ADDENDUM NO. 01

PROJECT/CONTRACT NUMBER: 25.934

Walkway for Energy Display including Fence

STOCKTON UNIFIED SCHOOL DISTRICT

February 10, 2025

A. Questions and Answers to RFI submission.

B. PROJECT MANUAL

1. DOCUMENT 00 45 19 – NON-COLLUSION FORM EXHIBIT A
Required and added as Exhibit A to submit with Bid Documents.

2. DOCUMENT 00 45 19.02 OFF ROAD DIESEL FUELED FLEET CERTIFICATION EXHIBIT B
Required and added as Exhibit B to submit if awarded.

3. DOCUMENT 00 41 13 BID FORM AND PROPOSAL EXHIBIT C
Replace Document 00 41 13 Bid Form and Proposal
with the attached revised Bid Form, an *Add Alternate has been added*.

C. DISTRICT SPECIFICATIONS

1. DOCUMENT – DISTRICT SPEC 32 13 13 CONCRETE PAVING EXHIBIT D
Added

2. DOCUMENT – DISTRICT SPEC 32 13 73 CONCRETE PAVING AND JOINT SEALANTS EXHIBIT E
Added

3. DOCUMENT – DISTRICT SPEC 32 31 13 CHAIN-LINK FENCE-EXHIBIT F
Added

D. OTHER:

1. Three (3) Inch Main Print – EXHIBIT G

2. Placard Example – EXHIBIT H

3. Additional Scope Add Alternate Drawing- EXHIBIT I

4. A copy of the Sign-in Sheet from the Mandatory Pre-Bid Meeting is attached to this addendum – EXHIBIT J

****40 TOTAL PAGES INCLUDING COVER PAGES****

RFI Inquiry and Response:

Question 1: Please confirm the walkway is 8ft wide by 230ft as discussed at the job walk.

Answer: Correct, the walkway measures 8 feet in width and 230 feet in length.

Question 2: How thick is the concrete walkway and does it have rebar?

Answer: The concrete walkway should have a thickness of 5 inches with rebar #4 with 24" spacing reinforcement.

Question 3: Does the flatwork have thickened edges?

Answer: Yes, the flatwork has thickened edges of 4".

Question 4: Does the walkway have an AB section under the concrete flatwork?

Answer: Yes, a 6-inch AB section is required under the concrete.

Question 5: Please confirm that there will be 8ft high galvanized no climb chain link fencing on both sides of the 230ft walk. Should the fence have a top and bottom rail?

Answer: A **7'-11"** high galvanized, Black Hot Dip Galvanized no-climb chain-link fence with top and bottom rail is required on both sides of the 230-foot walkway, as well as on both sides where the gates will be installed. Please ensure the fabric is installed on the inside of the concrete slab, with posts positioned directly against the concrete pathway to prevent any horizontal gap between the fabric and the slab's edge. Please refer to the attached Chain Link Fencing, Gate, and Concrete. (SECTION 32 13 73 - CONCRETE PAVING JOINT SEALANTS, and SECTION 32 31 13 – CHAIN LINK FENCING AND GATES) EXHIBIT E AND EXHIBIT F

Question 6: Do we need to include any gates in the fencing scope?

Answer: A total of two gates, one on each side of the walkway, will be installed with fork latches.

Question 7: Do you have a spec or example of the placards? How many placards should be included in the bid?

Answer: The placard must be 24" x 18" in dimension with a beveled edge. A total of 21 placards are required for this project, each installed on a post at a 45-degree angle, with the top of the placard at a height of 48". Please refer to (EXHIBIT H) attached for photos and examples of placards installed on a similiar project.

Question 8: Do you have a spec for the demonstration charger? Will the charger be furnished by SUSD or the contractor?

Answer: Demonstration charger is furnished by owner.

Question 9: Do we need to figure on re-routing any existing irrigation?

Answer: Yes. Also**,** there is a 3" main located 16' from the fence. Utility locating to be included. Please refer to the attached shop drawing for details on the existing 3" main. (EXHIBIT G)

Question 10: Do we need to include landscape restoration?

Answer: Yes, the landscape restoration needed to be included.

Question 11: Is there an Engineer's Estimate for this project?

Answer: No, there is no Engineering Estimate for this project, however this project is Grant Funded not to exceed $300,000.00.

