



PERALTA COMMUNITY COLLEGE DISTRICT

COLLEGE OF ALAMEDA NEW TRANSPORTATION TECHNOLOGY CENTER (NTTC)

ADDENDA

BID NO. 21-22/25

Peralta Community College District

333 East 8th Street Oakland, CA 94606

July 14, 2022

ADDENDUM No. 1

This addendum supersedes items of the original BID documents wherein it is inconsistent with it. All other conditions remain unchanged. The following changes, modifications, corrections, additions, or clarifications shall apply to the contract documents and shall be made a part of and subject to all of the requirements thereof as if originally specified or shown. It is the responsibility of the proposer to review the list of attachments to ensure that the addendum is full and complete. This Addendum modifies the original BID Documents for the above project.

Acknowledge receipt of this addendum in the space provided on Acknowledgement and Signature Form. Failure to do so may subject proposer to disqualification.

Revisions/Questions to BID documents:

I. Changes to Division 00 and 01, Procurement and General Conditions

1.1 DOCUMENT 00 21 13 INSTRUCTIONS TO BIDDERS

- 1.1.1 Remove Document 00 21 13 Instructions to Bidders in its entirety and replace with new attached Document 00 21 13 Instructions to Bidders.

1.2 DOCUMENT 00 41 13 BID FORM AND PROPOSAL

- 1.2.1 Remove Document 00 41 13 Bid Form and Proposal in its entirety and replace with new attached Document 00 41 13 Bid Form and Proposal.

II. Changes to Division 02 to 41, Technical Specifications

1.1 DOCUMENT 02 41 00 SELECTIVE SITE DEMO

- 1.1.1 Remove article 1.4, item A in its entirety and replace with the following language:
"1.4 Scheduling

A. Schedule of Selective Demolition Activities, indicate the following:

1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
2. Interruption of utility services. Indicate how long utility services will be interrupted.
3. Coordination for shut-off, capping, and continuation of utility services.
4. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work."

1.2 DOCUMENT 02 41 16 STRUCTURE DEMOLITION

- 1.2.1 Remove article 1.9, item F in its entirety and replace with the following language: "F. Hazardous Materials: Hazardous materials are present in buildings and structures to be demolished. The Contractor shall abate and remove all hazardous materials. Examine reports to become aware of locations where hazardous materials are present."

1.3 DOCUMENT 05 50 00 METAL FABRICATIONS

- 1.3.1 Remove Document 05 50 00 Metal Fabrications in its entirety and replace with new attached Document 05 50 00 Metal Fabrications.

1.4 DOCUMENT 07 54 19 PVC MEMBRANE ROOFING

- 1.4.1 Remove Document 07 54 19 PVC Membrane Roofing in its entirety and replace with new attached Document 07 54 19 PVC Membrane Roofing.

1.5 DOCUMENT 07 72 00 ROOFING ACCESSORIES

- 1.5.1 Remove Document 07 72 00 Roofing Accessories in its entirety and replace with new attached Document 07 72 00 Roofing Accessories.

1.6 DOCUMENT 08 81 00 GLASS GLAZING

- 1.6.1 Remove Document 08 81 00 Glass Glazing in its entirety and replace with new attached 08 81 00 Glass Glazing.

1.7 DOCUMENT 09 22 36 CEMENT PLASTER LATHING AND LATH ACCESSORIES

- 1.7.1 Remove Document 09 22 36 Cement Plaster and Lath Accessories in its entirety and replace with new attached 09 22 36 Cement Plaster Lathing and Lath Accessories.

1.8 DOCUMENT 09 24 00 PORTLAND CEMENT PLASTERING

- 1.8.1 Remove Document 09 24 00 Portland and Cement Plastering in its entirety and replace with new attached Document 09 24 00 Portland and Cement Plastering

1.9 DOCUMENT 09 91 00 PAINTING – INTERIOR AND EXTERIOR

- 1.9.1 Remove Document 09 91 00 Painting – Interior and Exterior in its entirety and

replace with new attached Document 09 91 00 Painting – Interior and Exterior.

III. Division 00-01 Bid RFI Responses:

1. **Q.** From the Bid Form and Proposal Document 00 41 13-2- Item #2 requires "the bidders base bid and each alternate shall include a ten percent allowance for unforeseen conditions. This allowance value is 10% of what? It is recommended the district stipulate the value of this allowance.
 - A. COVID allowance to be removed from bid documents. See attached revised Document 00 41 13 Bid Form and Proposal and Document 00 21 13.
2. **Q.** Can you please confirm the engineers estimate for the project?.
 - A. Engineer's Cost estimate is \$31M.
3. **Q.** Volume 2 Appendix 01 - Abatement Specifications Building B includes a bid form for the abatement scope (ref: Section 00400). Please confirm this is not required to be submitted with the Bid Proposal at bid time.
 - A. Bid form included in Volume 2, Appendix 01, Building B Demolition page 14/15 is not required for this bid.
4. **Q.** The Special Conditions Items #14 and 27 state that this project has federal funding and requires federal minimum wage, etc. Is this correct or leftover boilerplate language?
 - A. This project is not federally funded. Item 14 and 27 on document 00 73 13 Special Conditions does not apply. This is boilerplate language that shall be ignored.
5. **Q.** Section 00 45 46.13 SLBE and SELBE Program mentions that the District has an annual overall program goal of 25% SLBE and it encourages bidders to meet the 25% SLBE goal (for this bid). Please confirm that 25% SLBE is not mandatory and that you do not offer any bid advantages for GCs that are either SLBE or SELBE or for GCs that meet the 25% SLBE goal in their bids.
 - A. The District is committed to ensure equal opportunity and equitable treatment in awarding and managing its public contracts and established an annual overall program goal of 25% for small local businesses. The District takes the SLBE very seriously and expects bidders to make utmost good faith efforts to meet the twenty five percent goal on all District contracts.
6. **Q.** Reference General Conditions Document 00 72 13-34, Section 14 Insurance and Bonds; subsections 14.1.1.1; 14.1.6.1; 14.1.7.2.3 and 14.1.7.2.5 wherein it states: "Contractor shall procure and maintain (a specific) Insurance that shall protect Contractor, District, State, Construction Manager(s), Project Inspector(s) and Architect(s) from all claims for bodily " We request Architect(s) be removed.
 - A. Language set forth in this section and subsections shall remain unchanged.
7. **Q.** Reference General Conditions Document 00 72 13 Insurance and Bonds; subsection 14.1.1.2 - wherein it states a single value for contractor's deductible or self-insured retention of \$25,000. General liability insurance is purchased such that stipulated deductibles throughout the policy vary and to be captured under a \$25,000 limit is not cost effective. It is suggested the stipulated deductible of \$25,000 be removed.
 - A. Language set forth in this section and subsections shall remain unchanged.
8. **Q.** Since Earthquake & Flood are required in the Builders Risk does Public Contract Code 7105 apply? Or will you require full earthquake and flood insurance?

- A. District is requiring flood and earthquake insurance as defined in Section 13.1.5 Builder's Risk Insurance: Builder's Risk "All Risk" Insurance for this project. Public Contract Code section 7105 applies to construction contracts for projects for public agencies, including the District. However, Public Contract Code section 7105 does not prohibit the District from requiring a contractor to obtain insurance to indemnify the District for any damage to work caused by an act of God in excess of 5 percent of the contracted amount. The District's specific insurance requirements for this project are set forth above and in the bid documents
9. **Q.** There is a Buy American Form in the Specs Vol 1 does Buy American apply to this project or is this a leftover boilerplate form?
- A. Document 00 45 46.09 Buy American Certification needs to be completed and submitted by the awarded contractor.
10. **Q.** As mentioned at the job-walk, please confirm the Existing Diesel Mechanics Building E must remain active and occupied until the new Technology Building is completed and the OF/CI equipment for Bldg E per EQ-0 will not be able to be relocated until this time. This will shorten the overall duration of the new construction to approx. 12 months, which would be quite stringent. Please advise.
- A. The existing Diesel Mechanics Building E and B is to remain active and occupied until the new Technology Building is completed.
11. **Q.** At the job walk, it was mentioned in response to location of the laydown area for the project question that there may be a possibility that part of parking lot A may be available.
- A. Laydown area to be coordinated and determined in field prior to construction with CM and Campus approval.
12. **Q.** MEP/FS subcontractors required to be prequalified with PCCD prior to the bid?
- A. MEP and other subcontractors are not required to be pre-qualified. Only the GC needs to be pre-qualified.
13. **Q.** Please provide the email address that we are required to send our SLBE/SELBE forms to after the bid.
- A. SLBE forms included in bid documents must be submitted with the bid. Email will be provided after bid opening.
14. **Q.** Could you also let us know if the District has a list of SLBE available to solicit for the bid?
- A. See link for current list. List is updated on ongoing basis.
<https://build.peralta.edu/small-local-business-firms>

IV. Plans and Technical Specifications Bid RFI Responses:

15. **Q:** There are two beams with lengths that are longer than 65'-0". Roof framing sheets S2.3.1 indicates a 94'-0" W40x211 Ridge Beam along B.7 line and sheet S2.3.3 has a 78'-0" W40x183 Ridge Beam starting at G line and 7.4 line. Please provide an acceptable splice detail for these beams.
- A. CJP weld at both flanges with a welded web plate somewhere between 1/2"-3/4" in thickness - welded all around to each segment. Based on the lengths and assuming a max 65' segment, we should be able to do one splice per girder located around the 1/3 point. See attached SSK 01.
16. **Q:** Various OF/CI equipment items are included with the CF/CI listed equipment items on sheet

EQ-0. Please confirm EQ ID#'s 4705-4707, 4722, 4724-4727 are to be Owner Furnished, Contractor Installed.

- A. PLEASE SEE REVISED EQUIPMENT SHEETS -Contractors scope and quantities have been updated.
17. **Q:** Sectional Overhead Door Specification 08 3600 part 2.2.A.1.J indicates Glazing to be 1/4" tempered glazing to match GL-1 (Spec 08 81 00). The Glazing Spec indicates GL-1 as dual paned, insulated low-e tempered and tinted. Please clarify the correct glazing for the Overhead Doors (ref: Door Schedule A7.1.1).
- A. Single Pane 1/4" Tempered per specification. Coating to match that of GL-1.
18. **Q:** The vehicle lift can come with either a standard or seismic base. Which is required for this project?
- A. STANDARD BASE.
19. **Q:** Spec 09 22 36 lath materials conflicts with the lath materials 09 24 00 please advise which spec to use for lath.
- A. Please see Addendum 01 for revisions to specification section 09 22 36 and 09 24 00.
20. **Q:** Refer to sheet L1.1 Irrigation legend and notes, the irrigation mainline is PVC Class 315 SDR. However, refer to specs 328400-03 - part 2 - 2.1 piping material indicated that pressure main line piping for sizes 3 inches and smaller shall be PVC Schedule 40. Please clarify the material of mainline.
- A. Per plans, 3" mainline to be PVC Class 315 SDR.
21. **Q:** Refer to specs 328400-07 - part 3 - 3.3 A indicated that the minimum cover of 4" for all drip tubing. However, refer to sheet L3.1, detail 5 show dripline on grade. Please clarify
- A. Landscape plans govern. Per plans and details, dripline to be installed on grade.
22. **Q:** Window Schedule A7.1.2 indicates glazing type GL-4 for interior windows W2, W3, W4 & W5. This is a dual layer, insulated & tinted glass per Spec 08 81 00. Please confirm if this is the correct glazing for the interior windows.
- A. Dual pane is correct. Due to the nature of the shop spaces adjacent to teaching and office environments the intent is to have dual pane glass for the acoustic properties. GL-4 should be clear tempered glass. Revision to specification section 08 81 00 via Addendum 01.
23. **Q:** Window Schedule A7.1.2 does not include the glazing type for interior windows W7, W8, W9 & W10. Please provide.
- A. Note: A7.1.2 bottom window sequence reads : w9 w9 w8 w7. REVISE to read W10 W9 W8 W7. W10 has a head height of 7'10. Glazing type is GL-4 for W10-W07
24. **Q:** Structure Demolition Specification 02 41 16/1.9F states hazardous material will be removed by the Owner prior to demolition. Does this include universal wastes (light tubes, ballasts, mercury, etc.)? Please clarify.
- A. Under this Contract it is the General Contractors' responsibility to abate and dispose of all hazardous material as specified in Appendix 01. Any reference to the Owner self performing abatement is incorrect and shall be ignored. See Addendum 01 for revision to specification section 02 41 16.

25. **Q:** The new tech building is outside the footprint of the existing Buildings B & E. Please clarify to what extent the existing piles should be removed (i.e.: demo slab, grade beams, pile caps and footings only?). Demo Specification 02 41 16 does not specifically address piles and has both "abandon" and "demolish" below grade construction per 3.6D, E & F. Please clarify.
- A. C3.0 and C3.1 add the following text to the Demolition Legend under BUILDING DEMOLITION," all protruding rebar shall be cut flush at top of all remaining piles prior to backfill."
26. **Q:** Various specifications include options in [brackets] that need to be finalized. For example, Spec 02 41 16/1.3B & 1.9E1a; Spec 09 65 00/2.2A3; Spec 27 15 00/1.7A, 1.8B, 2.5B, etc. Please clarify what is required.
- A. Conflicts in the specifications shall be addressed as outlined by typical examples 00 41 13 (17) , 00 52 13 (3).
27. **Q:** Regarding spec section 08 11 13 Hollow Metal Doors and Frames. Section 2.2 (I & J) call for a polyurethane core with a minimum R value of 12.5 on interior doors and a manufacturer standard core on exterior doors. This is correct as written, or should these requirements be reversed? Furthermore, the R value that is referenced is from an older Steelcraft test methodology while the new Steelcraft polyurethane R value measurement is 2.01.
- A. No changes to the design intention. Doors to conform to updated testing methodology
28. **Q:** Equipment Schedule EQ-0 includes two model numbers for Item 4711. Please confirm which model is required for the exhaust system in the Automotive area 198. Ref: Spec 11 24 9
- A. 4711 Refers to rooftop exhaust blower. Clarified quantity on revised equipment schedule And plans. Refer to EQ 1.1 for specific location of TS-40 , remainder are TS-30.
29. **Q:** Please clarify UEF-1 and UEF-4 shown on the mechanical sections M6.1.2. These are not included on the mechanical schedules M0.2 & M0.3 and are indicated as vehicle exhaust equipment on M4.1.1. Equipment plans do not include a roof drawing. Please confirm if these exhaust fans are by the mechanical sub and if so, provide a manufacturer and model number.
- A. Utility exhaust fans are to be provided by automotive equipment supplier. Fans are referenced on mechanical roof plans with keynote #1, "VEHICLE EXHAUST EQUIPMENT BY AUTOMOTIVE EQUIPMENT SUPPLIER. SEE SHEET EQ-0 FOR INFO. COORDINATE DUCTWORK AND INSTALLATION REQUIREMENTS WITH VEHICLE EXHAUST REPRESENTATIVE PRIOR TO INSTALLATION."
30. **Q:** Equipment Items 4705, 4706 & 4707 are designated as OF/CI on the equipment schedule EQ-0 indicating anchorage as deferred.
- A. General Contractor is responsible for procuring, constructing, and coordinating all Structural / Mechanical / Electrical / LV / Fire Protection scope per the approved drawings and specifications. The contractor is responsible for procurement, approval, erection, installation of the booth, and integration with the scope above. The general contractor shall provide a complete installation per the manufacturer's specifications. The contractor is responsible for the preparation of documentation and coordination with DSA as part of the deferred approval process see S1.0.1. The contractor shall coordinate with design comments as part of the deferred approval process. Booth suite is contractor furnished, and contractor installed, it is new custom specialty equipment. Booth is a sole source with no known equal. No substitutions. Contact Bob Hauck at 909.623.6944 of Spray Systems inc.

31. **Q:** Please clarify the 2% allowance requirement indicated on S1.0.1, General Note 8. Is the intent for bidders to add 2% of all structural, misc. metal and rebar material or total costs to the bid? We request a tonnage allowance be provided in lieu of the 2% to alleviate any confusion.
- A. Allowance is not a project requirement. STRIKE General Note 8 on S1.0.1.
32. **Q:** E1.0.1 shows 2 electrical vehicle chargers being required. A specification is required providing the manufacturer and part number of what vehicle charger the owner requires is needed in order to bid these chargers.
- A. LPCE: Provide commercial bollard charging stations by ChargePoint Level 2, CT4021 dual port and CT 4011 single port or approved equal.
33. **Q:** Interior Finishes plan A8.1.1 indicates SC - Sealed Concrete Floor Finish per Specification 03 35 00. This specification is not included with the bid documents. Please provide.
- A. Revise Concrete Floor Finish spec reference to 03 30 00, see 2.1, J, K & L.
34. **Q:** Please clarify where Roller Shades per Specification 12 24 00 are required. Interior elevations and Window Schedule A7.1.1 do not indicate roller shades.
- A. Roller shades shown at Classrooms 104 & 105, Sheet A3.2.1, Lecture 105 & Classroom 106, sheet A3.2.2, Classroom 204, Sheet A3.2.3.
35. **Q:** Mezzanine Floor Plan 3/A2.5.1 indicates a floor finish CS-1. Is this intended to be sealed concrete SC-1? Please clarify.
- A. Revise Floor finish to read SC on plans 2 and 3, Sheet A2.5.1.
36. **Q:** Spec section 102113.16 1.1 c1 calls the partitions to be overhead braced, and ceiling hung. These are 2 separate mounting styles for the toilet partitions. The interior elevations on plan page A2.4.1 show what appears to be floor mounted overhead braced partitions. Can we please confirm this mounting style.
- A. Floor to ceiling two-point anchorage with continuous mounting brackets. All hardware S.S.
37. **Q:** Spec section 102813 2.2 g and h call out two different types of toilet paper dispensers to be used on this project. However on plan page A2.4.1 and A2.4.2 the restroom accessory schedule does not differentiate between the toilet papers being used. Can we please clarify what items are to be use.
- A. Bobrick No, B-4288 4.5"x4.5" roll.
38. **Q:** Spec Section 102840 2.1 b calls out for the hand dryer to be a Slimdri model from World Dryer however there is no model number provided. Can we please have a model number for that unit.
- A. L-974
39. **Q:** There are paper towels shown at trough sinks on A8.2.1 and A8.2.3. There is not paper towel listed in spec section 102813. Can we please have a model number for this unit.
- A. Kimberly Clark Hands Free #09990 Black for towel roll # 01000.
40. **Q:** For the New Transportation Technology Center Bid, how many portable and/or stationary Assisted Listening Systems by Telex are you expecting?

