are not exposed to asbestos.
13. In the event of a breach of the containment barrier or spill of ACM outside of the Regulated Area, immediately stop work, repair the breach and clean-up the spilled material using wet methods and HEPA vacuuming.
14. In the event that a non-work area becomes contaminated with asbestos, the Contractor shall immediately and automatically stop all work. If the contaminated area is inside the building and outside of critical barriers, the Contractor shall erect new critical barriers to isolate the affected area from the balance of the building. Erect Critical Barriers at the next existing structural isolation of the involved space (e.g. wall, ceiling, floor, etc.). Decontaminate the affected area in accordance with this specification. Leave critical barriers in place until final visual and air clearance is given.
15. That Contractor shall perform all required cleaning and/or decontamination at no additional cost to the Owner.
16. Shall not encapsulate abated surfaces until the work area has passed final inspection as determined by the Owner or Owner's Representative.

3.09 DECONTAMINATION FACILITIES (entering & exiting the regulated area)

- A. The Contractor shall ensure that all authorized personnel enter and exit the regulated area through the Decontamination Facility.
- B. Decontamination facilities shall be provided at all location(s) where workers enter or exit the work area. These facilities will be placed at the most strategic location(s) to allow easy access and usage while maintaining the ability to secure the building during non working hours.
- C. Decontamination facilities must be of sufficient size as to accommodate cleaning of all affected items and personnel.
- D. All items and personnel that enter the Regulated Area must exit through the decontamination facility. Affected items/personnel including tools, equipment, supplies, personal protective equipment, packaged waste, personnel, etc. shall be cleaned before

exiting the decontamination facility so that contamination cannot be spread beyond the Regulated Area.

E. The employer shall ensure that employees enter and exit the regulated area through the equipment room or area.

F. Where specified, the Contractor shall decontamination facilities as follows:

1. 3-Stage Decontamination Facility

a. The decontamination unit will consist of at least a clean room, a shower room, and an equipment room in series. Each room shall be constructed of materials that are leak-tight and air-tight. Each room shall be connected in succession separated by 6 mil polyethylene air locks. Access between any two rooms in the decontamination unit shall be through air locks with at least 3 feet separating each curtained door way. The decontamination facility shall be sealed to the critical barrier system of the Regulated Area.

- Clean Room: The clean room will be sized to accommodate the size of the work crew. If lockers are not available storage of the workers personal equipment and street clothing, the contractor may use plastic bags. Do not allow shower overflow water in the clean room. Wet wipe and HEPA-Vac clean room surfaces after each shift and as needed to maintain clean and dry area.

- Shower Room: The shower room shall be constructed with a minimum of a single shower or what ever is adequate for the size of the work crew. Each shower head shall be supplied with hot and cold water. The shower shall be constructed to prevent leakage.

- Install a totally submersible waterproof sump pump with a integral float switch inside the collection water pan. Provide sump pump size to pump twice the flow capacity of all showers or hoses supplying the water to the sump. Install a sump capable of pumping debris, sand, plaster or other materials that may wash off during decontamination procedures.

- The contractor must install a filtering system for removing contaminants from the drained water. The system must have as a two stage cascading filtering system capable of filtering down to **5 µm or smaller**. Filtered water may then be disposed of into the sanitary sewer.

- The contractor shall maintain a supply of filters for the filtering system. The filters will be changed as often as needed to prevent the system from clogging.

- Equipment/Dirty Room: The equipment room will be used for storage of tools and equipment. Workers will remove dirty protective clothing in this space.

b. Require all workers to adhere to the following personal decontamination procedures whenever they leave the work area. Waste and equipment leaving the abatement area must also be decontaminated in the same manner. Upon entering the asbestos abatement project, **remove street cloths** in the clean change room and put on a respirator and clean protective clothing before

entering the equipment room or work area. Before exiting the work area, the following procedures are required;

- Remove gross contamination from clothing.
- Proceed to the equipment room and remove all clothing except the respirator.
- Deposit contaminated clothing in labeled disposal container.
- Still wearing the respirator, proceed naked to the shower and clean the outside of the respirator with soap and water while showering.
- Remove respirator.
- Thoroughly wash and shampoo hair and body.
- Remove filters from respirator, if breathing has become restricted or as often as the user feels is needful. Dispose of the filter elements in the container supplied for this purpose.
- Wash and rinse the inside of the respirator.
- Following showering and drying off, proceed directly to the clean change room and put on street clothes
- Contaminated footwear shall be stored in the equipment room or disposed of as contaminated waste or cleaned thoroughly inside and out using soap and water before removing from the shower area.