Question 12: Forms to be submitted Non collusion, is crossed out, but then says in instructions non collusion must be submitted.

Answer: Yes, Non-Collusion Form 00 45 19 should be included and is attached as Exhibit A.

Question 13: Section: 00 45 19.02 Off Road Diesel-Fueled Fleet Cert, must be submitted. However, the form is not in the bid package. Do you have the form?

Answer: Yes, the Form is attached as Exhibit B.

Question 14: Could you provide the specifications for the new fence, including the post structure and thickness, type of materials to be used, depth of post installation, and concrete diameter for the post holes?

Answer: Please refer to the attached Chain Link Fencing, Gate, and Concrete Specifications for more information regarding this. (SECTION 32 13 73 - CONCRETE PAVING JOINT SEALANTS, and SECTION 32 31 13 – CHAIN LINK FENCING AND GATES) EXHIBIT E AND EXHIBIT F

Question 15: Please share more details regarding the required informational placards, including the quantity, dimensions, and any other relevant specifications.

Answer: Please refer to Question #7 above.

Question 16: We would appreciate additional information about the new concrete path, including its thickness, reinforcement requirements (rebars), and the type of aggregates to be used.

Answer: Please refer to Question #2, #3 and #4 above.

Question 17: Kindly provide more details on the small demonstration charger that needs to be installed per the provided specifications. Additionally, if there are any examples available, please share them.

Answer: Please refer to Question #7 above.

Question 18: Please provide further details regarding the two new gates, including dimensions, materials, and any specific design requirements.

Answer: Both gates are to be 50" wide with fork latches. Please refer to the attached Chain Link Fencing and Gate specification. (SECTION 32 13 73 - CONCRETE PAVING JOINT SEALANTS, and SECTION 32 31 13 – CHAIN LINK FENCING AND GATES) EXHIBT E AND EXHIBIT F

Question 19: Is there a Contingency for the Project.

Answer: *Yes, there is $50,000 District Controlled Contingency.*

Additive Alternate:
EXIHIBT I

Please provide an estimate for adding approximately 358 feet long, 7'-11" high galvanized, Black Hot Dip Galvanized no-climb chain-link fence with top and bottom rail. The location is indicated in the attached image, Exhibit D. Fencing will be similar to the original of scope of work with a man gate and 12 feet in total dual swing access.

DOCUMENT 00 45 19

NON-COLLUSION DECLARATION
(Public Contract Code Section 7106)

The undersigned declares:

I am the _____ of _____, the party making the foregoing bid.
[Title] [Name of Firm]

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

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

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

at _____, _____.
[City] [State]

Date: _____

Proper Name of Bidder: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

EXHIBIT B

DOCUMENT 00 45 19.02

OFF-ROAD DIESEL-FUELED FLEET CERTIFICATION

PROJECT/CONTRACT NO.: **Comprehensive Walkway Display for Energy Education Fence Project Bid #25.934** (Project)

between the Stockton Unified School District ("District") and _____ _____ ("Contractor" or "Bidder") ("Contract" or "Project").

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

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

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

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

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

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

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

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

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

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

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

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

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

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

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

END OF DOCUMENT

EXHIBIT C

DOCUMENT 00 41 13

BID FORM AND PROPOSAL

To: Governing Board of the Stockton Unified School 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. 25.934 for the following project known as:

Comprehensive Walkway Display for Energy Education Fence Project
Bid #25.934(Project)

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

_____ dollars $ _____
BASE BID

Additive Alternates:

Alternate #1

_____ dollars $ _____
Additive/Deductive

Add approximately 358 feet long, 7'-11" high galvanized, Black Hot Dip Galvanized no-climb chain-link fence with top and bottom rail. The location is indicated in the attached image, Exhibit D.

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

[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):

   SCHEDULE OF UNIT PRICES

Item No.	Description	Unit of Measure	Estimated Quantity	Unit Price	Total Cost = Unit Price x Estimated Quantity (Included in Base Bid)
				$_____	$_____
				$_____	$_____

   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. The undersigned has reviewed the Work outlined in the Contract Documents and fully understands the scope of Work required in this Proposal, understands the construction and project management function(s) is described in the Contract Documents, and that each Bidder who is awarded a contract shall be in fact a prime contractor, not a subcontractor, to the District, and agrees that its Proposal, if accepted by the District, will be the basis for the Bidder to enter into a contract with the District in accordance with the intent of the Contract Documents.