- A. One – To be located in the Administration building – Ref G4.2.1
41. **Q.** I am working on a quote for the fall protection for the this project and note that there is an equal clause for the Roof Tie-Offs. It references the substitution section however, I did not find a substitution form or a contact of who to send a request in to. What is the substitution process? HySafe offers an equal product for consideration.
- A. For products refer to Addendum 01, section 05 50 00, 2.2, I. SAFETT TIE OFFS. Lines A, B, C of section 07 72 00, 2.5 Roof Tie-ins will be stricken, and updated via Addendum 01.
42. **Q.** Section 02 41 00 references "The sequence of demolition and the modifications of existing facilities shall be in accordance with Section 01 32 16". Section 01 32 16 is not provided.
- A. 02 41 00, 1.4 Scheduling verbiage shall be revised via Addendum 01, any reference to section 01 32 16 shall be stricken and ignored.
43. **Q.** Please reference drawing E0.9 One Line Diagram. Please provide the manufacturer & model number for (E) MSB.
- A. The existing MSB in existing Bldg. C manufacturer is Federal Pacific. Please see attached photos. Model number not available. We have do not have contractor's existing shop drawings or product sheets.
44. **Q.** Please reference drawing E0.9 One Line Diagram. Regarding the space for the future solar provision, what size conduits will be needed?
- A. LPCE: Provide (2) 2" conduits and pull ropes stubbed up to roof. Exact conduits' locations on roof to be determined with the solar systems designer. Provide conduit end caps.
45. **Q.** Topographic Map II sheet C2.1 indicates the area surrounding existing Building E. Sheet C4.1 indicates this area requires backfill and soil stabilization after building is demolished. Please confirm what final grade is required for this area.
- A. The contractor is to verify the existing finish floor elevation of Building E prior to demolition. The final fill elevation is graded to match demolished buildings' former finish floor elevation.
46. **Q.** What is (E) manufacturers system installed on site per following specification sections: 275117 Public Address System, 281300 Access Control System, 281600 Intrusion Detection, 282300 Video Surveillance.
- A. 281300 Access Control System – Product, Schlage RC - Isonas Pure Access Cloud
282300 Video Surveillance – District utilizes Ojo Technology. Contact Albert Montalvo, (510) 249-9540
275117 Public Address System – Provide infrastructure for PA system. System to be coordinated with District.
281600 Intrusion Detection – Provide infrastructure for Intrusion Detection system. System to be coordinated with District.
47. **Q.** Regarding the low voltage, audio visual, security and fire alarm systems; who are the existing manufacturers for these systems/ who are the vendors that maintain them?
- A. Fire Alarm: District utilizes TYCO SimplexGrinnell for existing campus system, maintained by Johnson Controls.
Audio Visual: Extron no equal. See attached NCLA AV Systems list.
Security, see response #46 above

48. **Q.** What is the District Standard for Projection Screens? What is the current projection screen model used at College of Alameda?

A. Provide projector friendly white board. Claridge or equal.

V. Attachments

- 1) Document 00 21 13, Instruction to Bidders
- 2) Document 00 41 13, Bid Form and Proposal
- 3) Document 05 50 00, Metal Fabrications
- 4) Document 07 54 19, PVC Roofing
- 5) Document 07 72 00, Roof Accessories
- 6) Document 08 81 00, Glass Accessories
- 7) Document 09 22 36, Cement Plaster Lathing and Lath Accessories
- 8) Document 09 24 00, Portland Cement Plastering
- 9) Document 09 91 00 Painting – Interior and Exterior
- 10) EQ-0, Equipment Index
- 11) SSK 1
- 12) NCLA AV Systems List
- 13) Photos of (E) MSB at Bldg C.

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.

Peralta Community College 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"):

College of Alameda New Transportation Technology Center

2. 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.
3. The District has prequalified bidders pursuant to Public Contract Code section 20651.5. 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.
4. District will receive bids submitted electronically from bidders as stipulated in the Notice to Bidders.
 - a. Each bidder is solely responsible for timely submission of its bid; the District is not responsible for any technological issues affecting a bidder's ability to timely submit its bid or portion thereof.
5. Bidders are advised that on the date that bids are opened, the District Offices will **not** be open to bidders or their representatives.
6. Bids will be opened and publicly read aloud via video conference. A link to the video conference will be provided by Addendum. Prior to publicly reading aloud bids at the video conference, the District reserves the right to verify the genuineness of any bid security.
7. 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.
8. 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.

9. Bids shall be clearly written and without erasure or deletions. District reserves the right to reject any bid containing erasures, deletions, or illegible contents.
10. 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 non-responsive 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. Photocopy of 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.
 - f. SLBE/SELBE Self Certification Affidavit.
11. Bidders must submit with their bids a legible photocopy of (i) a cashier's check or (ii) a certified check payable to District, or (iii) 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. Bidder must deposit the original of the bid bond, cashier's check, or certified check in the mail on the same day as the bid opening. Bids submitted without necessary bid security will be deemed non-responsive and will not be considered.
12. 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.
13. 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.

14. 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.
15. 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.
16. Bidders shall submit the Non-Collusion Declaration with their Bids. Bids submitted without the Non-Collusion Declaration shall be deemed non-responsive and will not be considered.
17. 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>.
18. The District has entered into a Project Labor Agreement that is applicable to this Project. A copy of the Project Labor Agreement is available for review at the District Facilities Office and may be downloaded from the District's website, <http://web.peralta.edu/purchasing/files/2012/06/00-8251-PLA->

Agreement.pdf. The successful bidder and all subcontractors will be required to agree to be bound by the Project Labor Agreement.

19. Pursuant to Education Code section 71028 and Public Contract Code section 10115, the District has a participation goal for disabled veteran business enterprises ("DVBE") of at least three percent (3%) per year of the overall dollar amount expended each year on District projects. 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. 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.
20. 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.

21. 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.
22. 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.

All questions about the meaning or intent of the Contract Documents are to be **directed via Vendor Registry. All questions are due by July 1, 2022 at 2:00 PM.** Interpretations or clarifications considered necessary by the District in response

to such questions will be issued in writing by Addenda and delivered electronically to all parties recorded by the District as having received the Contract Documents or posted on the District's website at

<https://web.peralta.edu/purchasing/documents-list-of-current-bids-rfps-and-rfq>

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.

23. Addenda may also be issued to modify other parts of the Contract Documents as deemed advisable by the District.
24. 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.
25. 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.
26. 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.
27. Discrepancies between written words and figures, or words and numeral, will be resolved in favor of figures or numerals.
28. Bidders in contention for contract awards shall be required to attend a Post Bid interview, which will be set within three (3) calendar days following bid opening. A duly authorized representative of the apparent low bidder is required to attend the Post Bid Interview, in person. The apparent low bidder's authorized representative(s) must have (1) knowledge of how the bid submitted was prepared, (2) the person responsible for supervising performance of the Work, and (3) the authority to bind the apparent low bidder. Failure to attend the Post Bid Interview as scheduled will be considered just cause for the District to reject the Bid as nonresponsive. .
29. 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.
30. 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. Sex Offender Registration Act_Certification.
 - o. Buy American Certification.
 - p. Small Local Business Enterprise and Small Emerging Local Business Enterprise Program.
 - q. Registered Subcontractors List: Must include Department of Industrial Relations (DIR) registration number of each subcontractor for all tiers. Per Article 10 of the General Conditions, the complete submittal of Registered Subcontractors List is required within 10 days after the Notice to Proceed is issued.
 - r. COVID-19 Vaccination/Testing Certification
31. 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.
32. District reserves the right to reject any or all bids, including without limitation the right to reject any or all nonconforming, non-responsive, 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.
33. 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.
34. 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.
35. Bidder expressly acknowledges that it is familiar with and capable of complying with applicable federal, State, and local requirements relating to COVID-19 or other public health emergency/epidemic/pandemic including, if required, preparing, posting, and

implementing a Social Distancing Protocol.

END OF DOCUMENT

DOCUMENT 00 41 13
BID FORM AND PROPOSAL

To: Peralta Community College District ("District" or "Owner")

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. 21- 22/25**, for the following project known as:

College of Alameda New Transportation Technology Center

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

<p style="text-align: right;">_____ dollars \$ _____</p> <p>BASE BID</p> <p><i>Bidder acknowledges and agrees that the lowest responsive, responsible bidder will be determined based on Base Bid only.</i></p>
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[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

Additional Detail Regarding Calculation of Base Bid

1. **Unit Prices.** The Bidder's Base Bid includes the following unit prices, which the Bidder must provide and the District may, at its discretion, utilize in valuing additive and/or deductive change orders (Unit Prices shall include all labor, materials, services, profit, overhead, insurance, bonds, taxes, and all other incidental costs of Contractor, subcontractors, and suppliers):

A. Not Used

Where scope of Work is decreased, all Work pertaining to the item, whether specifically stated or not, shall be omitted, and where scope of Work is increased, all work pertaining to that item required to render same ready for use on the Project in accordance with intentions of the Drawings and Specifications shall be included in the above agreed-upon price amount.

2. **Allowance.** Not Used.
3. 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.
4. 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.
5. 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.
6. The liquidated damages clause of the General Conditions and Agreement is hereby acknowledged.
7. 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.
8. 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
 - SLBE/SELBE Self Certification Affidavit

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

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

- 10. Bidder acknowledges that the license required for performance of the Work is a **B** license.
- 11. Bidder 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.
- 12. 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.
- 13. Bidder hereby certifies that its bid includes sufficient funds to permit Bidder to comply with all local, state or federal labor laws or regulations during the Project, including payment of prevailing wage, and that Bidder will comply with the provisions of Labor Code section 2810(d) if awarded the Contract.
- 14. Bidder agrees to comply with all requirements of the Project Labor Agreement.
- 15. 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.
- 16. 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.
- 17. Bidder expressly acknowledges that it is familiar with and capable of complying with applicable federal, State, and local requirements relating to COVID-19 or other public health emergency/epidemic/pandemic including, if required, preparing, posting, and implementing a Social Distancing Protocol.
- 18. 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.

19. 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.

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: _____

Signature: _____

Print Name: _____

Title: _____

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

SECTION 05 50 00
METAL FABRICATIONS

PART 1 - GENERAL

1.1. SUMMARY

- A. Shop fabricated metal items and miscellaneous metal work.
- B. Refer to Schedule at end of this Section.

1.2. RELATED SECTIONS:

- A. Section 05 12 00 - Structural Steel
- B. Section 05 51 33 - Metal Ladders
- C. Section 09 91 00 - Painting - Interior and Exterior
- D. Section 09 96 00 - High Performance Coatings

1.3. STANDARDS AND REFERENCES: (Latest Edition Unless Noted Otherwise)

- A. ASTM A36 / A36M - Standard Specification for Carbon Structural Steel
- B. ASTM A53 / A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
- C. ASTM A123 / A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
- D. ASTM A283 / A283M – Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates
- E. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength
- F. ASTM A500 / A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes
- G. ASTM A653 / A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process

- H. ASTM B370 - Standard Specification for Copper Sheet and Strip for Building Construction
- I. AWS A2.0 - Standard Welding Symbols.
- J. AWS D1.1 - Structural Welding Code.
- K. CCR, Title 24, 2018 ICC, With State of California Amendments – 2019 California Building Code (CBC), Part 2, Vols. 1 and 2.

1.1 SUBMITTALS:

- A. Submittals: Provide submittals per Section 01 33 00, “Submittal Procedures”.
- B. Product Data: Provide data on material, finishes and attachment.
- C. Shop Drawings: Submit shop drawings indicating profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevation, and details where applicable. Indicate welded connections using standard AWS welding symbols. Indicate net weld lengths.
- D. Verify that field measurements are as indicated on shop drawings.
- E. Manufacturer's descriptive data: Submit for manufacturer's items.

1.5 QUALITY ASSURANCE

- A. Manufacturer: Manufacturer shall have produced the specified system or products for a period of one (1) year prior to beginning work of this section, and shall have the capability to produce the specified products to the delivery and quantity criteria of the project.
- B. Staff:
 - 1. Use only personnel who are thoroughly trained and experienced in the skills required and have installed similar applications of the specified products within one year prior to beginning work of this section.
 - 2. Use only staff who are completely familiar with the manufacturers' recommended methods of installation as well as the requirements of this work.
- C. Welders' Certificates: Submit under provisions of Section 01 33 00, certifying welders employed on the Work, verifying AWS qualification within the previous 12 months.

1.2 DELIVERY, STORAGE AND HANDLING

- A. Deliver all parts ready for erection; store in close proximity to final locations.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Plates and Bars: ASTM A283 / A283M, Grade D or approved equal.
- B. Steel Sections: Channels, plates, angles, etc. ASTM A36 / A36M.
- C. Steel Tubing: ASTM A500 / A500M, Grade B.
- D. Steel Pipe: ASTM A53 / A53M, Type E or S, Grade. B.
- E. Sheet Steel: ASTM A653 / A653M, gage and profile indicated, galvanized to G90 finish in accordance with ASTM A653 / A653M.
- F. Downspouts: 3” diameter, steel pipe, ASTM A53 / A53M, Grade B, Schedule 40, galvanized, unless otherwise shown or specified.
- G. Steel Bolts, Nuts, and Washers: ASTM A307.
- H. Welding Materials: AWS D1.1; type required for materials being welded.
 - 1. Solder: 50% pig lead and 50% block tin.
 - 2. Flux: Rosin, muriatic acid neutralized with zinc or an approved soldering paste.
- I. Galvanizing: Hot-dip process ASTM A123 / A123M typical and ASTM A123 / A123M for threaded fasteners performed after fabrication into largest practical section. Weight of coating not less than 2 oz. per sq. ft. of surface. Where damaged, repair surface with one coat of hot process galvanizing repair compound, "Galvalloy", Galvweldalloy", or approved equal.
- J. Primer: All metal fabrications shall be shop-primed per the requirements in Section 09 90 00, "Painting".
- K. Dissimilar Materials: Separate dissimilar surfaces in contact with or in close proximity to non-compatible metals, concrete masonry, or plaster with neoprene gasket; or other approved means.
- L. Expansion Bolts: Hilti "Kwik Bolt TZ2" Expansion Anchor Bolts, galvanized unless otherwise indicated.

Product Website Link:

https://www.hilti.com/c/CLS_FASTENER_7135/CLS_WEDGE_ANCHORS_7135/r8863215

- M. Non-shrink Grout: Master Builders, MasterFlow 928, or equal.

Product Website Link: <https://www.master-builders-solutions.com/en-us/products/grouts/cementitious-grouts/masterflow-928>

N. Substitutions: Provide per Section 01 25 00, "Substitution Procedures"

2.2 FABRICATION

- A. Verify dimensions on site prior to shop fabrication.
- B. Fabricate items with joints tightly fitted and secured.
- C. Fit and shop assemble in largest practical sections, for delivery to jobsite.
- D. Grind exposed welds flush and smooth adjacent finished surfaces. Ease exposed edges to small uniform radius.
- E. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of structure, except where specifically noted otherwise.
- F. Make exposed joints butt tight, flush and hairline.
- G. Supply components required for anchorage of metal fabrications. Fabricate anchorage and related components of same material and finish as metal fabrication, except where specifically noted otherwise.

H. BOLLARDS

1. Pipe Bollards shall be Schedule 40 with a hot dip galvanized finish. Size as indicated on drawings.
2. Provide welded domed cap on all bollards unless indicated otherwise. Include a hot dip galvanized Schedule 40 embedded sleeve in footing and lock hasp at grade for removable bollards as indicated on drawings.
3. Provide a pair of 2" reflective epoxy paint halos at the top of each bollard.
4. Fixed Bollards:
 - a. Pipe Size: Three point five (3.5) – four point five (4.5) inches outside diameter.
 - b. Cap: Round.
 - c. Finish: Factory applied marine grade powder coat finish, color should be easily visible in daylight and night, color shall be approved by district.
 - d. Height Above Finished Grade: Thirty-six inches (36").
 - e. Foundation: Thirty-three (33) inches concrete footing twelve (12) inches in diameter.
5. Removable Bollards:
 - (a) Pipe Size: Three point five (3.5) – four point five (4.5) inches outside diameter.

- b) Weight: Not-to-exceed forty (40) pounds
- c) Cap: Round.
- d) Finish: Factory applied marine grade powder coat finish, color should be easily visible in daylight and night, color shall be approved by District.
- e) Height Above Finished Grade: Thirty-six inches (36").
- f) Foundation: Thirty-three (33) inches concrete footing twelve (12) inches in diameter.
- g) Key and Lock: Padlock to be provided by Owner.