2. Equipment Room Decontamination Facility

- a. The equipment room shall be constructed of materials that are leak-tight. Access into and out of the Equipment Room shall be through air locks with at least 3 feet separating each curtained door way.
- b. The equipment room shall be contiguous to the Regulated Area and shall be located where workers enter or exit the work area. The decontamination facility will be placed at the most strategic location(s) to allow easy access and usage for personnel and shall be capable of withstanding crew usage without deterioration for the entire duration of the project; PPE; tools and equipment. The equipment room shall be sealed to the critical barrier system of the Regulated Area.
- c. The equipment room shall be equipped so that each crew member has access to a clean source of water for clean-up & decontamination (a bucket of water for shared uses **shall not** be permitted); clean, dry towels, HEPA equipped vacuum cleaner; storage area for workers street clothing.
- d. Contractor shall keep the equipment room clean and dry. Damp wipe and HEPA vacuum all surfaces throughout the shift and as needed and at the end each shift.
- e. Require all workers to adhere to the following personal decontamination procedures whenever they leave the Regulated Area. Upon entering the asbestos abatement project, **remove street cloths** in a clean change room, don

required respiratory protection and clean protective clothing. Before exiting the work area, the following procedures are required:

- Remove gross contamination from clothing via HEPA vacuum.
- Deposit contaminated clothing in labeled disposal container.
- Still wearing the respirator clean the outside of the respirator and body with clean water.
- Remove respirator and wash face with clean water.
- Remove filters from respirator, if breathing has becomes restricted or as often as the user feels is needful. Dispose of the filter elements in the container supplied for this purpose.
- Wash and rinse the inside of the respirator.
- Drying off and put on street cloths.

3. Decontamination Area

- a. The Contractor shall establish a decontamination area that is adjacent to the Regulated Area for the decontamination of personnel and all equipment, tools, supplies, packaged waste, etc.
- b. The decontamination area shall consist of an area covered by impermeable drop cloth on the floor or horizontal working surface.
- c. Before removal protective clothing, personnel shall clean clothing with a HEPA vacuum in the decontamination area.
- d. The equipment room shall be equipped so that each crew member has access to a clean source of water for clean-up & decontamination (a bucket of water for shared uses **shall not** be permitted); clean, dry towels, HEPA equipped vacuum cleaner; storage area for workers street clothing.

3.10 PACKAGING, LABELING, AND DISPOSAL OF ASBESTOS WASTE

- A. It is the responsibility of the Contractor to comply with all current Federal, State and local regulations concerning the waste handling, transportation, and disposal of ACM/ACCM.
- B. Asbestos Waste Packaging
 1. All ACM/ACCM and ACM/ACCM-contaminated materials, supplies, clothing, debris, etc. shall adequately wetted and be placed into leak-proof disposal containers.
 2. Personal protective equipment (PPE) i.e. suites/coveralls, respirator cartridges, etc. shall be packaged, labeled, and disposed of with the asbestos removed during use of the PPE.
 3. All friable and non-friable asbestos waste shall be thoroughly wetted with amended water and placed in a **clear, 6 mil pre-labeled asbestos waste bag, goosenecked and sealed with duct tape. The bag shall then be placed into another 6 mil pre-labeled asbestos waste bag, also goosenecked and taped.** Labeling shall conform to Title 8, CCR, Section 1529.

5. **Solvent used to removal ACM (i.e. ACM mastic)** shall not be combined with other asbestos-containing waste. Contractor shall ensure that drummed mastic solvent waste contains no free-standing liquid.

C. Labeling

1. Asbestos disposal containers to be labeled as follows:
 - a. All ACM containing waste shall be labeled:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

- b. In addition, all Hazardous ACM waste shall include the following labels:

HAZARDOUS WASTE
STATE AND FEDERAL LAW
PROHIBITS IMPROPER DISPOSAL
IF FOUND, CONTACT THE NEAREST
POLICE OR PUBLIC SAFETY
AUTHORITY OR THE CALIFORNIA
DEPARTMENT OF
TOXIC SUBSTANCE CONTROL

Generator's Name
Address
Manifest No.

RQ, Asbestos, 9, NA2212, III

Cal/EPA & DOT Diamond Label

D. Disposal

1. Obtain any required permits and provide any required notices to the appropriate federal, state and local EPA agencies.
2. Waste manifest forms and/or waste shipment records shall be provided by the Contractor and include all information required by law.
3. Carefully load containerized waste on sealed trucks or other appropriate vehicles for transport. Exercise care before and during transport, to insure that no unauthorized persons have access to the material. Take bags from the work area directly to a sealed truck or dumpster
4. Asbestos-containing hazardous waste materials shall be transported in a completely enclosed shipping container, open truck beds with tarpoline covers are not allowed unless first loaded in sealed drums. Double bagged material may be transported on open trucks if they are loaded in sealed drums. Label drums with same warning labels as bags. Uncontaminated drums may be reused. Treat drums that have been contaminated as asbestos-containing waste and dispose of in accordance with

this specification. If the waste shipment consists of non-friable, non-hazardous waste only, the materials may be transported to other than Class II waste sites.