3. The undersigned has notified the District in writing of any discrepancies or omissions or of any doubt, questions, or ambiguities about the meaning of any of the Contract Documents, and has contacted the Construction Manager before bid date to verify the issuance of any clarifying Addenda.

4. The undersigned agrees to commence work under this Contract on the date established in the Contract Documents and to complete all work within the time specified in the Contract Documents.

5. The liquidated damages clause of the General Conditions and Agreement is hereby acknowledged.

6. It is understood that the District reserves the right to reject this bid and that the bid shall remain open to acceptance and is irrevocable for a period of ninety (90) days.

7. The following documents are attached hereto:

- Bid Bond on the District's form or other security
- Designated Subcontractors List
- Site Visit Certification
- Non-Collusion Declaration

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

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

9. Bidder acknowledges that the license required for performance of the Work is a _____ _____ license.

10. 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.

11. Bidder specifically acknowledges and understands that if it is awarded the Contract, that it shall perform the Work of the Project while complying with all requirements of the Department of Industrial Relations.

12. 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

13. 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.

14. 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.

15. 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.

16. 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: _____

Signed by: _____

Title of Signer: _____

Address of Bidder: _____

Taxpayer Identification No. of Bidder: _____

Telephone Number: _____

Fax Number: _____

E-mail: _____ Web Page: _____

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

No.: _____ Class:_____ Expiration Date: _____

No.: _____ Class:_____ Expiration Date: _____

Public Works Contractor Registration No.: _____

END OF DOCUMENT

SECTION 32 13 13 - CONCRETE PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Curbs and gutters.
2. Walks.

B. Related Sections:

1. Section 03 30 00 "Cast-in-Place Concrete for general building applications of concrete.
2. Section 32 13 73 "Concrete Paving Joint Sealants" for joint sealants in expansion and contraction joints within concrete paving and in joints between concrete paving and adjacent construction.

1.3 DEFINITIONS

A. Cementitious Materials: Portland cement alone or in combination with one or more of blended hydraulic cement, fly ash and other pozzolans, and ground granulated blast-furnace slag.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Samples for Initial Selection: For each type of product, ingredient, or admixture requiring color selection.

C. Design Mixtures: For each concrete paving mixture. Include alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

D. Qualification Data: For installer and Design Mixture Engineer (California Registered Civil or Structural Engineer).

E. Material Certificates: Certificates shall be signed by manufacturers and contractor certifying that each material complies with, or exceeds specified requirements for the following:

1. Cementitious materials.
2. Aggregates.
3. Steel reinforcement and reinforcement accessories.
4. Admixtures.
5. Curing compounds.
6. Applied finish materials.
7. Joint fillers.

1.5 QUALITY ASSURANCE

A. Codes and Standards: Comply with provisions of the following codes, specifications and standards, except where more stringent requirements are shown or specified.

1. California Building Code - Title 24, Part 2, CCR-2019 Edition with State of California Amendments.
2. ACI 301 "Specifications for Structural Concrete for Buildings." A registered civil engineer with experience in concrete mix design shall select the relative amounts of ingredients to be used as basic proportions of the concrete mixes proposed for use under CBC Section 1905A.2 and testing shall be performed in a laboratory acceptable to the enforcement agency.
3. ACI 318 "Building Code Requirements for Reinforced Concrete."
4. Concrete Reinforcing Steel Institute (CRSI), "Manual of Standard Practice."

B. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.

C. Concrete Testing Service: The Owner shall employ a testing laboratory acceptable to the Architect to perform material evaluation tests. Design of concrete mixes shall be by a registered civil engineer retained by the Contractor.

1. Materials and installed work may require testing and retesting, as directed by the Architect, at any time during progress of work. Allow free access to material stockpiles and facilities. Tests, not specifically indicated to be done at Owner's expense, including re-testing of rejected materials and installed work, shall be paid by Owner, but backcharged to the Contractor.
2. Testing shall be performed per Section 3.11 of these Specifications and Chapter 19A, Title 24

1.6 PROJECT CONDITIONS

A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

PART 2 - PRODUCTS

2.1 FORMS

A. Form Materials: Plywood, metal, metal-framed plywood, or other approved panel-type materials to provide full-depth, continuous, straight, and smooth exposed surfaces.