I. SAFETY TIE OFFS

1. CB-1-B - Bolt-On Wall Anchor

Product Website Link: <https://www.guardianfall.com/performance-safety-products/anchor-points/product/cb-1-b-bolt-on-wall-anchor> or equal.

2. Roof Top Safety Tie Off : See 5/A4.4.3

Product Website Link : <https://www.guardianfall.com/performance-safety-products/anchor-points/product/cb-12-weld-on-post> or equal.

3. Applicable Standards: OSHA 1910 & OSHA 1926 Subpart M Hot-dipped galvanized steel shall conform with ASTM A123/123M and ANSI Z359.18-17, and ANSI A10.32-12.

J. Perforated Panels:

1. Basis of Design:

McNichols Metal, Perforated Metal, Round, Carbon Steel, Cold Rolled, Mill Finish, 16 Gauge (.0598" Thick), 3/8" Round on 1/2" Staggered Centers, 1/8" Bar Width, 4.62 Holes Per Square Inch (HPSI), Minimum Solid Margins Both Sides of Sheet Parallel to Length of Sheet, Holes Sheared Through Both Ends of Sheet Parallel to Width of Sheet, 51% Open Area, Item 1638121648, or equal

Product website: <https://www.mcnichols.com/perforated-metal/round-hole/carbon-steel-cs-16381216?rbl=2669278197&cId=103>

K. Substitutions: Provide per Section 01 25 00, "Substitution Procedures"

2.3 FINISH

- (1) Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.
- (2) Do not prime surfaces in direct contact bond with concrete or where field welding is required.
- (3) Prime paint interior items as described in Section 09 90 00, "Painting".
- (4) Galvanize exterior items and scheduled interior items to minimum 2.00 oz/sq ft zinc coating.

PART 3 - EXECUTION

3.1 EXAMINATION AND PREPARATION

- A. Obtain Architect's approval prior to site cutting or making adjustments not scheduled.
- B. Clean and strip primed steel items to bare metal where site welding is scheduled.
- C. Make provision for erection loads with temporary bracing. Keep work in alignment.
- D. Supply items required to be cast into concrete with setting templates, for installation under appropriate Sections.
- E. Coordinate anchorages. Furnish setting drawings, templates, and anchorage structural loads for fastener resistance.
- F. Do not begin installation until supporting structure is complete and installation will not interfere with supporting structure work.
- G. If supporting structure is the responsibility of another installer, notify Architect of unsatisfactory supporting work before proceeding.

3.2 INSTALLATION

- A. Install items plumb and level, accurately fitted, free from distortion or defects.
- B. Perform field welding in accordance with AWS D1.1.
- C. After installation, touch-up field welds, scratched or damaged surfaces with primer, except repair exposed galvanized work (not to be painted) with hot process field galvanizing, in accord with manufacturer's published directions.

3.3 SCHEDULE Provide and install items listed in Schedule and shown on Drawings with anchorage and attachment necessary for installation. The following Schedule lists principal items only. Refer to drawing details for items not specifically scheduled.

1. Miscellaneous plates or angles not attached to structural steel; complete with anchorage for embedment.
2. Steel Fabricated Ladders
3. 3" Dia., SCH 40 Downspouts.
4. Exterior Screens.
5. Perforated Panels at Exterior Fencing
6. Galvanized metal pipe bollards.
7. Other Misc. Metal Fabrications indicated in drawings, not specifically described.

END OF SECTION

SECTION 07 54 19
POLYVINYL CHLORIDE (PVC) MEMBRANE ROOFING

1. SECTION INCLUDES

- a. Mechanically fastened PVC membrane roofing system.
- b. Cover board.
- c. Roof insulation.

2. RELATED SECTIONS

- a. Division 05 Section "Steel Decking" for steel roof deck.
- b. Division 06 Section "Miscellaneous Rough Carpentry" for wood nailers, cants, curbs, and blocking].
- c. Division 07 Section "Sheet Metal Flashing and Trim" for metal roof penetration flashings, flashings, and counter flashings.
- d. Division 22 Section "Storm Drainage Piping Specialties" for roof drains.

3. REFERENCES

- a. Roofing Terminology: Refer to the following publications for definitions of roofing work related terms in this Section:
 - 1) ASTM D 1079 "Standard Terminology Relating to Roofing and Waterproofing."
 - 2) Glossary of NRCA's "The NRCA Roofing and Waterproofing Manual."
 - 3) Roof Consultants Institute "Glossary of Building Envelope Terms."
- b. Sheet Metal Terminology and Techniques: SMACNA "Architectural Sheet Metal Manual."

4. DESIGN CRITERIA

- a. General: Installed roofing membrane system shall remain watertight; and resist specified wind uplift pressures, thermally induced movement, and exposure to weather without failure.
- b. Material Compatibility: Roofing materials shall be compatible with one another under conditions of service and application required, as demonstrated by roofing system manufacturer based on testing and field experience.

- c. Installer shall comply with current code requirements based on authority having jurisdiction.
- d. Wind Uplift Performance: Roofing system shall be identical to systems that have been successfully tested by a qualified testing and inspecting agency to resist wind uplift pressure calculated in accordance with ASCE 7.
- e. California Title 24/CRRC-1: Roofing system shall comply with the requirements of Title 24 and shall be tested by CRRC-1.
- f. Fire-Test-Response Characteristics: Provide roofing materials with the fire-test-response characteristics indicated as determined by testing identical products per test method below by UL, FMG, or another testing and inspecting agency acceptable to authorities having jurisdiction. Materials shall be identified with appropriate markings of applicable testing and inspecting agency.
 - 1) Exterior Fire-Test Exposure: Class A; ASTM E 108, for application and roof slopes indicated.

5. SUBMITTALS

- a. Product Data: Manufacturer's data sheets for each product to be provided.
- b. Detail Drawings: Provide roofing system plans, elevations, sections, details, and details of attachment to other Work, including:
 - 1) Base flashings and membrane terminations.
 - 2) Tapered insulation, including slopes.
 - 3) Crickets, saddles, and tapered edge strips, including slopes.
 - 4) Insulation fastening and adhesive patterns.
- c. Verification Samples: Provide for each product specified.
- d. Installer Certificates: Signed by roofing system manufacturer certifying that Installer is approved, authorized, or licensed by manufacturer to install roofing system.
- e. Maintenance Data: Refer to Johns Manville's latest published documents on www.JM.com.
- f. Guarantees: Provide manufacturer's current guarantee specimen.
- g. Prior to beginning the work of this section, roofing sub-contractor shall provide a copy of the final System Assembly Letter issued by Johns Manville Roofing Systems indicating that the products and system to be installed shall be eligible to receive the specified manufacturer's guarantee when installed by a certified JM contractor in accordance with our application requirements, inspected and approved by a JM Technical Representative.

- h. Prior to roofing system installation, roofing sub-contractor shall provide a copy of the Guarantee Application Confirmation document issued by Johns Manville Roofing Systems indicating that the project has been reviewed for eligibility to receive the specified guarantee and registered.

6. QUALITY ASSURANCE

- a. **Installer Qualifications:** Qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive the specified manufacturer's guarantee.
- b. **Manufacturer Qualifications:** Qualified manufacturer that has UL listing for roofing system identical to that used for this Project.
- c. **Testing Agency Qualifications:** An independent testing agency with the experience and capability to conduct the testing indicated, as documented according to ASTM E 329.
- d. **Test Reports:**
 - 1) Roof drain and leader test or submit plumber's verification.
- e. **Source Limitations:** Obtain all components from the single source roofing manufacturer guaranteeing the roofing system. All products used in the system shall be labeled by the single source roofing manufacturer issuing the guarantee.

7. DELIVERY, STORAGE, AND HANDLING

- a. Deliver roofing materials in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storage.
- b. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer.
- c. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- d. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

8. PROJECT CONDITIONS

- a. **Weather Limitations:** Proceed with installation only when current and forecasted weather conditions permit roofing system to be installed in accordance with manufacturer's written instructions and guarantee requirements.

9. GUARANTEE

- a. Provide manufacturer's system guarantee equal to Johns Manville's Peak Advantage No Dollar Limit Roofing System Guarantee.
 - 1) Single-source special guarantee includes roofing membrane, base flashings, roofing membrane accessories, [roof insulation], [fasteners], [cover board], [walkway products], [manufacturer's expansion joints], [manufacturer's edge metal products], and other single-source components of roofing system marketed by the manufacturer.
 - 2) Guarantee Period: 20] years from date of Substantial Completion.
 - a) Alternate: 30] years from date of Substantial Completion.
 - 3) Contractor is required to list "JK Architecture" as the Specifier/Consultant of record in the appropriate fields ("Specifier Account") when applying for the manufacturer's warranty.
- b. Installer's Guarantee: Submit roofing Installer's guarantee, including all components of roofing system for the following guarantee period:
 - 1) Guarantee Period: [Two years from date of Substantial Completion.

PART 2 - PRODUCTS

1. POLYVINYL-CHLORIDE ROOFING MEMBRANE - PVC

- a. PVC Sheet: ASTM D 4434, Type III, fabric reinforced [that contains KEE (Elvaloy) to reduce plasticizer migration]. Basis of design: JM-PVC
- b. District Standard: Garland Industries, Or Equal; 3800 E. 91st St., Cleveland, OH 44105. Local Representative: Doug Clark (925) 784-6701
 - 1) Thickness: 60 mils (1.52 mm), nominal
 - a) Alternate: 80 mils (2.03 mm), nominal.
 - 2) Exposed Face Color: White
 - 3) Substitutions to be considered per 01-25-13



AD-1

2. AUXILIARY ROOFING MATERIALS – SINGLE PLY

- a. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with membrane roofing.

- 1) Liquid-type auxiliary materials shall meet VOC limits of authorities having jurisdiction.
 - b. Sheet Flashing: Manufacturer's internally reinforced or scrim reinforced, smooth backed membrane with same thickness and color as sheet membrane. Basis of design: JM PVC
 - c. Bonding Adhesive: Manufacturer's standard [solvent]-based bonding adhesive for base flashings. Basis of design: JM PVC Membrane Adhesive (Low VOC)
 - d. Slip Sheet – Recommended for future PV system: Minimum 9.0 oz/yd² needle punched, UV-resistant polyester fabric slip sheet, as required for application. Basis of design: JM Polyester Mat Protection Slipsheet
 - e. Metal Termination Bars: Manufacturer's standard predrilled stainless-steel or aluminum bars, with anchors. Basis of design: JM Termination Systems
 - f. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening membrane to substrate, and acceptable to membrane roofing system manufacturer. Basis of design: High Load Fasteners and Plates
 - g. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, cover strips, sealants, and other accessories. Basis of design: JM PVC Pourable Sealer, JM PVC Pipe Boots, PVC Split Pipe Boot, PVC Square Pipe Boot, JM PVC Penetration Pan, JM PVC Universal Corners, JM PVC T-Joint Patch, JM PVC Membrane Cleaner (Low VOC), JM PVC-Coated Metal, JM PVC Edge Sealant, JM PVC Profile, JM PVC Detail Strip, JM PVC Detail Membrane and JM Single Ply Caulk
3. WALKWAYS
 - a. Flexible Walkways: Factory-formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway pads sourced from membrane roofing system manufacturer. Basis of design: JM PVC Walkpad
4. COVER BOARD
 - a. Gypsum Fiber Board: ASTM C 1278, non-faced, gypsum and cellulose fiber substrate, 1/2 inch (13 mm) thick. Basis of design: Securock Gypsum-Fiber Roof Board
5. ROOF INSULATION
 - a. General: Preformed roof insulation boards that comply with requirements and referenced standards, selected from manufacturer's standard sizes and of thicknesses indicated.
 - b. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class 1, Grade 2 (20 psi), Basis of design: [ENRGY 3

- 1) Provide insulation package with minimum R Value: minimum required by applicable code.
- 2) Provide insulation package in multiple layers.
- 3) Minimum Long-Term Thermal Resistance (LTTR): 5.7 per inch.
 - a) Determined in accordance with CAN/ULC S770 at 75°F (24°C)

6. TAPERED INSULATION

- a. Tapered Insulation: ASTM C 1289, Type II, Class [1], Grade [2 (20 psi)], provide factory-tapered insulation boards fabricated to slope of 1/4 inch per 12 inches (1:48), unless otherwise indicated. Basis of design: [Tapered ENRGY 3

7. INSULATION ACCESSORIES

- a. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatible with membrane roofing.
- b. Provide factory preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated. Basis of design: Diamondback Pre-Cut Cricket, Diamondback Pre-Cut Miter, or Tapered Fesco Edge Strip
- c. Fasteners: Factory-coated steel fasteners and metal plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening roof insulation to substrate, and furnished by roofing system manufacturer. Basis of design: UltraFast Fasteners and Plates and High Load fasteners and plates.
- d. Wood Nailer Strips: Comply with requirements in Division 06 Section "Miscellaneous Rough Carpentry."

8. EDGE METAL COMPONENTS

- a. Expansion Joints: Provide factory fabricated weatherproof, exterior covers for expansion joint openings consisting of flexible rubber membrane, supported by a closed cell foam to form flexible bellows, with two metal flanges, adhesively and mechanically combined to the bellows by a bifurcation process. Provide product from single-source roofing system supplier that is included in the No Dollar Limit guarantee. Basis of design: [Expand-O-Flash] [Expand-O-Gard]
- b. Coping System: Manufacturer's factory fabricated coping consisting of a base piece and a snap-on cap. Provide product from single-source roofing system supplier that is included in the No Dollar Limit guarantee. Basis of design: Presto-Lock Coping
 - 1) Coping Finish Kynar 500 factory finish. Color selection by Architect

- c. Metal Edge System: Manufacturer's factory fabricated metal edge system used to terminate the roof at the perimeter of the structure. Provide product from single-source roofing system supplier that is included in the No Dollar Limit guarantee. Basis of design: [Presto-Weld Drip Edge] [JM PVC-Coated Metal]
- d. Metal Flashing Sheet: Metal flashing sheet is specified in Division 07 Section "Sheet Metal Flashing and Trim."

PART 3 - EXECUTION

1. EXAMINATION

- a. Examine substrates, areas, and conditions for compliance with the requirements affecting performance of roofing system.
 - 1) General:
 - a) Verify that roof openings and penetrations are in place and set and braced and that roof drains are securely clamped in place.
 - b) Verify that wood cants, blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
 - 2) Steel Decks:
 - a) Verify that surface plane flatness and fastening of steel roof deck complies with requirements in Division 05 Section "Steel Decking."
 - 3) Ensure general rigidity and proper slope for drainage.
 - 4) Verify that deck is securely fastened with no projecting fasteners and with no adjacent units in excess of 1/16 inch (1.6 mm) out of plane relative to adjoining deck.
- b. Unacceptable panels should be brought to the attention of the General Contractor and Project Owner's Representative and shall be corrected prior to installation of roofing system.
- c. Proceed with installation only after unsatisfactory conditions have been corrected.

2. PREPARATION

- a. Clean and remove from substrate sharp projections, dust, debris, moisture, and other substances detrimental to roofing installation in accordance with roofing system manufacturer's written instructions.

- b. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction.
 - c. If applicable, prime surface of deck with asphalt primer at a rate recommended by roofing manufacturer and allow primer to dry.
 - d. Proceed with installation only after unsatisfactory conditions have been corrected.
3. SLIP SHEET INSTALLATION – FOR FUTURE PV SYSTEM
- a. Install polyester slip sheet as a loosely laid single layer beneath single ply membrane, side and end lapping each sheet a minimum of 3 inches (76.2 mm) and 6 inches (150 mm), respectively. Sheet may be tacked into place as deemed necessary.
 - b. Comply with roofing system manufacturer's written instructions for installing roof slip sheet.
 - c. Proceed with installation only after unsatisfactory conditions have been corrected.
4. INSULATION INSTALLATION
- a. Coordinate installation of roof system components so insulation and cover board are not exposed to precipitation or left exposed at the end of the workday.
 - b. Comply with roofing system manufacturer's written instructions for installation of roof insulation and cover board.
 - c. Install tapered insulation under area of roofing to conform to slopes indicated.
 - d. Install insulation boards with long joints in a continuous straight line. Joints should be staggered between rows, abutting edges and ends per manufacturer's written instructions. Fill gaps exceeding 1/4 inch (6 mm) with like material.
 - e. Install 2 or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches (150 mm) in each direction.
 - f. Trim surface of insulation boards where necessary at roof drains so completed surface is flush and does not restrict flow of water.
 - g. Install tapered edge strips at perimeter edges of roof that do not terminate at vertical surfaces.
 - h. Preliminarily Fastened Insulation [for Mechanically Fastened Membrane Systems]: Install insulation with fasteners at rate required by roofing system manufacturer or applicable authority, whichever is more stringent.
 - 1) Fasten top layer to resist uplift pressure at corners, perimeter, and field of roof.
 - i. Proceed with installation only after unsatisfactory conditions have been corrected.