5. Advise the sanitary landfill operator at least twenty-four hours in advance of transport of the quantity of friable and non-friable asbestos material to be delivered.
6. Waste water from wet stripping, shower room, and worker and equipment decontamination systems shall be filtered through a filtration treatment system capable of removing all particles 5 microns or greater in size before it is discharged into the sanitary sewer system.
7. At the burial site sealed plastic bags may be carefully dumped from the truck. If bags are broken or damaged leave bags of ACM waste in the truck and clean entire truck and contents using procedures set forth earlier in these documents.
8. Submit copies of all manifests, waste shipment records, and landfill receipts to Owner.

3.11 PROJECT DECONTAMINATION

- A. Work of This Section includes the decontamination of the Regulated Area which may have become contaminated during abatement activities or which may previously have had elevated asbestos fiber counts. Decontamination includes all work area surfaces, equipment, the air within the regulated area and any other affected areas.
 1. Carry out a final cleaning of all surfaces within the abatement work area including items of tools, equipment, supplies, ladders, scaffolding, hoses, cords, staging equipment, etc. Use of damp cleaning methods and mopping, and a High Efficiency Particulate Air (HEPA) Filtered vacuum shall be used.
 2. Do not perform dry dusting or dry sweeping.
 3. Use each surface of a cleaning cloth one time only and then dispose of as contaminated waste.
 4. Remove unneeded tools and equipment from the abatement work area via the decontamination unit. Ensure that all equipment leaving the work area has been decontaminated and wrapped in 6 mil plastic sheeting.
- B. Following a visual inspection by the Owner's representative perform encapsulation of the abatement area. Apply encapsulant using an airless sprayer in accordance with the manufacturers recommendations. Apply encapsulant liberally over the abated surfaces sufficient to completely cover all areas affected by the work.
- C. Maintain negative air pressure for 24 hours to allow negative air machines to clean air of airborne asbestos fibers. Before final air monitoring remove pre-filters and wipe out inside lip of HEPA filtered fan unit.

3.12 FINAL CLEARANCE

- A. The Owners Representative shall conduct a final inspection of the work area upon completion of all abatement and clean-up tasks. The contractor shall notify the Owner or Owner's Representative at least 24 hours in advance of the project completion.
- B. The Contractor shall not encapsulate abated surfaces until the work area has passed final inspection as determined by the Owner's representative. The Owner's

Representative shall inspect work area surfaces for asbestos residue and debris. If any such debris, residue, dust or other matter is found repeat final cleaning and continue decontamination procedure at no additional cost to the owner.

- C. Following successful completion of final inspection, the Contractor shall apply an encapsulating agent to all abated surfaces. The Owner's Representative will not conduct final air clearance sampling until the encapsulating agent is completely dry.
- D. The Owner's Representative shall conduct aggressive final air clearance as specified and notify the Contractor of results in a timely fashion. In the event that air clearance is not achieved, the Contractor shall re-clean and re-encapsulate the work areas prior to final clearance retake. All costs and fees associated with re-cleaning and re-testing of the work area will be paid by the Contractor.
- E. Upon successful completion of final air clearance, as determined by the Owner's Representative, the Contractor shall remove all remaining equipment and plastic sheeting from the work area and restore the abatement work areas and all affected areas to pre-abatement conditions. Any small quantities of residual material found upon removal of the plastic sheeting shall be removed with a HEPA filtered vacuum cleaner and local area protection. If significant quantities, as determined by the Owner's Representative, are found then the entire area affected shall be decontaminated as specified herein.

3.13 GENERAL WORK AREA CLEAN UP

- A. Provide final cleaning of the Work at the time authorized by Owner's Representative. Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit of work to the condition expected from a normal, commercial building cleaning and maintenance program. Comply with the manufacturer's instructions for operations. Clean transparent material, affected by the work including mirrors and window/door glass, to a polished condition, removing substances which are noticeably vision-obscuring material. Replace broken glass and damaged transparent material.
- B. Clean exposed hard-surfaced finishes affected by the work, to a dirt free condition, free of dust, stains, films and similar distracting substances. Except as otherwise indicated, avoid disturbance of natural weathering of exterior surfaces. Restore reflective surfaces to original reflective condition.
- C. Clean plumbing fixtures affected by the work to a sanitary condition, free of stains including those resulting from water exposure.
- D. Clean light fixtures and lamps which have been affected by the work so as to function with full efficiency. Replace lamps where inoperable, if applicable.
- E. Clean project site of litter and foreign substances left during the course of the work. Sweep paved areas that have been affected by the work to a broom clean condition; remove stains, petrochemical spills and other foreign deposits left by the work.
- F. Comply with safety standards and governing regulations for cleaning operations. Do not burn waste material at the site. Do not bury debris or excess material on the Owner's property. Do not discharge volatile or other harmful or dangerous material into drainage systems. Remove waste material from the site and dispose of in a lawful manner.

END OF SECTION

PROJECT DESCRIPTION

MODERNIZATION OF BUILDING H1 AND RELATED SITE WORK:

- 1) MODERNIZATION TO WEST WING ONLY. ALL INTERIOR FINISHES STRIPPED TO STUDS, RESTROOMS MADE ACCESSIBLE WITH NEW FIXTURES, NEW TEACHING WALLS IN EACH CLASSROOMS, NEW ELECTRICAL AND LIGHTING AND NEW MECHANICAL.