1. Use flexible or uniformly curved forms for curves with a radius of 100 feet or less.

B. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and that will not impair subsequent treatments of concrete surfaces.

2.2 STEEL REINFORCEMENT

A. Plain-Steel Welded Wire Reinforcement: ASTM A 185, fabricated from as-drawn steel wire into flat sheets.

B. Deformed-Steel Welded Wire Reinforcement: ASTM A 497, flat sheet.

C. Reinforcing Bars: ASTM A 615, Grade 60 for #4 and larger, and ASTM A615, Grade 40 for #3 and smaller ; deformed.

D. Plain-Steel Wire: ASTM A 82, cold drawn.

E. Deformed-Steel Wire: ASTM A 496.

F. Joint Dowel Bars: ASTM A 615, Grade 60 plain-steel bars. Cut bars true to length with ends square and free of burrs.

G. Slip Dowel System: Greenstreak two component Speed Dowel System to accept #4 x 12” to 24” long slip dowels (see drawings for size at specific details.) The Greenstreak Speed Dowel System is comprised of a reusable base and a plastic sleeve. Both pieces shall be manufactured from polypropylene plastic.

H. Tie Bars: ASTM A 615, Grade 60 for #4 and larger, and ASTM A615, Grade 40 for #3 and smaller, deformed.

I. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars, welded wire reinforcement, and dowels in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice" from steel wire, plastic, or precast concrete of greater compressive strength than concrete specified, and as follows:

1. Equip wire bar supports with sand plates or horizontal runners where base material will not support chair legs.

2.3 CONCRETE MATERIALS

A. Cementitious Material: Use the following cementitious materials, of same type, brand, and source throughout Project:

1. Portland Cement: ASTM C 150, gray portland cement Type II

B. Normal-Weight Aggregates and Exposed Aggregate: ASTM C 33, Class 1N, uniformly graded. Provide aggregates from a single source.

1. Maximum Coarse-Aggregate Size: 1 inch nominal.
2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

C. Water: Potable and complying with ASTM C 94.

2.4 CURING MATERIALS

A. Absorptive Cover: AASHTO M 182, Class 3, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. dry.

B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

C. Water: Potable.

D. Evaporation Retarder: Waterborne, monomolecular, film forming, manufactured for application to fresh concrete.

E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.

2.5 RELATED MATERIALS

A. Joint Fillers: ASTM D 1751, asphalt-saturated cellulosic fiber or ASTM D 1752, cork or self-expanding cork in preformed strips.

B. Chemical Surface Retarder: Water-soluble, liquid, set retarder with color dye, for horizontal concrete surface application, capable of temporarily delaying final hardening of concrete to a depth of 1/8 to 1/4 inch.

2.6 CONCRETE MIXTURES

A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, as specified in ACI 301 and Chapter 5 of ACI 318.

1. Use a qualified independent testing agency, acceptable to Architect, for preparing and reporting proposed mixture designs based on laboratory trial mixtures. The testing shall not be the same as used for field quality control testing unless otherwise acceptable to Architect.
2. Submit written reports to Architect of each proposed mix for each class of concrete at least 15 days prior to start of work. Do not begin concrete production until mixes have been reviewed by Architect.

B. Adjustment to Concrete Mixes: Mix design adjustment may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant; at no additional cost to Owner and as accepted by Architect. Laboratory test data for revised mix design and strength results must be submitted to and approved by Architect before using in work.

C. Proportion mixtures to provide normal-weight concrete with the following properties:

1. Compressive Strength (28 Days): 2500 psi.
2. Maximum Water-Cementitious Materials Ratio at Point of Placement: 0.60.
3. Slump Limit: 4 inches, plus or minus 1 inch.
4. Air Content: Plus or minus 1.5 percent for 1-inch nominal maximum aggregate size.

D. Limit water-soluble, chloride-ion content in hardened concrete to 0.30 percent by weight of cement.

2.7 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, and mix concrete materials and concrete according to ASTM C 94. Furnish batch certificates for each batch discharged and used in the Work.