5. COVER BOARD INSTALLATION

- a. Coordinate installing membrane roofing system components so cover board is not exposed to precipitation or left exposed at the end of the workday.
- b. Comply with membrane roofing system manufacturer's written instructions for installing roof cover board.
- c. Install cover board with long joints in a continuous straight line. Joints should be staggered between rows, abutting edges and ends per manufacturer's written instructions. Fill gaps exceeding 1/4 inch (6 mm) with cover board.
 - 1) Cut and fit cover board within 1/4 inch (6 mm) of nailers, projections, and penetrations.
- d. Trim surface of cover board where necessary at roof drains so completed surface is flush and does not restrict flow of water.
 - 1) Install tapered edge strips at perimeter edges of roof that do not terminate at vertical surfaces.
- e. Preliminarily Fastened Insulation for Mechanically Fastened Systems: Install cover board with fasteners at rate required by roofing system manufacturer or applicable authority, whichever is more stringent.
- f. Proceed with installation only after unsatisfactory conditions have been corrected.

6. ROOFING MEMBRANE INSTALLATION, GENERAL

- a. Install roofing membrane in accordance with roofing system manufacturer's written instructions, applicable recommendations of the roofing manufacturer and requirements in this Section.
- b. Cooperate with testing and inspecting agencies engaged or required to perform services for installing roofing system.
- c. Coordinate installing roofing system so insulation and other components of the roofing membrane system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is imminent.
 - 1) Provide tie-offs at end of each day's work to cover exposed roofing membrane sheets and insulation.
 - 2) Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system.
 - 3) Remove and discard temporary seals before beginning work on adjoining roofing.
- d. Proceed with installation only after unsatisfactory conditions have been corrected.

7. MECHANICALLY FASTENED ROOFING MEMBRANE INSTALLATION

- a. Install roofing membrane over area to receive roofing in accordance with roofing system manufacturer's written instructions.
 - 1) Unroll roofing membrane and allow it to relax before installing.
 - 2) Install sheet in accordance with roofing system manufacturer's written instructions.
- b. Accurately align roofing membranes and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- c. Mechanically fasten roofing membrane securely at terminations, penetrations, and perimeter of roofing.
- d. Always install membrane laps perpendicular to the steel deck flutes. "Picture Frame" installation method is not permitted.
- e. Apply roofing membrane with side laps shingled with roof slope, where possible.
- f. Seams: Clean seam areas, overlap roofing membrane, and hot-air weld side and end laps of roofing membrane according to manufacturer's written instructions to ensure a watertight seam installation.
 - 1) Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of roofing membrane.
 - 2) Verify field strength of seams a minimum of twice daily and repair seam sample areas.
 - a) Remove and repair any unsatisfactory sections before proceeding with Work.
 - 3) Repair tears, voids, and lapped seams in roofing membrane that do not meet requirements.
- g. Spread sealant or mastic bed over deck drain flange at deck drains and securely seal roofing membrane in place with clamping ring.
- h. In-Splice Attachment: Secure one edge of roofing membrane using fastening plates or metal battens centered within membrane splice and mechanically fasten roofing membrane to roof deck. Field-splice seam.
- i. Install roofing membrane and auxiliary materials to tie into existing roofing.
- j. Proceed with installation only after unsatisfactory conditions have been corrected.

8. BASE FLASHING INSTALLATION

- a. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.
- b. Apply solvent-based bonding adhesive at required rate and allow to partially dry. Do not apply bonding adhesive to seam area of flashing.
- c. Flash penetrations and field-formed inside and outside corners per manufacturer's installation instructions.
- d. Clean seam areas and overlap and firmly roll sheet flashings into the adhesive. Weld side and end laps to ensure a watertight seam installation.
- e. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.
- f. Proceed with installation only after unsatisfactory conditions have been corrected.

9. WALKWAY INSTALLATION

- a. Flexible Walkways: Install walkway products in locations indicated. Heat weld and adhere walkway products to substrate according to roofing system manufacturer's written instructions.
- b. Proceed with installation only after unsatisfactory conditions have been corrected.

10. FIELD QUALITY CONTROL

- a. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform roof tests and inspections and to prepare test reports.
- b. Final Roof Inspection: Arrange for roofing system manufacturer's Registered Roof Observer (RRO) to inspect roofing installation on completion and submit report to Architect.
 - 1) Notify Architect or Owner 48 hours in advance of date and time of inspection.
- c. Repair or remove and replace components of roofing system where test results or inspections indicate that they do not comply with specified requirements.
- d. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

11. PROTECTION AND CLEANING

- a. Protect roofing system from damage and wear during remainder of construction period.

- b. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- c. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION

SECTION 07 72 00
ROOF ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Equipment Supports.
 - 2. Roof Hatches.
 - 3. Guards.
 - 4. Roof Tie-Offs.

1.2 RELATED SECTIONS:

- A. Section 05 12 00 - Structural Steel
- B. Section 05 30 00 - Metal Decking
- C. Section 05 34 00 - Acoustical Metal Decking
- D. Section 05 50 00 - Metal Fabrications
- E. Section 06 10 00 - Rough Carpentry.
- F. Section 07 13 26 - Self-Adhering Sheet Waterproofing
- G. Section 07 21 00 - Thermal and Acoustical Insulation
- H. Section 07 22 00 - Roof Deck Insulation
- I. Section 07 25 00 – Weather Barriers
- J. Section 07 41 13 - Preformed Metal Roof Panels
- K. Section 07 54 19 - Polyvinyl Chloride (PVC) Roofing
- L. Section 07 62 00 - Sheet Metal Flashing and Trim
- M. Section 07 92 00 - Joint Protection
- N. Division 24 – Coordination with Mechanical Items.
- O. Coordination with other sections not listed may be required.

1.2 REFERENCES (Current Edition for All Standards Listed)

- A. AAMA 2603 – Kynar Paint Standards
- B. ASTM A36/A36M - Standard Specification for Carbon Structural Steel
- C. ANSI A10.32-12 - Personal Fall Protection Used in Construction and Demolition Operations
- D. ANSI Z359.18-17 – Safety Requirements for Anchorage Connectors.

- E. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
- F. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
- G. ASTM A240/A240M - Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications
- H. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes
- I. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
- J. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar
- K. ASTM A780/A780M - Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coating
- L. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
- M. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes
- N. ASTM C208 - Standard Specification for Cellulosic Fiber Insulating Board
- O. ASTM C920 - Standard Specification for Elastomeric Joint Sealants
- P. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board
- Q. ASTM C1311 - Standard Specification for Solvent Release Sealants
- R. ASTM C1363 - Standard Test Method for Thermal Performance of Building Materials and Envelope Assemblies by Means of a Hot Box Apparatus
- S. ASTM D226/D226M - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing
- T. OSHA 1910 – General Industry Regulations
- U. OSHA 1926 Subpart M - Safety and Health Regulations for Construction
- V. Underlayment:

1.3 SUBMITTALS

- A. Product Data: For each type of roof accessory.
- B. Shop Drawings: For roof accessories.
- C. Closeout submittals.
 - 1. Operation and maintenance data.

1.4 QUALITY ASSURANCE

- A. Manufacturer: A minimum of 5 years experience manufacturing similar products.
- B. Manufacturer's Quality System: Registered to ISO 9001:2008 Quality Standards including in-house engineering for product design activities.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver products in manufacturer's original packaging. Store materials in a dry, protected, well-vented area. Inspect product upon receipt and report damaged material immediately to delivering carrier and note such damage on the carrier's freight bill of lading.

1.6 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, protective coatings, sealants, and other miscellaneous items required by manufacturer for a complete installation.
- B. Wood Nailers: Softwood lumber, pressure treated with waterborne preservatives for aboveground use, acceptable to authorities having jurisdiction, containing no arsenic or chromium; not less than 1-1/2 inches thick.

1.7 WARRANTY

- A. Manufacturer's Warranty: Provide manufacturer's standard warranty. Materials shall be free of defects in material and workmanship for a period of five years from the date of purchase. Should a part fail to function in normal use within this period, manufacturer shall furnish a new part at no charge.
- A. Warranty: Submit executed copy of manufacturer's standard warranty under the provisions of Section 01 77 00 – "Closeout Requirements"
- B. Special Warranty on Painted Finishes: Manufacturer's standard form in which manufacturer agrees to repair finishes or replace roof accessories that show evidence of deterioration of factory-applied finishes within 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 ROOF HATCHES

- A. Basis-of-Design Manufacturer:
The BILCO Company, P.O. Box 1203, New Haven, CT 06505
Phone: (800) 366-6530, Website: www.bilco.com
- B. Roof Hatches: Metal roof-hatch units with lids and insulated single-walled curbs, welded or mechanically fastened and sealed corner joints, continuous lid-to-curb counterflashing and weathertight perimeter gasketing, stepped integral metal cant raised the thickness of roof insulation, and integrally formed deck-mounting flange at perimeter bottom.

The roof hatch shall be pre-assembled from the manufacturer.
- C. All products this Section – Substitutions per Section 01 25 13, "Substitution Procedures".
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide:

- a. The BILCO Company - <https://www.bilco.com>. Phone: (800) 366-6530.
- b. Local Representative Contact: Arvin Mendoza, Collier Building Specialties, Phone - (415) 467-9235. E-mail – arvin@colliersf.com

Type E-50TB Ladder Access Roof Hatch or approved equal

- a) Type and Size: Single-leaf lid, 36 by 36 inches.
- b) Product Website Link: <https://www.bilco.com/ProductDetail/Type-E-Roof-Hatch-Ladder-Access-21>

D. Performance characteristics:

1. Cover and curb shall be thermally broken to prevent heat transfer between interior and exterior surfaces.
2. Cover shall be reinforced to support a minimum live load of 40 psf (195kg/m²) with a maximum deflection of 1/150th of the span or wind uplift per CBC and ASCE 7-10.
3. Operation of the cover shall be smooth and easy with controlled operation throughout the entire arc of opening and closing.
4. Operation of the cover shall not be affected by temperature.
5. Entire hatch shall be weather tight with fully welded corner joints on cover and curb.

6. Hatch Material – Type F Roof Hatch:
 - a. Zinc-coated (galvanized) steel sheet.
 - b. Thickness: Manufacturer's standard thickness for hatch size indicated 0.079 inch.
 - c. Finish: Baked enamel or powder coat.
 - d. Color: As selected by Architect from manufacturer's full range.
 - e. Construction:
 - 1) Insulation:
 - a) 1-inch- thick, glass-fiber board.
 - b) R-Value: 2.78 according to ASTM C1363.
 - f. Nailer: Factory-installed wood nailer continuous around hatch perimeter.
 - g. Hatch Lid: Opaque, insulated, and double walled, with manufacturer's standard metal liner of same material and finish as outer metal lid.
 - h. Curb Liner: Manufacturer's standard, of same material and finish as metal curb.
 - i. On ribbed or fluted metal roofs, form flange at perimeter bottom to conform to roof profile.
 - j. Fabricate curbs to minimum height of 18 inches above roofing surface unless otherwise indicated (Note: non-standard height to allow for insulation thickness and 8” min. upturn at roofing material – required).
 - k. All curbs supporting roof hatches, where the top is required to remain level, shall be 18” min. high at the high side with a sloped base to match roof slope.

7. Hatch Material – E-50TB Roof Hatch:
 - a. Cover: Shall be 11 gauge (2.3mm) aluminum with a 5” (127mm) beaded flange with formed reinforcing members. Interior and exterior surfaces shall be thermally broken to minimize heat transfer and to resist condensation. Cover shall have a heavy extruded EPDM rubber gasket bonded to the cover interior to assure a continuous seal when compressed to the top surface of the curb.
 - b. Cover insulation: Shall be 3” (75mm) thick polyisocyanurate with an R-value = 18 (U=0.315 W/m²K), fully covered and protected by an 18 gauge (1mm) aluminum liner.
 - c. Curb: Shall be 18” (305mm) in height and of 11 gauge (2.3mm) aluminum. Interior and exterior surfaces shall be thermally broken to minimize heat transfer and to resist condensation. The curb shall be formed with a 5-1/2” (140mm) flange with 7/16” (11mm) holes provided for securing to the roof deck. The curb shall be equipped with an integral metal capflashing of the same gauge and material as the curb, fully welded at the corners, that features the Bil-Clip® flashing system, including stamped tabs, 6” (153mm) on center, to be bent inward to hold single ply roofing membrane securely in place.
- A. Lifting Mechanisms: Manufacturer shall provide compression spring operators enclosed in telescopic tubes to provide, smooth, easy, and controlled cover operation throughout the entire arc of opening and closing. The upper tube shall be the outer tube to prevent accumulation of moisture, grit, and debris inside the lower tube assembly. The lower tube shall interlock with a flanged support shoe welded to the curb assembly.
- B. Hardware
 1. Heavy stainless steel pintle hinges shall be provided
 2. Cover shall be equipped with a spring latch with interior and exterior turn handles
 3. Roof hatch shall be equipped with interior and exterior padlock hasps.
 4. The latch strike shall be a stamped component bolted to the curb assembly.
 5. Cover shall automatically lock in the open position with a rigid hold open arm equipped with a 1” (25mm) diameter red vinyl grip handle to permit easy release for closing.
 6. Compression spring tubes shall be an anti-corrosive composite material and all other hardware shall be zinc plated and chromate sealed.
 7. Cover hardware shall be bolted into heavy gauge channel reinforcing welded to the underside of the cover and concealed within the insulation space.
- E. Guards – Friction Fit - Where indicated in drawings:
 1. Basis of Design –
 - a. Best Materials, Ph. (800) 474-7570. Website: www.bestmaterials.com
 - b. Model - Saf-T-Hatch Rooftop Safety Rail, or equal.
https://www.bestmaterials.com/PDF_Files/JL-Roof_Hatch_Safety_Rail_STH_submittal.pdf
 2. Description:
 - a. Friction/compression fit guardrail system.

- b. 42" minimum above finished roof plane.
3. Finish Manufacture's standard.
 - a. Color: As selected by Architect from manufacturer's full range.
- F. Ladder-Assist Post: Roof-hatch manufacturer's standard device for attachment to roof-access ladder.
 1. Operation: Post locks in place on full extension; release mechanism returns post to closed position.
 2. Height: 42 inches above finished roof deck.
 3. Material: Steel.
 4. Post: 1-5/8-inch- diameter pipe.
 5. Finish: Manufacturer's standard baked enamel or powder coat.
 - a. Color: As selected by Architect from manufacturer's full range.

2.2 EQUIPMENT SUPPORTS

- A. Equipment Supports: metal equipment supports capable of supporting superimposed live and dead loads between structural supports, including equipment loads and other construction indicated on Drawings, spanning between structural supports; capable of meeting performance requirements; with welded or mechanically fastened and sealed corner joints, stepped integral metal cant raised the thickness of roof insulation, and integrally formed structure-mounting flange at bottom.
- B. Size: Coordinate dimensions with roughing-in information or Shop Drawings of equipment to be supported.
- C. Material: Zinc-coated (galvanized) steel sheet, 0.079 inch thick.
 1. Finish: Baked enamel or powder coat.
 2. Color: As selected by Architect from manufacturer's full range.
- D. Construction:
 1. Curb Profile: Profile as indicated on Drawings compatible with roofing system.
 2. Insulation: Factory insulated with 1-1/2-inch- thick glass-fiber board insulation.
 3. Liner: Same material as equipment support, of manufacturer's standard thickness and finish.
 4. Nailer: Factory-installed continuous wood nailers 1-1/2 inches wide under top flange on side of curb, continuous around support perimeter.
 5. Platform Cap: Where portion of equipment support is not covered by equipment, provide weathertight platform cap formed from 3/4-inch- thick plywood covered with metal sheet of same type, thickness, and finish as required for curb.
 6. Metal Counterflashing: Manufacturer's standard, removable, fabricated of same metal and finish as equipment support.
 7. On ribbed or fluted metal roofs, form deck-mounting flange at perimeter bottom to conform to roof profile.

8. Fabricate equipment supports to minimum height of 18 inches above roofing surface unless otherwise indicated.
9. Sloping Roofs: Where roof slope exceeds 1:48, fabricate each support with height to accommodate roof slope so that tops of supports are level with each other (at mechanical equipment curbs as indicated on Sheet M5.1.1, and as noted elsewhere in the drawings. Equip supports with water diverters or crickets on sides that obstruct water flow.

2.3 METAL MATERIALS

- A. Zinc-Coated (Galvanized) Steel Sheet: ASTM A653/A653M, G90 coating designation.
 1. Baked-Enamel or Powder-Coat Finish: After cleaning and pretreating, apply manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat to a minimum dry film thickness of 2 mils.
 2. Concealed Finish: Pretreat with manufacturer's standard white or light-colored acrylic or polyester-backer finish consisting of prime coat and wash coat, with a minimum total dry film thickness of 0.5 mil.
- B. Aluminum Sheet: ASTM B209, manufacturer's standard alloy for finish required, with temper to suit forming operations and performance required.
 1. Baked-Enamel or Powder-Coat Finish: AAMA 2603 except with a minimum dry film thickness of 1.5 mils. Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.
- C. Aluminum Extrusions and Tubes: ASTM B221, manufacturer's standard alloy and temper for type of use, finished to match assembly where used; otherwise mill finished.
- D. Stainless Steel Sheet and Shapes: ASTM A240/A240M or ASTM A666, Type 304.
- E. Steel Shapes: ASTM A36/A36M, hot-dipped galvanized according to ASTM A123/A123M unless otherwise indicated.
- F. Steel Tube: ASTM A500/A500M, round tube.
- G. Galvanized-Steel Tube: ASTM A500/A500M, round tube, hot-dip galvanized according to ASTM A123/A123M.
- H. Steel Pipe: ASTM A53/A53M, galvanized.