- 2) NEW DROP OFF AND COURT

- 3) BUILDING H1 AND H2 TO BE PAINTED

ADD 4 



Parkway Heights Middle School

SCALE: NTS

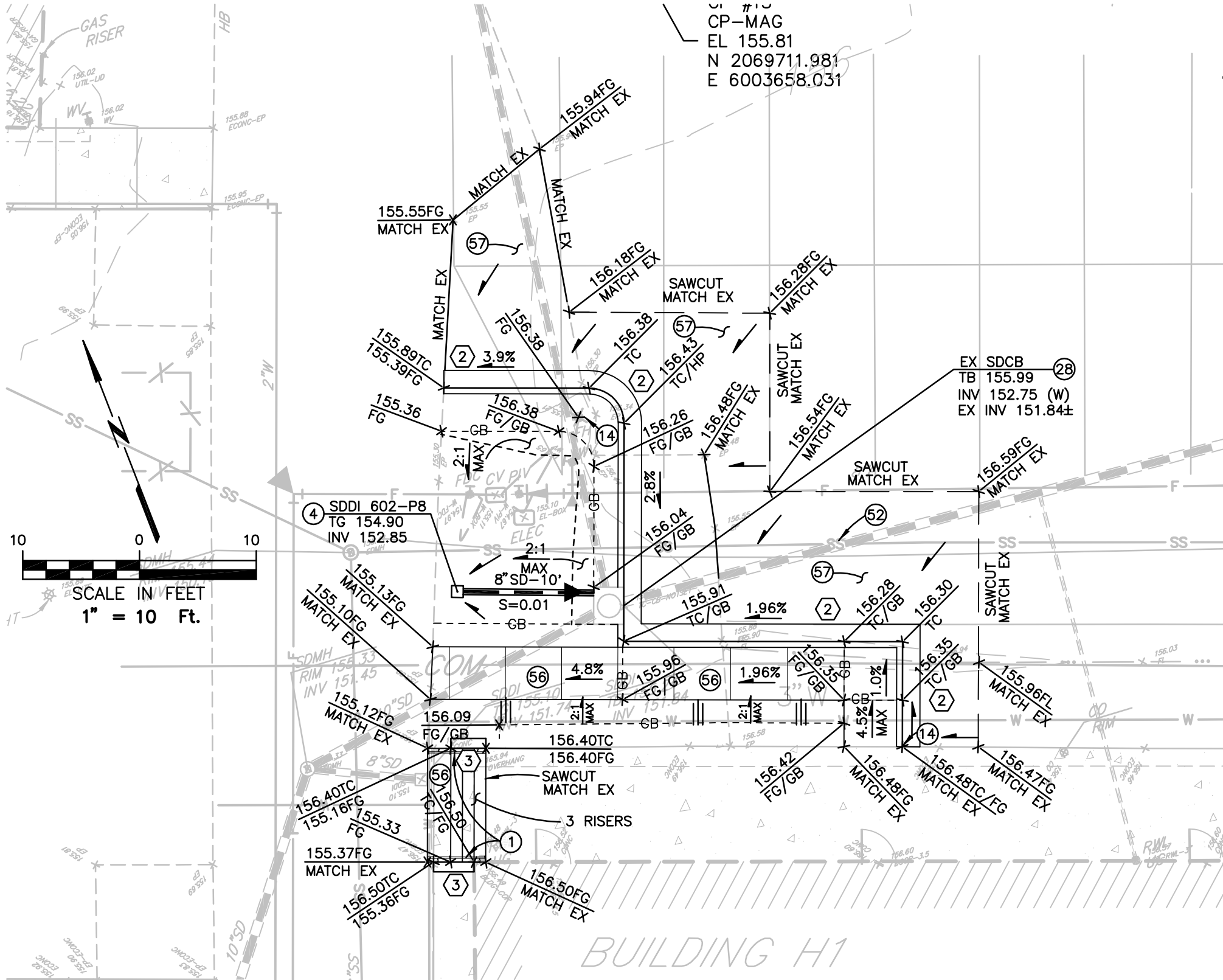
DATE: 3/19/18

REFERENCE DRAWING: G-0.2 ABBREVIATIONS, SHT INDEX
AND GENERAL NOTES

QKA JOB #: 1277.04
DSA APP. #: 01-116522
DSA FILE #: 41-28

ADD 4
04.01

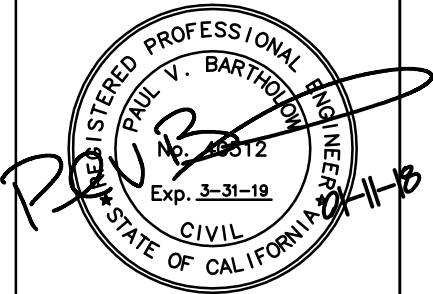
01-12-18 gleason \\3874\\dwg\\3874 05_3874.05-BASE-PHASE 2 Addendum 3.dwg/AB: ADD 3 SHEET 2