1. Delete references for allowing additional water to be added to batch for material with sufficient slump. Addition of water to the batch will not be permitted.
2. During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C94 may be required.
3. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that compacted subgrade, granular base is dry and in suitable condition to begin paving.

B. Verify that compacted subgrade, granular base is ready to support paving and imposed loads.

C. Examine exposed subgrades and subbase surfaces for compliance with requirements for dimensional, grading, and elevation tolerances.

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

3.2 PREPARATION

A. Remove loose material from compacted subbase surface immediately before placing concrete.

3.3 EDGE FORMS AND SCREED CONSTRUCTION

A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.

B. Assemble formwork to permit easy stripping and dismantling of without damaging concrete.

C. Place joint filler vertical in position, in straight lines. Secure to formwork during concrete placement.

D. Clean forms and adjacent surface to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.

E. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.

3.4 STEEL REINFORCEMENT

A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

B. Clean reinforcement of loose rust and mill scale, earth, ice, or other bond-reducing materials.

C. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement. Maintain minimum cover to reinforcement.

D. Install welded wire reinforcement in lengths as long as practicable. Lap adjoining pieces at least one full mesh, and lace splices with wire. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces. Offset laps of adjoining widths to prevent continuous laps in either direction.

E. Install fabricated bar mats in lengths as long as practicable. Handle units to keep them flat and free of distortions. Straighten bends, kinks, and other irregularities, or replace units as required before placement. Set mats for a minimum 2-inch overlap of adjacent mats.

3.5 JOINTS

A. General: Form construction, isolation, and contraction joints, score lines, and tool edges true to line, with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline unless otherwise indicated.

1. When joining existing paving, place transverse joints to align with previously placed joints unless otherwise indicated.

B. Construction Joints: Set construction joints at side and end terminations of paving and at locations where paving operations are stopped for more than one-half hour unless paving terminates at isolation joints.

1. Continue steel reinforcement across construction joints unless otherwise indicated. Do not continue reinforcement through sides of paving strips unless otherwise indicated.

2. Slip Doweled Joints (Speed Dowel System): Install dowel bars and support assemblies at joints where indicated.

a. Attach Speed Dowel System bases to the face of the concrete forms using a double headed nail or self-tapping screw.
b. Center of Speed Dowel System base shall be centered on form. Place edge forms plumb. Out of plumb forms will result in misaligned dowels.
c. Prior to pouring concrete, Speed Dowel System sleeve shall be slipped over Speed Dowel System base.
d. Pour concrete minimum of 18” from Speed Dowel System and work concrete around the Speed Dowel System. Concrete shall not be poured directly over the Speed Dowel System.
e. Concrete forms shall be removed with Speed Dowel System bases still attached. Speed Dowel System bases may be reused.
f. Install slip dowels to the full depth of the embedded Speed Dowel System sleeve and proceed with next concrete pour. Greasing of dowels is not required as the embedded Speed Dowel System sleeve accommodates expansion and shrinkage movements that may occur. Bent or badly sheared slip dowels shall not be used. Saw cut dowels recommended.

C. Isolation Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, other fixed objects, and where indicated.

1. Locate expansion joints at intervals of no more than 30 feet unless otherwise indicated.
2. Extend joint fillers full width and depth of joint.
3. Place top of joint filler flush with finished concrete surface if joint sealant is not indicated.
4. Furnish joint fillers in one-piece lengths. Where more than one length is required, lace or clip joint-filler sections together.
5. During concrete placement, protect top edge of joint filler with metal, plastic, or other temporary preformed cap. Remove protective cap after concrete has been placed on both sides of joint.

D. Control Joints: Form weakened-plane control joints, alternating with score lines and sectioning the concrete into areas as indicated. Construct weakened-plane joints for a depth equal to at least one-fourth of the concrete thickness, as follows:

1. Grooved Joints: Form control joints after initial floating by grooving and finishing each edge of joint with grooving tool to a 1/4-inch radius. Repeat grooving of contraction joints after applying surface finishes.

E. Score Lines: Form score lines, alternating with weakened-plane joints and sectioning the concrete into areas as indicated. Construct score lines for a depth as indicated, as follows:

1. Grooved Joints: Form control joints after initial floating by grooving and finishing each edge of joint with grooving tool to a 1/4-inch radius. Repeat grooving of contraction joints after applying surface finishes.