2.4 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, protective coatings, sealants, and other miscellaneous items required by manufacturer for a complete installation.
- B. Cellulosic-Fiber Board Insulation: ASTM C208, Type II, Grade 1, thickness as indicated.
- C. Polyisocyanurate Board Insulation: ASTM C1289, thickness and thermal resistivity as indicated.
- D. Wood Nailers: Softwood lumber, pressure treated with waterborne preservatives for aboveground use, acceptable to authorities having jurisdiction, containing no arsenic or chromium, and complying with AWPA C2; not less than 1-1/2 inches thick.
- E. Underlayment:
 1. Felt: ASTM D226/D226M, Type II (No. 30), asphalt-saturated organic felt, nonperforated.

2. Self-Adhering, High-Temperature Sheet: Minimum 30 to 40 mils thick, consisting of slip-resisting polyethylene-film top surface laminated to layer of butyl or SBS-modified asphalt adhesive, with release-paper backing; cold applied. Provide primer when recommended by underlayment manufacturer.
- F. Fasteners: Roof accessory manufacturer's recommended fasteners suitable for application and metals being fastened. Match finish of exposed fasteners with finish of material being fastened. Provide nonremovable fastener heads to exterior exposed fasteners. Furnish the following unless otherwise indicated:
- G. Gaskets: Manufacturer's standard tubular or fingered design of neoprene, EPDM, PVC, or silicone or a flat design of foam rubber, sponge neoprene, or cork.
- H. Elastomeric Sealant: ASTM C920, elastomeric polymer sealant as recommended by roof accessory manufacturer for installation indicated; low modulus; of type, grade, class, and use classifications required to seal joints and remain watertight.
- I. Butyl Sealant: ASTM C1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for expansion joints with limited movement.

2.5 ROOF TIE OFFS See 05 50 00 2.21 Safety Tie Offs

- A. ~~Guardian Fall Protection Co., CB-18 Anchor Point, or equal. Phone (800) 466-6385.
Product Website Link: <https://www.guardianfall.com/performance-safety-products/anchor-points/product/cb-18-anchor-point>~~
- B. ~~Substitutions per the requirements in Section 01-25-00, "Substitution Procedures".~~
- C. ~~Applicable standards OSHA 1910, OSHA 1926 Subpart M, ANSI Z359.18-17* see instructions, and ANSI A10.32-12. min. Breaking strength 5,000 lbs.~~

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and openings for compliance with requirements for installation tolerances and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install products in strict accordance with manufacturer's instructions and approved submittals. Locate units level, plumb, and in proper alignment with adjacent work.
 1. Test units for proper function and adjust until proper operation is achieved.
 2. Repair finishes damaged during installation.
 3. Restore finishes so no evidence remains of corrective work.
- B. General: Verify dimensions of roof openings for roof accessories. Install roof accessories according to manufacturer's written instructions.

1. Install roof accessories level; plumb; true to line and elevation; and without warping, jogs in alignment, buckling, or tool marks.
 2. Anchor roof accessories securely in place so they are capable of resisting indicated loads.
 3. Use fasteners, separators, sealants, and other miscellaneous items as required to complete installation of roof accessories and fit them to substrates.
 4. Install roof accessories to resist exposure to weather without failing, rattling, leaking, or loosening of fasteners and seals.
- C. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.
1. Coat concealed side of uncoated aluminum roof accessories with bituminous coating where in contact with wood, ferrous metal, or cementitious construction.
 2. Underlayment: Where installing roof accessories directly on cementitious or wood substrates, install a course of underlayment and cover with manufacturer's recommended slip sheet.
- D. Seal joints with elastomeric or butyl sealant as required by roof accessory manufacturer.

3.3 REPAIR AND CLEANING

- A. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing according to ASTM A780/A780M.
- B. Touch up factory-primed surfaces with compatible primer ready for field painting according to Section 09 90 00, "Painting"
- C. Clean exposed surfaces according to manufacturer's written instructions.
- D. Replace roof accessories that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures.

END OF SECTION

**SECTION 08 81 00
GLASS GLAZING**

PART 1 - GENERAL

1.1. SECTION INCLUDES

- A. Glass and glazing for windows and doors.

1.2. REFERENCES

- A. ASTM C-1036 - Standard Specification for Flat Glass.
- B. ASTM C- 1048 - Standard Specification for Heat-Treated Flat Glass - Kind FT Coated and Uncoated Glass.
- C. Glass Association of North America (GANA) (formerly FGMA) - Glazing Manual.
- D. Title 24, Part 2, Chapter 24, current edition.

1.3. QUALITY ASSURANCE

- A. Conform to GANA Glazing Manual for glazing installation methods.
- B. Manufacturer: Manufacturer shall have produced the specified system or products for a period of one (1) year prior to beginning work of this section, and shall have the capability to produce the specified products to the delivery and quantity criteria of the project.
- C. Staff:
 - 1. Use only personnel who are thoroughly trained and experienced in the skills required and have installed similar applications of the specified products within one year prior to beginning work of this section.
 - 2. Use only staff who are completely familiar with the manufacturers' recommended methods of installation as well as the requirements of this work.

1.4. SUBMITTALS

- A. Submit in accordance with the provisions of Section 01 33 00.
- B. Materials List: Provide complete list of all proposed materials and accessories, including product data on performance criteria.
- C. Samples: Accompanying materials list, submit three 12 inch square samples of each glass type. Grind and seal all edges.
- D. Shop Drawings: Provide complete shop drawings indicating glass type, installation method, and materials used.

1.5. DELIVERY, STORAGE, AND PROTECTION

- A. Deliver products to site under provisions of the General Conditions.
- B. Store and protect products under provisions of the General Conditions.

1.6. WARRANTY

- A. Warranty:

1. Provide, in Architect approved form, the Owner with a guarantee against the following specific defects or failures for a period of three (3) years after Notice of Substantial Completion:
 - a. Broken, cracked or otherwise damaged glass not resulting from vandalism.
 - b. Water intrusion through sealant/glass joint.
 - c. Sealant failure.
 - d. Fogging or delamination at laminated glass.
- B. *Insulating Glass Warranty:*
 1. *Provide, in Architect approved form, the Owner with manufacturers warranty against the following specific defects or failures for a period of ten (10) years after Notice of Substantial Completion:*
 - a. *No material obstruction of vision through glass caused by accumulation of dust, moisture or film on the internal surface of glass caused by insulating seal failure.*
 - b. *Water intrusion through sealant/glass joint.*

PART 2 - PRODUCTS

1.1. MANUFACTURERS

- A. Basis of Design: Characteristics of specific products, where named in this Section, are indicated to establish required level of quality, appearance, and performance. Architect will consider requests for substitutions, under the provisions of Section 01 25 00.

1.2. INSULATING GLASS UNIT, FULLY TEMPERED – GL-1

- A. Fabricator: Fabricator:
 1. Vitro certified fabricator.
 2. Accepted fabricator - Oldcastle Glass, www.OldcastleGlass.com, or equal.
- B. Series/Type: Dual glazed glass units, fully tempered,
 1. Exterior Lite: 1/4-inch Virto Azuria.
 2. Interior Lite: 1 / 4 inch Vitro Solarblue on Surface 3.

1.3. TEMPERED VISION GLASS – SINGLE LITE - GL-02

- A. Manufacturer: Vitro, www.vitro.com, or equal.
- B. Product Representative -
 - a. *Architectural Services Representative*
 - b. **Cassie Sciulli**
 - c. Glass Technology Center - 400 Guys Run Road, Cheswick, PA 15024
 - d. T: 412-820-8073
 - e. csciulli@vitro.com

C. Vitroglazings.com | 1-855-VTRO-GLS

D. Type:

1. Type: Clear, single vision, fully tempered, float glass.

E. Characteristics:

1. Total Thickness: 1/4 inch minimum, and as required by code.
2. Characteristics: Type 3 Clear
 - a. Strength: Fully Tempered (Kind FT) per ASTM C 1048 and ASTM C 1036. Permanently label all tempered glass.
 - b. Type: Condition A - uncoated, Type 1 - transparent, Class 1 - clear, q3 quality - glazing select, float glass.
 - c. Light Transmission: 89% visible light.
 - d. Shading Coefficient: 0.94.
 - e. Safety Standards: Comply with Chapter 24, Part 2, Title 24, CCR safety glazing requirements.

1.4. FIRE RATED GLASS – GL-03

A. Manufacturer: SAFTIFirst, www.safti.com, or equal.

B. Type: Clear ceramic, laminated, fire rated glazing.

C. Series: PYRAN Platinum L.

D. Characteristics:

1. Total Thickness: 3/8 inch.
2. Fire Rating: WHI or UL Classified as to fire resistance only. Refer to drawings for locations. Fire rated glass shall be permanently labeled.
3. Type: Clear (amber tint free), laminated, non-wire glass ceramic.
4. Frames: Provide fire rated frames as required by listing.

Safety Rating: Comply with Chapter 24, Part 2, Title 24, CCR impact safety glazing requirements

1.6 INSULATING GLASS UNIT GL – 4.

E. Total Thickness: One inch, and as required by code, with 1/2 inch air space.

1. Exterior Lite: 1/4-inch Vitro Clear ~~Azuria~~
2. Interior Lite: 1/4 inch Vitro Clear. ~~ICD Opaci coat #6 1495, Azuria Sky~~

F. Characteristics:

1. Strength: Each lite fully Tempered (Kind FT) per ASTM C 1048 and ASTM C 1036. Permanently label all tempered glass.
2. SHGC: 0.22.
3. Visible Light Transmission: 24 percent.



AD-1

4. Shading Coefficient: 0.25.
5. U-value – Summer Daytime: 0.26.
6. U-value – Winter Night: 0.28.
7. Safety Standards: Comply with CBC Chapter 24, safety glazing requirements.
8. Seal Classification: Class CBA per ASTM E 773/774, with third party validation required.

G. Accessories:

1. Capillary Tubes: Provide capillary tubes at units as recommended by manufacturer for installed altitude conditions.

1.5. GLASS DESIGN CRITERIA

- A. Provide glass thickness, edge support, "bite," and other engineering criteria per referenced standards *and Chapter 24, Title 24, Part 2, CCR*.
- B. Provide glass that has been produced, fabricated, and installed to withstand normal thermal movement and wind loading, without failure, including loss or breakage of glass, failure of sealants or gaskets to remain watertight and airtight, deterioration of glass and glazing materials and other defects in the work.
 1. Normal thermal movement is defined as that resulting from a consequent temperature range of +10 degrees F to +180 degrees F within glass and glass framing members.
- C. Provide glass thickness in minimum thickness specified and as required *to meet* the following criteria (also see SheetS1.1.1) -
 1. Wind Speed: 136 MPH wind speed, (3 second gust)
 2. Exposure: Category C.
- D. Provide safety glazing complying with at all locations as required by Section *2406, Part 2, Volume 2, Title 24*.
 1. Provide permanent etched or ceramic fired label on all safety glazing, visible after installation.

1.6. GLAZING ACCESSORIES

- A. Setting Blocks: Neoprene or EPDM with a Shore A Durometer value of 85 +_ 5.
- B. Spacer Shims: Neoprene with a Shore A Durometer value of 50.
- C. Foam Glazing Tapes / Beads: Provide manufacturers recommended system, UV Stabilized, black color.
- D. *Glazing putty/sealant: Provide DOW or equal, Series 795 structural silicone sealant for repair of existing window system glazing. Color as selected by Architect from standard color line.*

1.7. GLAZING FILM

- A. *Manufacturer: Madico, www.madico.com or equal.*
- B. *Type: Energy control film, pressure sensitive.*
- C. *Series: Sunscape Select, SB-35.*
- D. *Characteristics:*
 1. *Total Solar Energy Transmitted: 35 percent*

2. *Visible Light Transmitted: 41 percent*
 3. *Shading Coefficient: 0.52 minimum*
 4. *Solar Heat Gain Coefficient: 0.45*
 5. *Ultraviolet Light Transmitted: 0.-4.0%*
- E. *Color: Soft Bronze*
- F. *Application: Interior surface of existing exterior patient room windows*

1.8. OTHER MATERIALS

- A. Provide all other materials, not specifically described but required for complete and proper installation of this work, as selected by the contractor and subject to the approval of the Architect.

PART 3 - EXECUTION

1.1. SURFACE CONDITIONS

- A. Inspection
1. Prior to work of this section, carefully inspect previously installed work. Verify all such work is complete to the point where this installation may properly commence.
 2. Verify that work of this section may be installed in strict accordance with the original design, all pertinent codes and regulations, and all pertinent portions of the referenced standards.
 - a. Verify surfaces of glazing channels or recesses are clean and free of obstructions.
 - b. *Verify insulating glass unit sealant is compatible with window system glazing methods specified in Section 08520.*
 3. In the event of discrepancy, immediately notify the Architect.
 4. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

1.2. GLASS INSTALLATION

- A. General
1. Install all glass at proper ambient temperatures.
 2. Do not glaze assemblies when damp or wet due to rain, dew, condensation, or other moisture sources.
 3. Protect glass from edge damage during handling and installation; use a rolling block in rotating glass units to prevent damage to glass corners.
 4. Do not impact glass with metal framing.
 5. Use suction cups to shift glass units within openings; do not raise or drift glass with a pry bar.
 6. Rotate glass with flares or bevels along one horizontal edge which would occur in vicinity of setting blocks so that these are located at top of opening.
 7. Remove from project and dispose of glass units with edge damage or other imperfections of the type that, when installed, weaken glass and impair performance and appearance.

8. Install all glass within ambient temperature limits established by glass manufacturer.
 9. Set units of glass in each series with uniformity of pattern, draw, bow, and similar characteristics.
- B. Install all glass products in accordance with referenced codes, standards, and approved submittals. Install per recommendations of manufacturer, and as specified in related sections.
- C. Install in accordance with Listing and labeling requirements.
1. Install wire glass with mesh pattern aligned vertically and horizontally.
- D. Rest glass on setting blocks per referenced standard.
1. Install neoprene or EPDM setting blocks. No lead setting blocks permitted.
 2. Provide minimum 4 inch long setting block, and as required by glass manufacturer. Install at quarter points unless otherwise approved.
 3. Provide setting block width 1/16 to 1/8 inch less than the width of the glazing pocket, and a minimum of 1/8 inch wider than glass thickness.
 4. Provide edge blocking at all jamb conditions of captured pocket glazing.
- E. Repair of existing glazing system.
1. Where shown on drawings, repair existing glazing assemblies.
 2. Remove all existing putty or sealant by approved means, providing satisfactory surface for sealant installation.
 3. Install glass on approved setting blocks with specified sealant. Install in accordance with sealant manufacturers recommendations.
- F. Glazing Film installation:
1. Apply glazing film to all glass within Room CR08 and at all other locations shown on drawings.
 2. Cut film sharply and without gaps, waves, or tears to fit tight against frame.
 3. Apply without wrinkles, bubbles, or gaps at edges.

1.3. PROTECTION AND CLEANING

- A. Protect glass from breakage immediately upon installation by use of crossed streamers attached to framing and held away from glass. Do not apply tape or marking of any kind to glass surface. Remove non-code required and non-permanent labels.
- B. Remove tape after work is completed.
- C. Protect glass from contact with contaminating substances resulting from construction operations. If, despite such protection, contaminating substances do come into contact with glass, remove immediately by method recommended by glass manufacturer.
- D. Examine glass surfaces adjacent to or below exterior plaster, concrete and other masonry surfaces at frequent intervals during construction, but not less often than once a month, for build-up of dirt, scum, alkali deposits or staining. When examination reveals presence of these forms of residue, remove by method recommended by glass manufacturer. Remove tape after work is completed.
- E. Do not store materials or any kind against interior or exterior surfaces of glass or glass frame. Remove tape after work is completed.
- F. Immediately prior to completion of the Work, clean all glass using manufacturers approved methods.

1.4. REPLACEMENT

- A. Immediately remove all glass delivered to site with manufacturing or fabrication defects.
- B. Remove and replace all glass broken, cracked, abraded or damaged in any other way during construction period due to construction, vandalism, natural occurrences or other causes.

END OF SECTION

SECTION 09 22 36

CEMENT PLASTER LATHING AND LATH ACCESSORIES

PART 1 - GENERAL

1.1. DESCRIPTION

- A. This Section includes cement plaster lathing and lath accessories over a continuous water-resistive barrier system with solid continuous sheathing and framed structural supports.

1.2. RELATED SECTIONS

- A. Section 07 25 00 Water Resistive Barrier System
- B. Section 09 24 00 Portland Cement Plastering

1.3. SUBMITTALS

- A. Product Data: Submit each type of lath, fastener and accessory.
- B. Shop Drawings: Submit wall elevation shop drawings showing lath accessory locations, for District's Representative's review and approval. Submit shop drawings for any locations requiring lath accessories that are not clearly depicted in Drawings.

1.4. QUALITY ASSURANCE

- A. Installer shall have 5 years of documented previous lathing experience on at least 5 similar scope projects, using the specified or generically comparable materials.
- B. Perform work in accordance with the current building code requirements.
- C. Follow recommendations of ASTM C1063 Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster, Portland Cement Association Plaster/Stucco Manual EB049 and ACI 524-R Guide to Portland Cement Based Plaster.
- D. Mock-ups: Provide products, assemblies, and related materials for the composite mock-ups specified in Section 01 32 19 Mock-ups.
- E. Pre-Installation Conference: Conduct conference at Project site in accordance with the requirements of Section 01 31 19 Project Meetings and the following:
 - 1. Notify participants including District's Representative, Contractor, Sheet Metal Flashing, Window and Sealant Subcontractors as appropriate and District's Waterproofing Consultant at least 7 calendar days before conducting meeting.
 - 2. Review material selections and procedures to be followed in performing the Work.
 - 3. Review in detail job conditions, schedule, construction sequence, and quality of completed installation.
 - 4. Review installation of lathing, lath accessories, with special attention to detailing of control joints and expansion joints.
 - 5. Record discussions of conference and any conflict, incompatibility, or inadequacy. Furnish a copy of record to each participant.