LEGEND

1 2 3 4 CURB TYPES PER DETAILS SHEET C8.1

CP-MAG
EL 155.81
N 2069711.981
E 6003658.031



DSA-ORS APPROVAL

UTILITY NOTES

(ONLY NOTES RELEVANT TO THIS SHEET ARE SHOWN)

- ① SEE LANDSCAPE DRAWINGS FOR STAIR HANDRAIL DETAILS.
- ④ GRADE AREA TO DRAIN TO STORM DRAIN INLET.
- ⑭ INSTALL 2' CURB TRANSITION PER DETAIL SHEET C8.1.
- ⑳ RAISE FIRE HYDRANT TO FINISHED GRADE WITH FLANGED DIP PIPE EXTENSION. SEE DETAIL SHEET C9.1 FOR DIMENSIONS.
- ㉔ RESET EXISTING STORM DRAIN CATCH BASIN TOP TO PROPOSED FINISHED GRADE.
- ㉔ EXISTING STORM DRAIN LINE AND STRUCTURES TO REMAIN. PROTECT IN PLACE, DO NOT DISTURB. PROTECT INLETS FROM SILT AND SOIL.
- ㉖ INSTALL CONCRETE SIDEWALK PER DETAIL THIS SHEET 1.
- ㉗ SAWCUT, REMOVE AND REPLACE EXISTING ASPHALT TO INSTALL NEW CONCRETE CURB AND GUTTER. NEW ASPHALT SECTION SHALL BE 0.21' THICK ASPHALT OVER 0.63' CLASS II BASE ROCK COMPACTED TO 95% RC, SCARIFY 8" DEEP, MOISTURE CONDITION AND RE COMPACT SOIL TO 95% RC.



Parkway Heights Middle School Modernization- Phase 2

South San Francisco Unified School District
398 B Street. South San Francisco, Cal. USA 94080

GRADING PLAN

REFERENCE DRAWING: C2.1

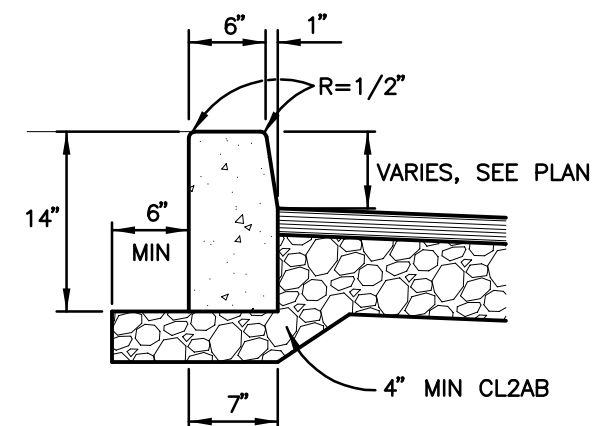
ADD 04
04.02

QKA JOB : 1277.04 DATE: 3/19/18

SHEET 2 OF 3



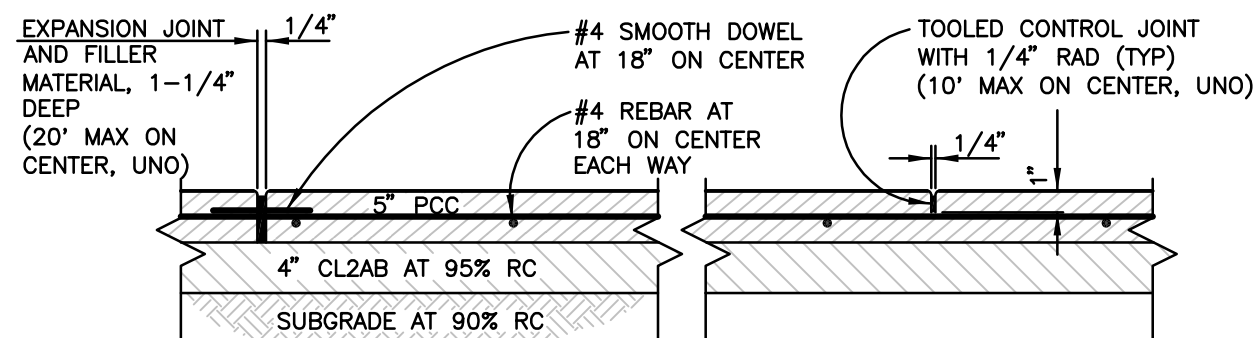
- (51) PROVIDE AND INSTALL PASSENGER DROP-OFF RAMP AND SIGN, PER DETAIL SHEET 2.
- (52) EXISTING STORM DRAIN LINE AND STRUCTURES TO REMAIN. PROTECT IN PLACE, DO NOT DISTURB. PROTECT INLETS FROM SILT AND SOIL.
- (53) SAWCUT, REMOVE AND REPLACE EXISTING ASPHALT TO INSTALL NEW CONCRETE CURB. NEW ASPHALT SECTION SHALL BE 0.25' THICK ASPHALT.
- (54) INSTALL CONCRETE SIDEWALK PER DETAIL THIS SHEET.
- (55) INSTALL TYPE 1 CONCRETE CURB PER DETAIL THIS SHEET.