1.5. ENVIRONMENTAL QUALITY ASSURANCE

- A. Provide lathing and lath accessories with recycled content such that post-consumer recycled content plus one-half of pre-consumer recycled content constitutes a minimum percentage of cost of materials used for the Project as required for the LEED Credit.

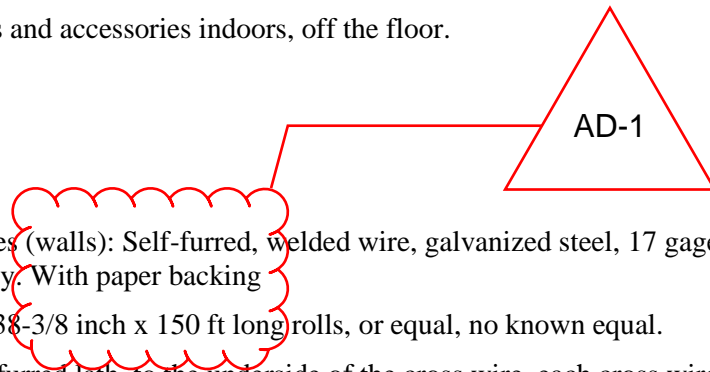
1.6. PRODUCT DELIVERY, STORAGE, AND HANDLIN

- A. Refer to Section 01 60 00 Product Requirements.
- B. Deliver products and materials in original unopened packages, containers, or bundles with manufacturer's label intact and legible.
- C. Remove items delivered in broken, damaged, rusted, or unlabeled condition from Project site immediately.
- D. Protect lathing and lath accessories from moisture and other sources of damage.
- E. Store metallic materials and accessories indoors, off the floor.

PART 2 - PRODUCTS

1.1. LATHING

- A. Lath for vertical surfaces (walls): Self-furred, welded wire, galvanized steel, 17 gage, 1-1/2 inch x 1-1/2 inch, 1.14 lbs./sq. ft. With paper backing
 - 1. Chicago Metallic 38-3/8 inch x 150 ft long rolls, or equal, no known equal.
 - a. 1/4 Inch self-furred lath, to the underside of the cross wire, each cross wire is furred. Furring rows every 3 inch on center.
 - b. Double wires at fastener locations.
 - B. Lath for horizontal surfaces (ceilings/soffits): Self-furred with continuous V-groove, expanded metal, galvanized steel G60, 3.4 lbs./sq. ft., with paper backing to facilitate spray applications. Chicago Metallic, or equal.



1.2. FASTENERS

- A. Screws (for light gage metal framing):
 - 1. General: ASTM C646, corrosion resistant, for attachment to metal framing 25 gauge and lighter; ASTM C954 for attachment to metal framing 20 gauge and heavier.
 - 2. Steel Drill Screws: For metal-to-metal fastening, ASTM C 1002 or ASTM C 954, as required by thickness of metal being fastened; with pan head that is suitable for application; in lengths required to achieve penetration through joined materials of not fewer than three exposed threads.
- B. Tie Wires: No. 18 gauge, galvanized, single strand annealed steel.

1.3. LATH ACCESSORIES

- A. General: Fabricated from hot-dip galvanized steel sheet, ASTM A 653/A 653M, G60 zinc coating, 26 gauge minimum, 3/4 inch minimum ground depth, typical unless otherwise noted below. Cemco, Amico, Stockton Products, or equal.

1. Foundation weep screed flashing: #7 Foundation weep screed, with sloped drainable plaster termination surface, 3-1/2 inch solid sheet metal flange, non-perforated.
2. Soffit drip screed: #12 soffit drip, with sloped drainable plaster termination surface, 3-1/2 inch solid sheet metal flange, non-perforated.
3. Drip screed above wall opening head flashings such as windows, doors, louvers: #36 drip screed, 3-1/2 inch solid sheet metal flange, non-perforated.
4. Soffit vent: Standard profile soffit vent reveal screed.
5. Outside corner reinforcement: Welded wire, galvanized, plastic nose. Corner-Aid, or equal.
6. Casing bead: Square edge, expanded sheet metal flange. Provide deep leg casing bead where required for perpendicular sealant bearing surface.
7. Expansion joint: 2-piece galvanized steel, solid sheet metal flanges.
 - a. For horizontal orientations only: Drainable, non-perforated: M-Slide, or equal.
 - b. For vertical orientations on walls only: #40.
8. Control joint:
 - a. 1/2 Inch ground depth, minimum.
 - b. For vertical orientations on walls only, and all soffits: XJ-15, galvanized steel, expanded sheet metal flanges.
 - c. For horizontal orientations on walls only: Solid leg #15 control joint, G90 galvanized steel, Cemco, or equal, no known equal.

PART 3 - EXECUTION

1.1. INSTALLATION, GENERAL

- A. Install materials in conformance with CBC Chapter 25 requirements and ASTM C1063.
- B. Install lath continuously and perpendicular to supports, over the water-resistive barrier system and continuous solid sheathing.
- C. Fasten lath to supports at 6 inches on center and avoid installing excessive fasteners to minimize cracking.
- D. Fasten lath edges into framing, within 2 inches from lath sides or edges.
- E. Provide control joints conforming to locations identified by District's Representative, but not to exceed 10 feet on center maximum.

1.2. INSTALLATION OF LATHING

- A. Vertical walls:
 1. Install horizontal drainage components including sheet metal flashings, weep screeds, soffit drips, 1-piece horizontal control joints, 2-piece horizontal expansion joints and drip screeds, and weather lap with water-resistive barrier system components to ensure drainage.

2. Install lath horizontally onto vertical wall surfaces, lap lath sides and ends not less than 1 mesh for wire lath.
3. Attach lathing to framing supports with fasteners spaced 6 inches apart vertically, generally between the doubled lath wires when using screws into metal framing, or at cross wires when using nails into wood framing, at each vertical framing support member.
4. Lath fasteners into horizontal framing or blocking in framed vertical walls are not required.
5. Install lath continuously into and around wall corners, where the structural support system is the same on both sides of the corner. Provide #30 control joint at interior corners of different support system substrates.
6. Wire tie or crimp lathing side laps as required to assure continuous direct lathing contact during plastering.
7. Prevent damage to, and immediately repair damage that does occur, to the water-resistive barrier system. Repair defects of the water-resistive barrier system immediately when observed and as lathing progresses. Repair any conditions caused by lathing and lath accessory installation that would allow water intrusion, such as spinners and shiners (removed or abandoned fasteners that miss supports), tears, rips overdriven fasteners, or any other condition that would allow bulk water intrusion beyond the water-resistive barrier system into the building.

B. Horizontal ceilings and soffits:

1. Lap lath sides and ends not less than 1 inch for expanded sheet metal lath at soffits.
2. Comply with CBC 2507.3 requirements for soffit lath fasteners and installation.

1.3. INSTALLATION OF LATH ACCESSORIES

A. General:

1. Align grounds of lath accessories to true lines, plumb, level, and straight. Bend expanded flange accessories into fine alignment, do not shim.
2. Connect lengths of accessories as recommended by the manufacturer to assure a continuous line.
3. Install accessories to provide required depth of plaster and to bring plaster surface to required planar tolerance.
4. Secure lath accessories in place as required to prevent dislodging or misalignment during plastering installation. Use self-tapping screws into metal framing supports.
5. In general, attach lath accessories over water-resistive barrier system, over lathing, unless noted otherwise.
6. Terminate ends of lath accessories at intersections with other lath accessories. Do not allow in-line butt splices at locations other than at lath accessory intersections.
7. Lap water-resistive barrier system components and lathing over solid flange lath accessories and drainage flashings to ensure drainage.
8. Fasten solid flange lath accessories 7 inches on center into the upper 1-1/2 inch of solid vertical flange, into supports.
9. Embed laps, terminations, transitions and intersections into solid sealant setting bed to

prevent bulk water intrusion into the wall assembly.

B. Lath accessory installation and fastening:

1. Weep, soffit, and drip screeds: Fasten through solid flange into supports.
2. Soffit vent: Discontinue lath and water-resistive barrier system at vent, fasten vent into supports.
3. Casing beads:
 - a. Use single length casing beads wherever length of run does not exceed 10 feet and miter or cope corners.
 - b. Provide 3/8 in. minimum gap for sealant between casing bead, wall openings and penetrations.
 - c. Set casing beads level, plumb, and true to line, fasten to supports.
 - d. Provide casing beads at the following locations:
 - 1) Where plaster abuts dissimilar construction.
 - 2) At perimeter of openings where edges of plaster will not be concealed by other Work.
4. Outside corner reinforcement: Fasten to supports. Install continuous corner reinforcement for full length of external corners.
5. Expansion joint: Fasten flanges into supports, centered over gap in supports.
6. District's Representative will approve location of control and expansion joints. At intersections of vertical and horizontal joints, continue horizontal joint through intersection.
7. Solid flange #15 control joint, horizontal: Discontinue lath through control joint. Fasten upper solid flange of control joint and lath side into supports. Fasten lath side below control joint into supports and wire tie lower control joint expanded sheet metal flange to lath side at 7 inches on center.
8. Expanded flange control joint, vertical: Discontinue lath through control joint, fasten lath edges to supports at 7 inches on center. Wire tie expanded sheet metal flanges of control joints onto lath at 7 inches on center.

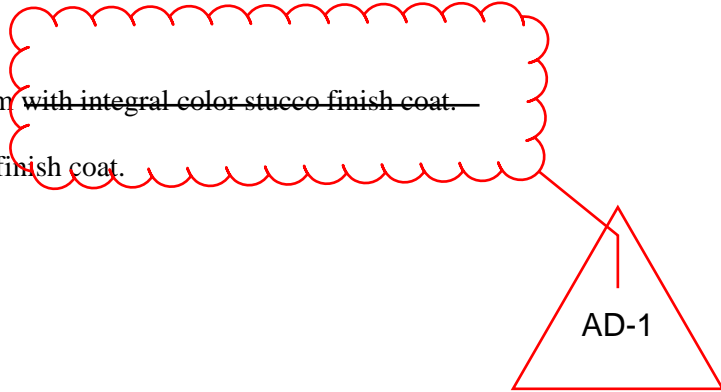
END OF SECTION

SECTION 09 24 00
PORTLAND CEMENT PLASTERING

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Metal furring and lathing.
- B. Three-coat Portland cement plaster system ~~with integral color stucco finish coat.~~
- C. Patching of interior plaster, with smooth finish coat.



1.2 RELATED SECTIONS

- A. Section 00 72 00: General Conditions.
- B. Section 09 90 00: Painting.

1.3 REFERENCES

- A. ANSI/ASTM C1063-16c - Installation of Lathing and Furring to Receive Interior and Exterior for Portland Cement-Based Plaster.
- B. ANSI/ASTM C91 / C91M-12 - Masonry Cement.
- C. ASTM C150 / C150M-16e1 - Portland Cement.
- D. ANSI/ASTM C206-14 - Finishing Hydrated Lime.
- E. ASTM C847-14a - Metal Lath.
- F. ANSI/ASTM C897-15 - Aggregate for Job-Mixed Portland Cement-Based Plasters.
- G. ANSI/ASTM C926-16b - Application of Portland Cement-Based Plaster.
- H. FS-UU-B-790 - Building Paper, Vegetable Fiber (kraft, waterproofed, water repellent and fire resistant).

1.4 QUALITY ASSURANCE

- A. Applicator: Company specializing in cement plaster work with five years experience.
- B. Apply cement plaster in accordance with ASTM C926.

1.5 SUBMITTALS

- A. Submit product data under provisions of Section 00 72 00.
- B. Provide product data on furring and lathing components, plaster materials, characteristics and limitations of products specified, and plastering accessories.
- C. Submit manufacturer's installation instructions under provisions of Section 00 72 00.
- D. Submit color charts for selection of integral color finish coat from manufacture's standard range of a minimum of twelve colors. (Note that the plaster is also required to be painted under Section 09900).
- E. Submit sample of selected color and texture to match existing finish.

1.6 PRODUCT HANDLING

- A. Delivery, storage and handling in accordance with provisions of Section 00 72 00.
- B. Deliver manufactured products to job site in their original unopened containers with labels intact and legible at the time of use.
- C. Do not permit scattering of materials or equipment but use necessary means to ensure neatness of the site and structure at all times.
- D. Perform cleaning of tools and equipment only in the area designated for that purpose.
- E. Protection: Use means necessary to protect lath and plaster materials before, during and after installation and to protect the installed work and materials of other trades.
- F. Replacements: In the event of damage, immediately make repairs and replacements necessary to the approval of the Architect and at no additional cost to Owner.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Do not apply plaster when substrate or ambient air temperature is less than 50 degrees F. nor more than 90 degrees F. If freezing is expected, do not apply plaster beyond period of day necessary for hydration.
- B. Maintain minimum ambient temperature of 50 degrees F. during and after installation of plaster.
- C. Protect plaster from uneven and excessive evaporation during any weather.

PART 2 – PRODUCTS

2.1 PLASTER MATERIALS

- A. Cement: ASTM C150, Normal - Type I, low alkali; grey color; Portland Cement.

- B. Admixture: PRF Admixture as manufactured by Gibco, Inc.
- C. Aggregate: In accordance with ANSI/ASTM C897-05(latest edition), except that gradation shall meet the following requirements:

Sieve Size	Percent Retained on each sieve (by weight)	
	Maximum	Minimum
No. 4	0	-
No. 8	10	0
No. 16	40	10
No. 30	65	30
No. 50	90	70
No. 100	100	90-95

- D. The sand should not have more than 50% retained between any two consecutive sieves nor more than 25% between Nos. 50 and 100 sieves.
- E. Water: Clean, fresh, potable and free of mineral or organic matter which can affect plaster.
- F. Pre-Mixed Finish Coat (Stucco): Acrylic modified water-repellent Portland cement base with integral color prepared in accordance with specifications of the Stucco Manufacturers Association. Acceptable Manufacturers: Peerless Stucco, La Habra, or approved equal. Texture to match existing. Color as selected by Architect from Manufacturer's standard range of a minimum of twelve colors.
- G. Acrylic Modifier for Finish Coat: Acryl 60 as manufactured by Thoro Systems Products(BASF).

2.2 FURRING AND LATHING REFER TO SPEC SECTION 09 22 36

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- ~~A. General: All metal to be galvanized steel or zinc alloy.~~
- ~~B. Metal Lath: Hot dipped galvanized, ASTM A653 / A653M, G60 coating designation for use over solid substrate. Provide and install self-furring lath and furring nails.~~
- ~~C. Expanded Metal Lath: ASTM C847.~~
- ~~D. Vertical Walls: Self-furring diamond mesh weighing 3.4 pounds per square yard, with evenly spaced furring nails to hold lath approximately 1/4 inch away from substrate for use at non-sheathed substrates.~~
- ~~E. Horizontal Areas: 3/8 inch Rib Lath: 3.4 pounds per square yard, fabricate in herringbone mesh pattern with 3/8 inch deep ribs for use at suspended plaster ceilings and soffits.~~
- ~~F. Building Paper: FS-UU-B-790, Style 2, Grade D.~~

- G. Fasteners: Provide types and sizes required in CBC, 2016 edition, Table 2507.2. Metal framing: use self-drilling, self-tapping #12 x 2" wafer head screws. Spacing of nails, staples or screws is not more than 7" on center along the framing member (horizontal or vertical).
- H. Metal Accessories: General: Minimum 26-gauge galvanized steel or zinc alloy, perforated or expanded flanges as manufactured by USG, Clark Western, Keene/Metelex or approved equal. Use longest possible length; sized and profiled to suit application. Other special products, shapes and sizes as identified in the drawings.
- I. Corner beads: Small-nose type.
- J. Casing Beads: No. 66 square edge.
- K. Expansion Screed: Accordion profile, Clark Western #XJ15 unless special shapes are detailed.
- L. Sill Screed: Clark Western No. 7 Foundation sill screed.
- M. Soffit Vent Screed: Clark Western, 26 GA., perforated soffit vent of profile indicated.
- N. Corner Reinforcement: Cornerite, minimum 1.75-pounds per square yard expanded metal lath with minimum 2-inch legs.
- O. Strip Reinforcement: For reinforcing joints of dissimilar materials and diagonal reinforcement at opening corners, minimum 1.75-pounds per square yard.
- P. Glass Fibermesh: Perma Glas-Mesh Corporation's #207A, 6 inches wide, adhesive backed, 10x10 mesh.

2.3 CEMENT PLASTER MIXES

- A. Mix and proportion cement plaster as follows:
- B. Scratch coat proportions: One part Portland cement, 4 parts aggregate and 3 ounce PRF admixture. Provide glass fiber reinforcing equal to Fiber Mesh in quantities as recommended by Manufacturer to control cracking.
- C. Brown coat proportions: One part Portland cement, 5 parts aggregate, and 3 ounces PRF admixture.
- D. Mix only as much plaster as can be used in one hour.
- E. Mix materials dry, to uniform color and consistency, before adding water.
- F. Protect mixtures from frost, contamination, and evaporation.
- G. Do not retemper mixes after initial set has occurred.

2.4 PATCHING MATERIAL

- A. 2" wide self-adhering nylon tape.

PART 3 – EXECUTION

3.1 INSPECTION

- A. Verify that surfaces and site conditions are ready to receive work.
- B. Inspect the installed work of other trades and verify that such work is complete to the point work of this section may begin.
- C. Verify that substrate is plumb, level, square and aligned.
- D. Report in writing conditions which might adversely affect the performance of installed lath and plaster to the General Contractor with a copy to the Architect.
- E. Beginning of installation means acceptance of existing conditions.

3.2 PREPARATION

- A. Protect surfaces near the work of this Section from damage or disfiguration.
- B. Saw cut back all existing plaster, careful not to damage existing building paper, to accommodate 6" lap with new building paper.

3.3 INSTALLATION - LATHING MATERIALS

- A. Install metal plaster bases and accessories in conformance with CBC, 2016 edition, Section 2507 and ASTM C1063.

~~B. Apply two layers of building paper underlayment, weatherlap edges 2 inches minimum horizontal and 6 inches minimum vertical laps. Continue building paper minimum 6 inches around inside and outside corners.~~

~~C. Attach metal lath to metal framing with 7/16 inch diameter pan wafer head and a 0.120 inch diameter (#8) shank long enough to penetrate framing a minimum of 3/8 inch.~~

- D. Screws shall be self-drilling or self-tapping as required in accordance with ASTM C954.
- E. Continuously reinforce internal angles with corner mesh, except where the metal lath returns 3 inches from corner to form the angle reinforcement. Fasten at perimeter edges only.
- F. Place external angle with mesh at corners. Fasten at outer edges only.
- G. Place strip mesh diagonally at corners of lathed openings. Secure rigidly in place.
- H. Place 4 inch wide strips of glass fiber mesh over scratch coat centered on point of corner at doors, windows, recesses, and other angular openings in building wall. Extend minimum 8 inches diagonally from point of corner.
- I. Place casing beads at terminations of plaster finish. Butt and align ends. Secure rigidly in place.
- J. Install accessories to lines and levels.



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- K. Install expansion screeds over all building joints and at intervals recommended by the Lath and Plaster Bureau, and where shown.

3.4 PLASTERING

- A. General: When complete, plaster surfaces shall be flat, true to plane, free from defects and shall be uniform in texture.
- B. Apply plaster in accordance with ASTM C926.
- C. Apply scratch coat to a nominal thickness of 3/8 inch over metal reinforcement. Cover metal reinforcement.
- D. After application, lightly score scratch coat horizontally.
- E. If brown coat cannot be applied within 4 hours, keep scratch coat moist for 48 hours.
- F. Apply brown coat to a nominal thickness of 3/8 inch over scratch coat. Rod brown coat straight and true in all directions.
- G. Moist cure brown coat for minimum 14 days. Areas shall be thoroughly moistened by use of a fine mist at a minimum of three times daily and as may be required due to weather conditions, per the Lath and Plaster Bureau recommendations.

3.5 STUCCO FINISH

- A. ~~No finish coat.~~ REFER TO SPEC SECTION 09 91 00



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3.6 TOLERANCES

- A. Maximum Variation from True Flatness: 1/8 inch in 5 feet, properly meeting adjacent surfaces and materials.

3.7 CLEANING

- A. Remove plaster and protective materials from control and expansion joints, perimeter beads and adjacent surfaces. Remove stains that would adversely affect subsequent finishes on plaster.

END OF SECTION

SECTION 09 91 00
PAINTING - INTERIOR AND EXTERIOR

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Surface preparation.
- B. Surface paint and stain finishes as scheduled.
- C. Chemical resistant finish.

1.2 REFERENCES

- A. ASTM B117 – Standard Practice for Operating Salt Spray (Fog) Apparatus
- B. ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications
- C. ASTM D3359 – Standard Test Methods for Rating Adhesion by Tape Test
- D. ASTM D4060 – Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser.
- E. ASTM E84 – Standard Test Method for Surface Burning Characteristics of Building Materials
- F. ASTM G154 - Standard Practice for Operating Fluorescent Ultraviolet (UV) Lamp Apparatus for Exposure of Nonmetallic Materials

1.3 RELATED SECTIONS (Other Sections May Apply)

- A. 05 12 00 - Structural Steel (finishes referenced in section)
- B. 05 12 13 - Architecturally Exposed Structural Steel (finishes referenced in section)
- C. 05 50 00 - Metal Fabrications (finishes referenced in section)
- D. 07 42 13 - Formed Metal Wall Panels (color match for downspouts & trims required)
- E. 07 42 16 - Metal Plate Wall Panels
- F. 07 62 00 - Sheet Metal Flashing and Trim
- G. 08 11 00 - Hollow Metal Doors and Frames
- H. 08 31 13 - Access Doors and Frames
- I. 08 91 19 - Fixed Louvers
- J. 09 70 00 - Vinyl Wall Covering
- K. 09 96 00 - High Performance Coatings
- L. 09 29 00 - Gypsum Board & Cementitious Backerboard

1.4 REGULATORY REQUIREMENTS

- A. Submit manufacturer's certification of compliance with local criteria regarding VOC limits for all applied paints and coatings.

1.5 QUALITY ASSURANCE

- A. Applicator: Company specializing in commercial painting and finishing with 5 years documented experience.
- B. Installing Foreman: Individual specializing in applying specified systems with minimum 10 years documented experience.
- C. Special Inspection Procedures: See this Section.
- D. Pre-installation conference: Convene a pre-installation conference two weeks prior to commencing work of this Section. Provide minimum 2 weeks advance notice to Owner and Architect of scheduled date. Comply with provisions of Section 01 31 00, "Project Management Coordination". Attendance by paint and coating material manufacturer's representative is mandatory. At pre-installation conference, review installation procedures, inspection/testing procedures and coordination required with related work.

1.6 SUBMITTALS

- A. Provide submittals under provisions of Section 01 33 00, "Submittal Procedures".
- B. Product Data: Submit product data of all proposed products, identifying product series, material composition, performance characteristics and sheen.
- C. Submit manufacturer's certificate that products comply with current safety and environmental regulations, including hazardous materials labeling and air quality/VOC regulations
- D. Submit manufacturer's certificate that products are physically and chemically compatible with each other and meet listed ASTM or Federal Specifications.
- E. Where applicable, provide manufacturer's written evaluation of existing paint/coating systems, including directions as to surface preparation and primers compatible with existing systems.
- F. Submit manufacturer's application instructions for each painting system, including surface preparation.
- G. Color Selection procedure:
 - 1. Provide Architect with samples of complete color and sheen range available for submitted products.
 - 2. Based on submitted samples and specified color criteria, Architect will prepare preliminary color schedule for all field applied coatings.
 - 3. Based on preliminary color schedule, submit samples of all coatings, applied on specified substrate. Submit three samples, approximately 8 x 10 inch in size, illustrating each color and sheen scheduled.
 - 4. After review of preliminary color schedule samples, Architect will prepare final color schedule. Where different from preliminary schedule, submit three samples, approximately 8 x 10 inch in size, illustrating revised color and sheen.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site under provisions of Section 01 60 00, "Product Requirements".
- B. Store and protect products under provisions of Section 01 60 00, "Product Requirements".
- C. Deliver products to site in sealed and labeled containers; inspect to verify acceptance.

- D. Container labeling to include manufacturer's name, type of paint, brand name, brand code, coverage, surface preparation, drying time, cleanup, color designation, and instructions for mixing and reducing.
- E. Store paint materials at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in an enclosed metal storage container located outside of building, unless required otherwise by manufacturer's instructions.
- F. Take precautionary measures to prevent fire hazards and spontaneous combustion.

1.8 ENVIRONMENTAL REQUIREMENTS

- A. Provide continuous ventilation and heating facilities to maintain surface and ambient temperatures above 65 degrees F for 24 hours before, during, and 48 hours after application of finishes, unless required otherwise by manufacturer's instructions.
- B. Prior to beginning preparation and coating application, provide lighting level of 80 foot-candles measured on substrate surface. Where natural lighting does not provide such levels, provide temporary lighting.
- C. Special inspection procedures
 - 1. Reports and Certifications
 - 2. Manufacturers Certification: After field inspection, submit written certification from manufacturer that substrates comply with manufacturers recommendations and are suitable for application, environmental exposure and regulations.
 - 3. Manufacturer's representative shall incorporate daily reports into a weekly certification to Architect, countersigned by IOR and applicator, certifying all work specified in this Section was completed in compliance with contract documents and manufacturers recommendations.
 - 4. Manufacturer's Certification: After completion, submit written certification from coating manufacturer that installation complied with manufacturers recommendations, number of coats and recommended coverage rates.
- D. Manufacturers Inspection Services
 - 1. Manufacturer's representative or manufacturers selected inspection service shall inspect and monitor the installation procedure as specified. The inspection service is subject to Architect's approval.
 - 2. Manufacturer's representative shall inspect substrates prior to installation.
 - 3. Manufacturer's representative shall provide a minimum of 4 hours inspection and direction to Contractor for each phase of installation on each building, including preparation, installation, and touch up.
 - 4. Manufacturer's representative shall conduct tests of completed coatings to determine number of coats applied and dry film thickness. Tests shall be taken at each building of each primary building element (such as coping, door frames, wall surfaces, ceiling surfaces) painted under work of this Section. Tests shall be taken at four random locations as determined by Architect.
 - 5. Provide reports as specified.
 - 6. Independent Inspection

- a. Owner may elect to have an independent service inspect coating thickness and other characteristics to determine compliance with specified criteria.
 - b. Provide complete access to inspection service, and coordinate with all testing required by inspection service.
- E. Extra stock:
1. Provide an unopened five-gallon container of each color and sheen to Owner.
 2. Label each container with color, sheen, and room locations, in addition to the manufacturer's label.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Basis of Design: Specific products listed on Schedule in Part 3 of this Section, are indicated to establish required level of quality, appearance, and performance.
- B. Contacts:
 1. Kelly Moore Paints Product Representative Eric Patricio,
Phone - (650) 610-4211, E-mail - epatricio@kellymoore.com
 2. Tnemec Product Representative – High Performance Coatings
Carl Bowers, Principal Amos And Associates, Inc., Tnemec Company 866-317-3206. E-mail - cbowers@tnemec.com
- C. Architect will consider requests for substitutions under the provisions of Section 01 62 00, “Product Options”.

2.2 MATERIALS

- A. Coatings: Ready mixed, except field catalyzed coatings.
- B. Coatings: Good flow and brushing properties; capable of drying or curing free of streaks or sags.
- C. Accessory Materials: Provide all admixtures, thinners, flow agents and other materials not specifically indicated but required to achieve the finishes specified.

2.3 FINISHES/COLOR

- A. Refer to schedule at end of Section for type of surface finish.
- B. Colors shall be selected by Architect as specified.
- C. Each coat shall be a perceptibly different tint.
- D. Color Range (For Colors Not Selected Or Noted Elsewhere):
 1. Unless noted otherwise, where exterior painting occurs, match existing school color scheme.
 2. Where no color range is specified, provide single color for each item or component.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

A. Inspection

1. Prior to all work of this Section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence.
2. Verify that work of this Section may be installed in strict accordance with the original design, all pertinent codes and regulations, and all pertinent portions of the referenced standards.
3. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
4. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the maximum levels recommended by the manufacturer:
5. In the event of discrepancy, immediately notify the Architect.
6. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.2 PREPARATION

- A. Remove electrical plates, hardware, light fixture trim, and fittings prior to preparing surfaces or finishing.
- B. Correct minor defects and clean surfaces which affect work of this Section.
- C. Shellac and seal marks which may bleed through surface finishes.
- D. Steel Surfaces:
 1. Shop Primed Steel Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous.
 2. Bare Steel: Sand and scrape to remove loose primer and rust. Clean surfaces with solvent.
 3. Galvanized steel: Test all galvanized steel surfaces for evidence of chromate conversion treatments or other post-galvanizing applications that are not compatible with paint finishes. Where testing demonstrates presence of such treatment, brush blast or otherwise mechanically abrade the surface as required by coating manufacturer.
- E. Gypsum Board Surfaces: Latex fill minor defects. Spot prime defects after repair. Remove dry-wall texture nibs and other protrusions.
- F. Interior Wood millwork and miscellaneous Items: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried. Sand between coats.
- G. Verify weather-stripping at door assemblies is compatible with specified paint finish.
- H. Steel Doors and Door/Window Frames:

1. Provide specified primer at all frames, including frames with fabricators primer system. Comply with criteria specified in this Section.
 2. Prepare frame steel surfaces as required for proper adhesion and appearance of specified finish coat system.
 3. Paint all surfaces of window frames, including surfaces not visible when operable vent portions are in closed position.
- I. Preparation for Window Frame Refinishing:
1. Comply with criteria specified in this Section.
 2. Tape and cover all existing glass surfaces at window frame.
 3. Prepare window frame steel surfaces for refinishing as required for proper adhesion and appearance of specified finish coat system.
 4. At all other existing window frames, sand and feather existing paint finish in place using methods referenced within SSPC SP-2 or SP-3 surface preparation standards. Use of acidic or other corrosive paint removal techniques generating caustic or noxious fumes is not permitted.
 5. Paint all surfaces of window frames, including surfaces not visible when operable vent portions are in closed position.
- J. Copper Surfaces Scheduled for a Paint Finish: Remove contamination by solvent washing. Apply vinyl etch primer immediately following cleaning.

3.3 PROTECTION

- A. Protect elements surrounding the work of this Section from damage or disfiguration.
- B. Repair damage to other surfaces caused by work of this Section.
- C. Furnish drop cloths, shields, and protective methods to prevent spray or droppings from disfiguring other surfaces.
- D. Remove empty paint containers from site.

3.4 APPLICATION

- A. All interior finishes shall be as specified in this section.
- B. Apply products in accordance with manufacturer's instructions.
- C. Do not apply finishes to surfaces that are not dry.
- D. Apply each coat to uniform finish.
- E. The number of coats specified are minimum. Additional coats shall be applied until finish is uniform in color and sheen.
- F. Sand lightly between coats to achieve required finish.
- G. Obtain Owners Representative approval of each coat prior to applying succeeding coat.
- H. Allow applied coat to dry before next coat is applied.
- I. Do not paint over labels at fire rated doors, door or window frames or other fire rated assemblies.

- J. Paint all structural components and surfaces visible through louvers and vents in wall and soffit surfaces.
- K. Steel Doors: Finish all surfaces of doors, including tops and bottoms.
 - 1. Apply paint to non-factory prefinished doors and frames by spray method only.
- L. Exterior surfaces, except as noted in other sections, including concrete, metal fabrications, structural components and metal flashings: Unless noted otherwise, apply paints and coatings as specified below:
 - 1. Unless noted otherwise, do not paint exterior galvanized metals, including railings, steel structural components, all roof flashings and accessories, all plaster trim and accessories, and all mechanical and electrical system components.
 - 2. Apply exterior paint to all roof penetrations visible to the eye from typically occupied locations in the finished project. “Typically occupied” includes those portions of the project visible to a standing person from elevated portions of the site.
 - 3. Apply exterior paint to steel structural components, canopy decking, canopy framing, and miscellaneous fabrications visible to the eye from typically occupied locations in the finished project.
 - 4. Unless designated prefinished on drawings, apply exterior paint to metal roof copings, gutters, downspouts and flashings visible to the eye from typically occupied locations in the finished project.
 - 5. Do not paint exterior galvanized metal handrails and railings.
- M. Apply paint to all other exterior components as specified or shown on drawings.
- N. Paint suspended pipe batten systems with interior finish, applied by spray method. Paint all surfaces of grid members.
- O. Paint all surfaces and building system components above ceiling grid line in single color, contrasting with grid, in system complying with schedule for specific surface or component.

3.5 FINISHING MECHANICAL AND ELECTRICAL EQUIPMENT

- A. Paint shop primed equipment. Paint shop prefinished items exposed to view in non - utility areas.
- B. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.
- C. At interior and exterior applications, prime and paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, mechanical equipment units, hangers, brackets, collars and supports, except where items are prefinished.
- D. Replace identification markings on mechanical or electrical equipment when painted accidentally.
- E. Paint interior surfaces of air ducts, and convector and baseboard heating cabinets that are visible through grilles and louvers with flat black paint, to limit of sight line. Paint dampers, except fire dampers, exposed behind louvers, grilles, and convector and baseboard cabinets to match face panels.

- F. Paint exposed panels, pedestals, boxes, conduit and related electrical equipment occurring in exterior and interior finished areas.
- G. Replace electrical plates, hardware, light fixture trim, and fittings removed prior to finishing.

3.6 CLEANING

- A. As Work proceeds, promptly remove paint where spilled, splashed, or spattered.
- B. During progress of Work maintain premises free of unnecessary accumulation of tools, equipment, surplus materials, and debris.
- C. At end of workday remove from building flammable paint, solvents, and reducing agents.
- D. Collect cotton waste, cloths, and material which may constitute a fire hazard, place in closed metal containers and remove daily from site.

3.7 SCHEDULE

- A. See Exterior Elevations for locations requiring high performance coatings.
- B. See Section 09 24 00, “Portland Cement Plastering” for integral color at exterior cement plaster system. Exterior finishes not specifically covered in those sections shall be covered by the requirements in this section.
- C. For ease of specifying, unless otherwise noted, product numbers of Kelly Moore (District Standard) and Tnemec (For High Performance Coatings) have been used.
 - 1. Basis of Design Manufacturers:
 - a. Basis of Design – Paints Other Than High Performance Coatings - Kelly Moore
 - b. Basis of Design – High Performance Coatings – Tnemec
 - 2. Acceptable Manufacturers – Submittal Required Showing Equivalence to Specified Products as indicated below per Section 01 65 00 “Product Options”:
 - a. Benjamin Moore
 - b. PPG
 - c. Dunn Edwards,
 - d. Sherwin Williams,
 - e. Vista,
 - f. Glidden Professional

3.8 GENERAL REQUIREMENTS:

- A. Exterior Downspouts shall match the color of adjacent wall surfaces.
- B. Paint all exposed concrete at wall base to match dominant wall color (one color for base concrete).