TYPE 1 STANDARD VERTICAL CURB

CURB NOTES

1. CONTROL JOINT SHALL BE 1/8" WIDE x 1-1/2" DEEP IN CURBS AND 1/8" WIDE x 1" IN SIDEWALKS AND BE INSTALLED AT 15' O.C. MAX SPACING.
2. EXPANSION JOINT (60' O.C. MAX SPACING EACH WAY UNLESS NOTED OTHERWISE ON PLAN)
3. MATERIAL FOR EXPANSION JOINT SHALL BE 1/4" THICK PREMOLDED JOINT FILLER AND SHALL EXTEND THROUGH THE FULL THICKNESS OF CONCRETE.
4. EXPANSION JOINTS SHALL BE INSTALLED IN CURB AND GUTTER AT ALL CURB RETURNS AND GUTTER AT ALL CURB RETURNS. AND AT EACH SIDE OF STRUCTURES. THE EXPANSION JOINTS REQUIRED AT 60' INTERVALS MAY BE REPLACED WITH CONTROL JOINTS IF CURB AND GUTTER ARE PLACED WITH AN EXTRUSION MACHINE.

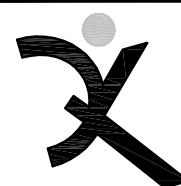


NOTES

1. SCORE MARKS SHALL BE THE SAME WIDTH OF THE SIDEWALK. SCORE MARKS FOR SIDEWALKS WIDER THAN 6' SHALL HAVE A LONGITUDINAL SCORE MARK ALONG THE CENTER OF THE WALK.
2. CONCRETE WALK SHOULD BE DOWELED INTO PROPOSED BUILDING FOUNDATIONS ADJACENT TO DOORWAYS AND INTO CURBS WITH #4 SMOOTH DOWEL @ 18" O.C.
3. EXPANSION JOINTS SHALL BE PLACED IN THE SIDEWALK AT THE SAME LOCATION AS THOSE IN THE CURB AND GUTTER WHEN THE SIDEWALK IS ADJACENT TO THE CURB.