3.9 INTERIOR SURFACES

- A. Gypsum Board - Low Sheen/Eggshell Paint Finish:
 - 1. One coat: KM 971 Acry-Plex Low VOC Interior PVA Primer.

2. Two coats: KM 1010 Premium Professional Low VOC Interior Eggshell.
 - B. Gypsum Board - Semi-Gloss Enamel Finish:
 1. One coat: KM 971 Acry-Plex Low VOC Interior PVA Primer.
 2. Two coats: KM 1050 Premium Professional Low VOC Interior Semi-Gloss.
 - C. Gypsum Board – Flat Finish:
 1. One coat: KM 971 Acry-Plex Low VOC Interior PVA Primer.
 2. Two coats: KM 1005 Premium Professional Low VOC Interior Flat.
 - D. Interior Non-Galvanized Steel Doors and Frames, Ferrous Metal Piping, Structural Steel, Miscellaneous Metal Fabrications, and Related Components:
 1. Solvent clean and rinse with clear water.
 2. One coat primer: KM 5725 DTM Acrylic Primer Finish.
 - a. Note: Verify compatibility of finishes with primers for shop primed frames, if substitution is proposed.
 3. Two Coats: KM 5885 DTM High Performance Acrylic Semi-Gloss Enamel.
 4. Interior structural steel and metal fabrications shall be shop-primed and included in the scope of work for the following sections:
 - a. Section 05 12 00 - Structural Steel
 - b. Section 05 50 00 - Metal Fabrications
 - E. Interior Galvanized Flashings, Ductwork, Electrical Conduit, and Related Components: Egg-shell Enamel Finish:
 1. Solvent clean and rinse with clear water. KRUD KUTTER Metal Clean and Etch
 2. One coat primer: KM 5725 DTM Acrylic Primer/Finish.
 3. Two Coats: KM 1010 Premium Professional Low VOC Interior Eggshell Enamel.
 - F. Wall Preparation For Vinyl Wall Coverings:
 1. One coat sealer: ZINSSER SHIELDZ Universal Wallcovering Primer
- 3.9 EXTERIOR SURFACES, WHERE NOT OTHERWISE NOTED
- A. Exterior Non-Galvanized Metal Fabrications, Steel Doors and Frames, Flashings and Similar Items – Standard Paint:
 1. Etch with phosphoric acid solution and rinse with clear water. KRUD KUTTER Metal Clean and Etch
 2. One coat primer: KM 5725 DTM Acrylic Primer/Finish.
 3. Two Coats: KM 5885 High Performance Acrylic Semi-Gloss Enamel.
 - B. Exterior Galvanized Metals/Flashings – Standard Paint:
 1. Etch with phosphoric acid solution and rinse with clear water. KRUD KUTTER Metal Clean and Etch
 2. One coat primer: KM 5725 DTM Acrylic Primer/Finish.

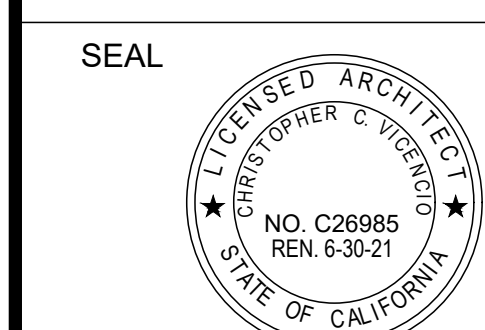
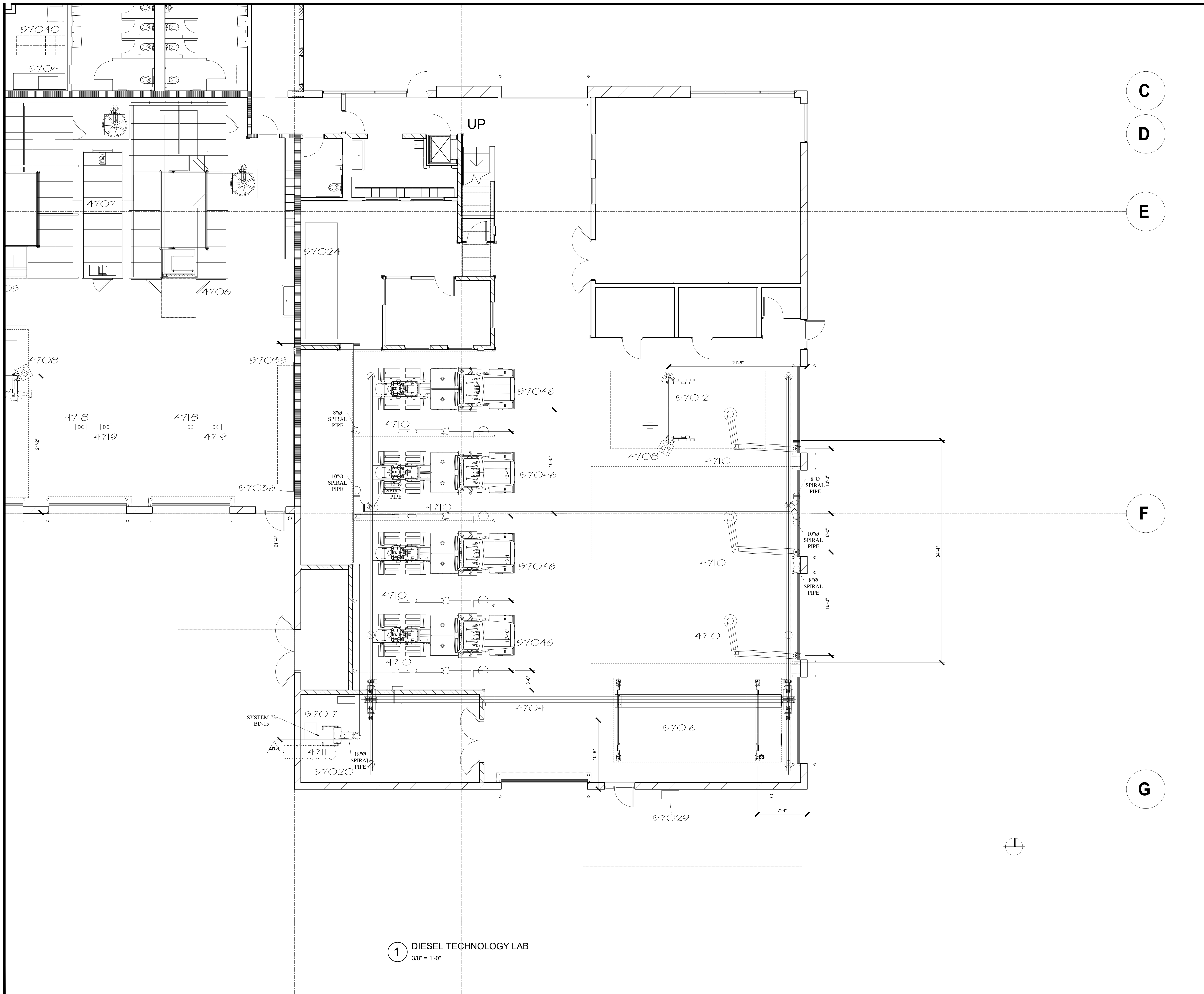
3. Two Coats: KM 5885 High Performance Acrylic Semi-Gloss Enamel.
- C. Exterior Metal Galvanized Flat Sheet Metal Panels and Other Galvanized Metals With High Performance Coating – For Items noted as “High Performance Coatings” in drawings:
- D. Exposed Exterior Metal Galvanized Ferrous Metal Piping, Flat Sheet Panels, Steel Canopy Members, Miscellaneous Metal Fabrications, and Related Components:
1. One coat Tnemec Series 115 UniBond DF primer at 2-3 mils DFT. – KM 5725 DTM Acrylic Primer/Finish.
 2. Two coats Tnemec Series 1029 Enduratone Acrylic Polymer at 2-3 mils DFT. - KM 5885 High Performance Acrylic Semi-Gloss Enamel.
- E. Exterior Non-Galvanized Structural Steel, Canopies and Trellises, Metal Fabrications and Other Non-Galvanized Metal Fabrication With High Performance Coating – For Items noted as “High Performance Coatings” in drawings:
1. Surface Preparation: Tnemec SSPC-SP6/NACE No. 3 Commercial Blast Clean to create a dense, uniform and angular anchor profile of 2.0 mils minimum
 2. Shop or Field Primer: Tnemec Series 94-H2O Hydro-Zinc at 2.5 to 3.5 mils DFT
 3. Intermediate Coat: Tnemec Series L69 Hi-Build Epoxoline II at 4.0 to 6.0 mils DFT
 4. Finish Coat: Tnemec Series 750 UVX at 3.0 to 5.0 mils DFT
 5. Exterior structural steel and metal fabrications shall be shop prepared per Tnemec SSPC-SP6/NACE No. 3 and shop-primed with Tnemec Series 94-H2O Hydro-Zinc or equal and included in the scope of work for the following sections:
 - a. Section 05 12 00 - Structural Steel
 - b. Section 05 12 13 - Architecturally Exposed Structural Steel
 - c. Section 05 50 00 - Metal Fabrications

- F. Exterior Cement Plaster and Exposed Exterior Concrete - Semi-Gloss Enamel:
1. Prep per product application requirements.
 2. One Coat: KM 247 Acry-Shield 100% Masonry Primer Product Website Link: <https://kellymoore.com/wp-content/uploads/products/data-sheets/247-TDS.pdf?Status=Master&sfvrsn=0>
 3. Two Coats: KM 1215 Premium Professional Exterior Acrylic Semi-Gloss Finish Product Website Link: <https://kellymoore.com/wp-content/uploads/products/data-sheets/1215-tds.pdf>

END OF SECTION



AD-1

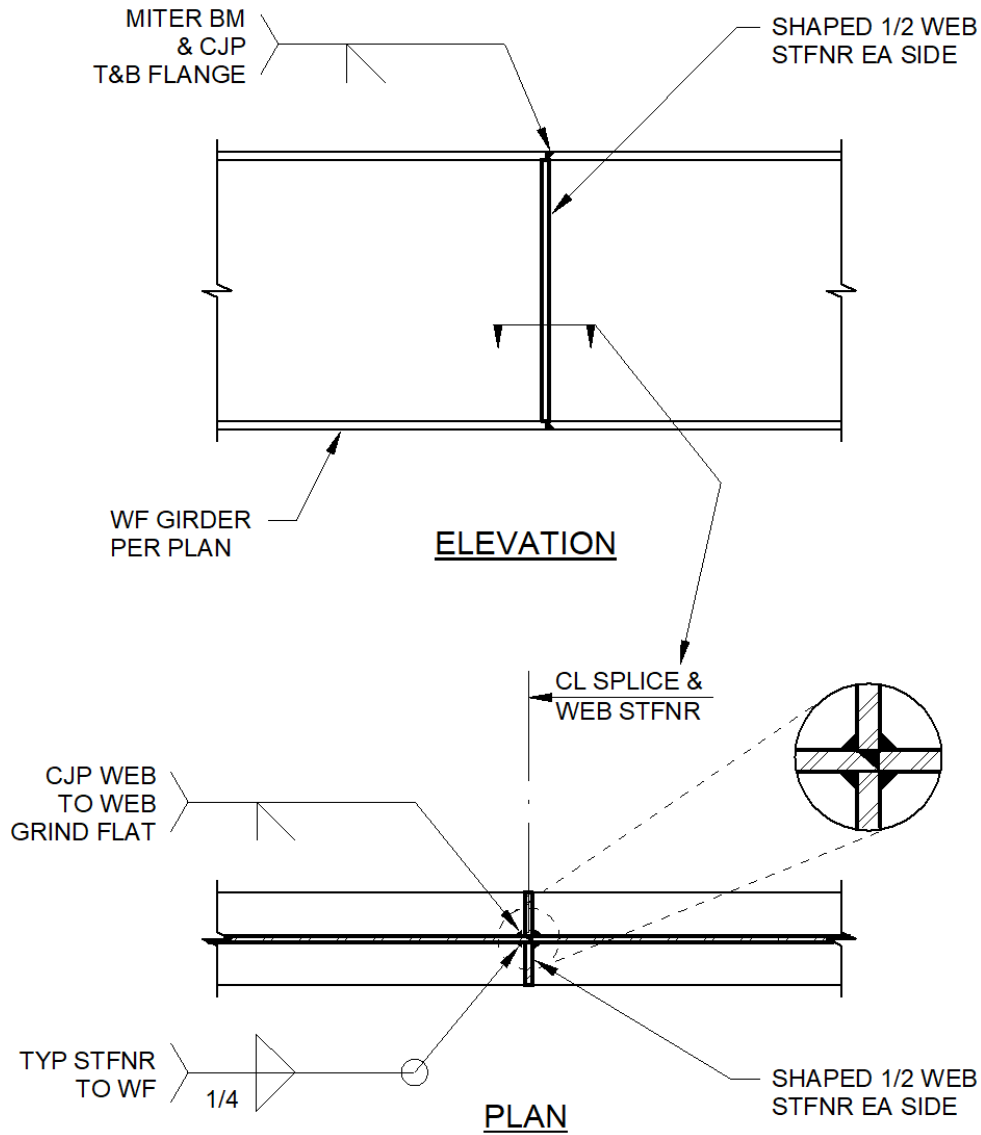


Project
College of Alameda
Transportation Technology

Drawn By MEMINC	Project No. 20-175
Checked By	Issue 12/15/2020
NO. DATE ISSUE	DRAWING NO.
1 05/05/2021 DSA SUBMISSION	
AD-1 07/07/2022 REVISIONS	

EQ-1.3

1 DIESEL TECHNOLOGY LAB
3/8" = 1'-0"



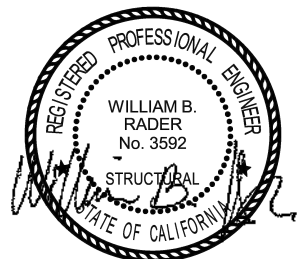
NOTE: LOCATE SPLICE @ 1/3 GIRDER SPAN, MAX 65'-0" GIRDER LENGTH.

DETAIL 5
S5.23 — 1" = 1'-0"

Description of change:

Detail shows optional WF girder splice requested during bid phase of project.

SEAL



COLLEGE OF ALAMEDA
TRANSPORTATION TECHNOLOGY
555 Ralph Appezato Memorial
Parkway, Alameda, CA 94501

DRAWN BY: JSH
DRAWING REFERENCE: S5.23
SHEET: 01 of 01
DATE: 07/06/2022



2020-0109

07-06-2022

DSA APPLICATION NO.: 02-119478

FILE NO.: 1-C1

AD 01

SSK-001

18068 - College of Alameda Liberal Arts Classrooms

AV SYSTEMS SUBMITTAL # 3

Data Sheet Table of ContentsClassroom Equipment

#	Make	Model	Description
1	Epson	V11H919520	Brightlink 1485Fi
2	Extron	26-726-50	Optical HDMI cable 50', HD-05, HD-07
3	Extron	HDMI Ultra/12	4K Premium High Speed HDMI Ultra Flexible Cable - 12' (3.6m), HD-01
4	Extron	IPL Pro S3	Three Serial Port IP Link Pro Control Processor
5	Extron	PVS 407D	IP-Enabled digital PoleVault Switcher with integrated amplifier
6	Extron	SF 26PT	Pendant Speaker
7	Extron	TLP Pro 320M	3.5" Wall Mount TouchLink Pro Touchpanel - White
8	Extron	60-1471-13	USB Extender Plus R
9	Extron	60-1473-13	USB Extender Plus D T
10	Extron	XTP PI 100	XTP Power Injector
11	HoverCam	HCS8PLUS	HoverCam Document Camera HCS8PLUS
12	Monoprice	2135	CAT5e patch cable 3', N-03, N-04, N-07
13	Monoprice	24341	CAT6a STP patch cable 3' for voice lift Rx, N-01
14	Sendt	SNT-NBLC-SL	Sendt Notebook/Laptop Locking Cable
15	C2G	27329	USB 2.0 A to Mini-B cable, 1m
16	C2G	29652	USB 2.0 A to Mini-B cable, 3m
17	C2G	56783	6FT HDMI CBL, HD-02, HD-03
18	C2G	56783	6FT HDMI HS W ETHERNET CBL, HD-02,HD-03, HD-04, HD-06
19	Extron	FF 120	Flat Field Speaker
20	Extron	PVT HDMI	PoleVault Digital Input, HDMI - Decorator-Style Wallplate
21	Extron	42-255-03	VLM 3002H Pendant and Handheld VoiceLift Pro Microphone
22	Extron	UPB 125	Universal Projector Mounting Bracket - White
23	Extron	USFM 100	Ultra Short throw projector mount and equipment enclosure
24	Extron	60-1583-23	DTP CrossPoint 4K Series
25	Tripp-Lite	SRW9U	Tripp-Lite 9U SmartRack
26	Extron	SMP 111	Extron Streaming Media Processor (For Alternate)

Addendum 01 – Attachment - Photos of (E) MSB in Bldg C