PEDESTRIAN PCC WALK SECTION AND JOINT

NOT TO SCALE



QUATTROCCHI KWOK
ARCHITECTS

Parkway Heights Middle School Modernization- Phase 2

South San Francisco Unified School District

398 B Street, South San Francisco, Cal. USA 94080

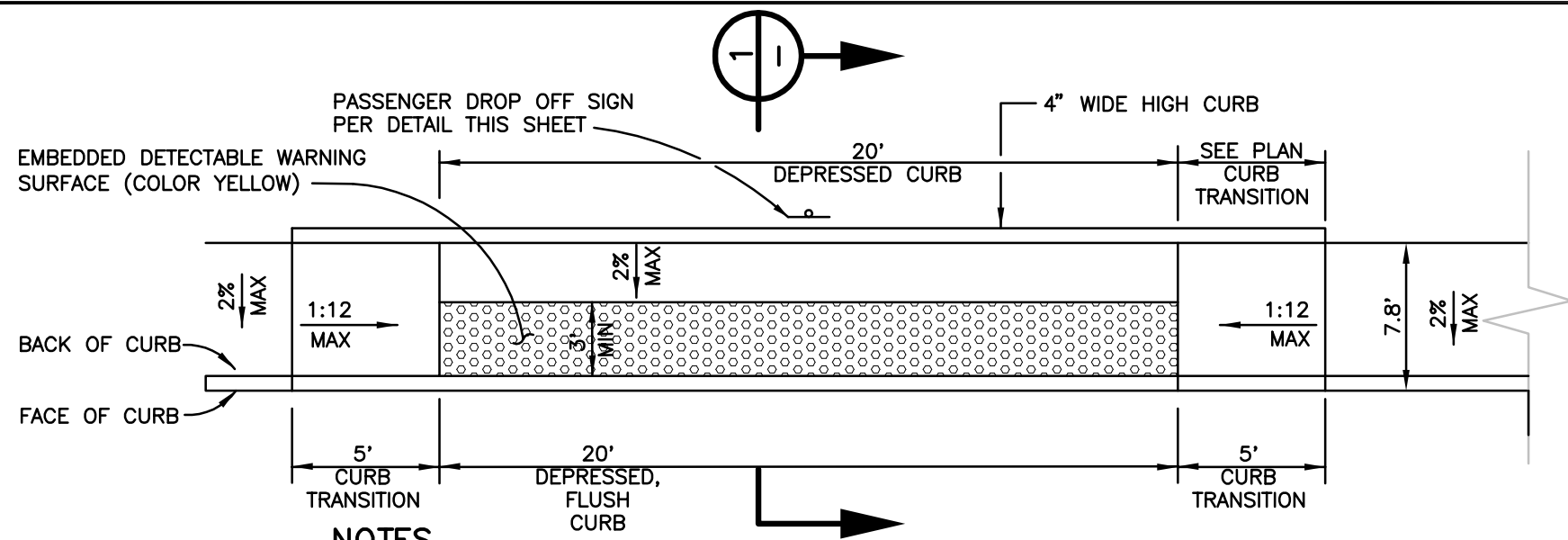
GRADING PLAN

REFERENCE DRAWING: C3.1

ADD 04
04.03

QKA JOB : 1277.04 | DATE: 3/19/18

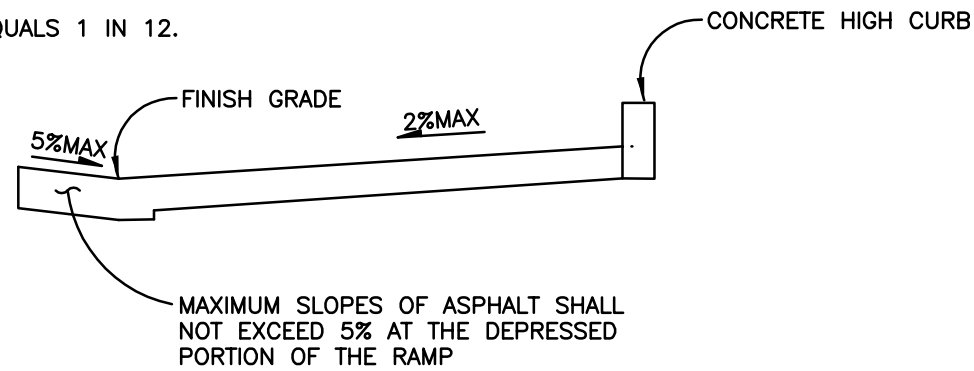
03-19-18 gleason \\3874\dwg\3874 05_3874.05-BASE-PHASE 2 Addendum 3.dwg/AB: ADD 3 SHEET 3



NOTES

1. THE BOTTOM OF THE RAMP SHALL BE FLUSH WITH THE ASPHALT PAVEMENT. NO LIP SHALL BE USED.
2. SIDEWALK AND RAMP THICKNESS SHALL BE 5".
3. 8.33% SLOPE EQUALS 1 IN 12.

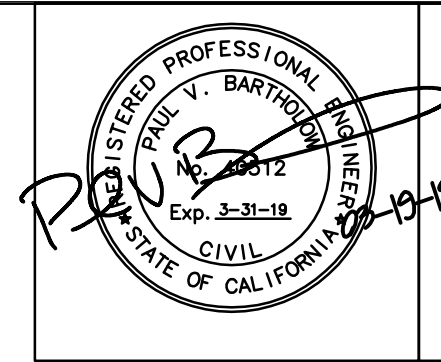
PLAN



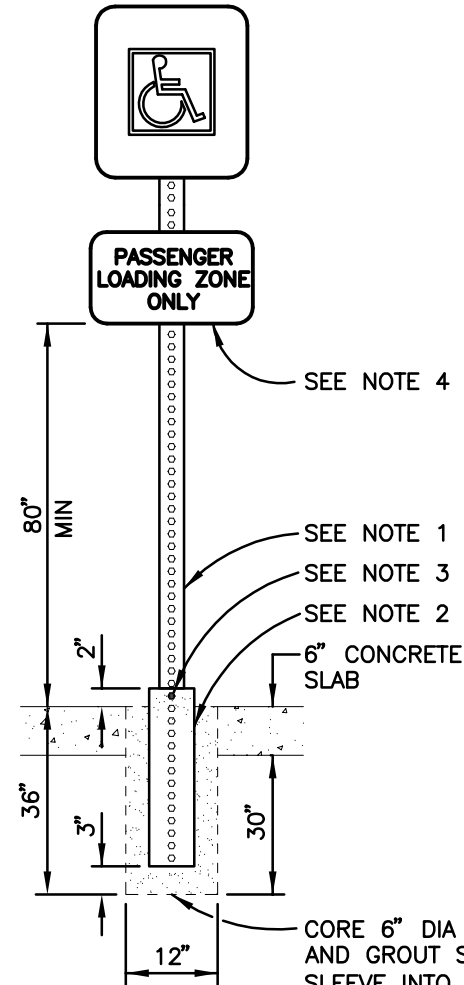
SECTION 1

PASSENGER DROP OFF RAMP

NOT TO SCALE



DSA-ORS APPROVAL



NOTES

1. 1 3/4" SQUARE TELESPIR OR QUICK PUNCH SIGN POST (14-GUAGE GALVANIZED STEEL)
2. 2" SQUARE QUICK PUNCH SIGN POST SLEEVE (12-GUAGE GALVANIZED STEEL)
3. BOLT SIGN POST TO 2" SLEEVE WITH GALVANIZED HARDWARE SUPPLIED FROM POST MANUFACTURE.
4. SIGN SHALL BE WHITE LETTERING ON DARK BLUE BACKGROUND.
5. COMPLY WITH CBC 11B-503.6.

PASSENGER DROP-OFF SIGN

NOT TO SCALE



QUATTROCCHI KWOK
ARCHITECTS

Parkway Heights Middle School Modernization- Phase 2

South San Francisco Unified School District

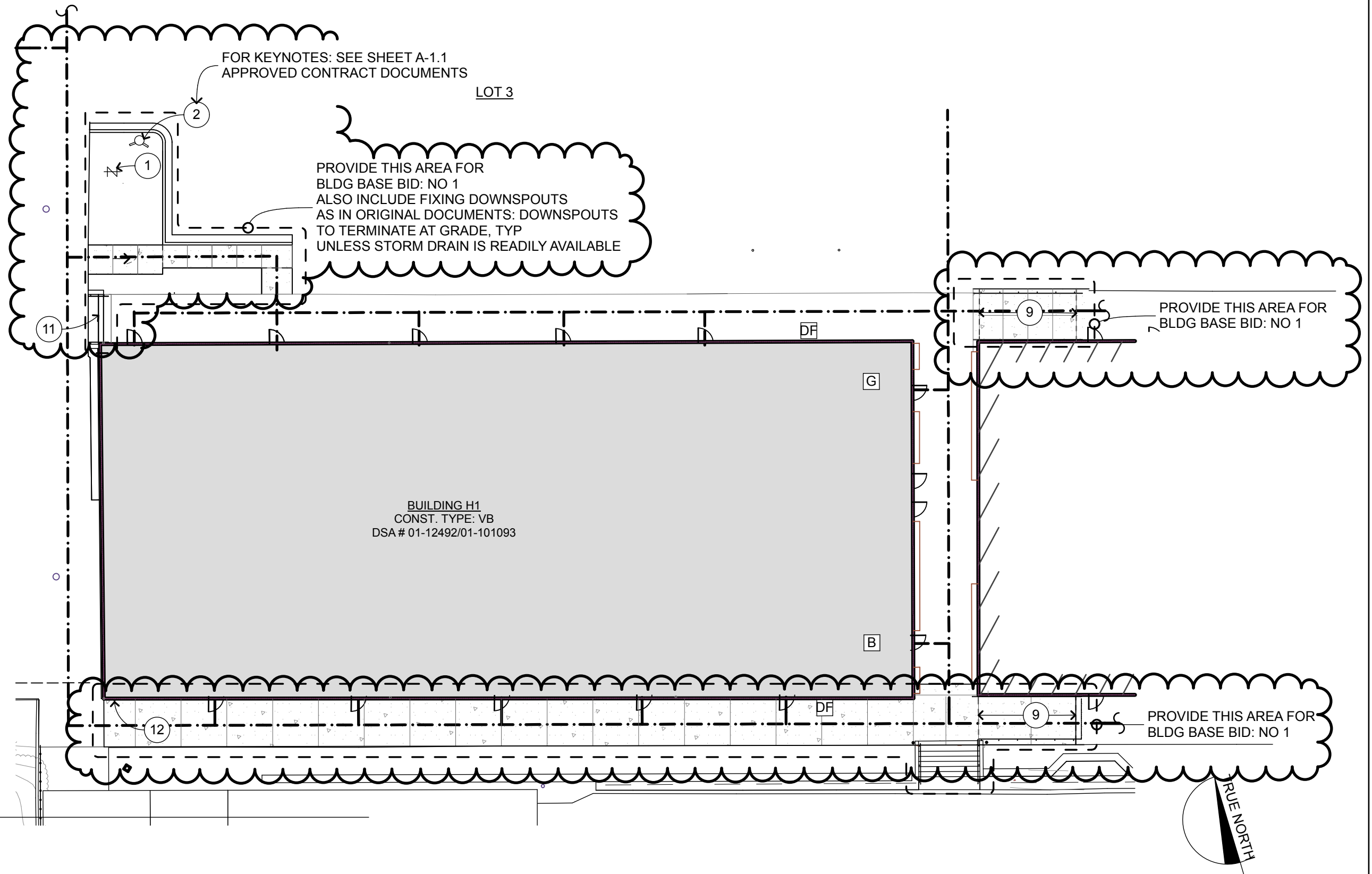
398 B Street. South San Francisco, Cal. USA 94080

REFERENCE DRAWING: C8.1

QKA JOB : 1277.04 DATE: 3/19/18

ADD 04
04.04

SHEET 3 OF 3



Parkway Heights Middle School

SCALE: 1"=20'-0"

DATE: MARCH 20, 2018

REFERENCE DRAWING: A-1.1 SITE PLAN - ACCESS
MODIFIED FOR BID ITEM 1

QKA JOB #:1277.04
DSA APP. #:01-116522
DSA FILE #:41-28

ADD 4
04.05

[illegible]