F. Edging: After initial floating, tool edges of paving, gutters, curbs, and joints in concrete with an edging tool to a 1/4-inch radius. Repeat tooling of edges after applying surface finishes.

3.6 CONCRETE PLACEMENT

A. Before placing concrete, inspect and complete formwork installation, steel reinforcement, and items to be embedded or cast-in.

B. Remove ice or frost from subbase surface and steel reinforcement before placing concrete. Do not place concrete on frozen surfaces.

C. Moisten subbase to provide a uniform dampened condition at time concrete is placed. Do not place concrete around manholes or other structures until they are at required finish elevation and alignment.

D. Comply with ACI 301 requirements for measuring, mixing, transporting, and placing concrete.

E. Do not add water to concrete during delivery or at Project site. Do not add water to fresh concrete after testing.

F. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.

G. Consolidate concrete according to ACI 301 by mechanical vibrating equipment supplemented by hand spading, rodding, or tamping.

1. Consolidate concrete along face of forms and adjacent to transverse joints with an internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square-faced shovels for hand spreading and consolidation. Consolidate with care to prevent dislocating reinforcement, dowels, and joint devices.

H. Screed paving surface with a straightedge and strike off.

I. Commence initial floating using bull floats or darbies to impart an open-textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.

J. Cold-Weather Placement: Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing, or low temperatures. Comply with ACI 306.1 and the following:

1. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete temperature within the temperature range required by ACI 301.
2. Do not use frozen materials or materials containing ice or snow.
3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in design mixtures.

K. Hot-Weather Placement: Comply with ACI 301 and as follows when hot-weather conditions exist:

1. Cool ingredients before mixing to maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated in total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
2. Cover steel reinforcement with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.
3. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

3.7 FLOAT FINISHING (TYPE 1 FINISH - SEE SITE PLANS)

A. General: Do not add water to concrete surfaces during finishing operations.

B. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.

1. Fine-Textured Broom Finish: Draw a soft-bristle broom across float-finished concrete surface to provide a uniform, fine-line texture.

   a. Curbs and Gutters.

2. Medium-Textured Broom Finish: Draw a stiff-bristle broom across float-finished concrete surface perpendicular to line of traffic to provide a uniform, medium-line texture.

   a. Sidewalk Paving: Slopes less than 6%.
   b. Gutters in Path of Travel: Slopes less than 6%.

3. Heavy-Textured Broom Finish: Provide a coarse finish by striating float-finished concrete surface 1/16 to 1/8 inch deep with a stiff-bristled broom, perpendicular to line of traffic.

   a. Sidewalk Paving: Slopes of 6% or greater.
   b. Gutters in Path of Travel: Slopes of 6% or greater.

3.8 CONCRETE PROTECTION AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

B. Comply with ACI 306.1 for cold-weather protection.

C. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete but before float finishing.

D. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.

E. Curing Methods: Cure concrete by moisture curing, moisture-retaining-cover curing, curing compound or a combination of these as follows:

1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:

   a. Water.
   b. Continuous water-fog spray.
   c. Absorptive cover, water saturated and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.

2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover, placed in widest practicable width, with sides and ends lapped at least 12 inches and sealed by waterproof tape or adhesive. Immediately repair any holes or tears occurring during installation or curing period using cover material and waterproof tape.
3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas that have been subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating, and repair damage during curing period.

3.9 TOLERANCES

A. Comply with tolerances in ACI 117 and as follows:

1. Elevation: 1/4 inch.
2. Thickness: Plus 3/8 inch, minus 1/4 inch.
3. Surface: Gap below 10-foot- long, unleveled straightedge not to exceed 1/2 inch.
4. Alignment of Tie-Bar End Relative to Line Perpendicular to Paving Edge: 1/2 inch per 12 inches of tie bar.
5. Lateral Alignment and Spacing of Dowels: 1 inch.
6. Vertical Alignment of Dowels: 1/4 inch.
7. Alignment of Dowel-Bar End Relative to Line Perpendicular to Paving Edge: 1/4 inch per 12 inches of dowel.
8. Joint Spacing: 3 inches.
9. Weakened-plane Joint Depth: Plus 1/4 inch, no minus.
10. Joint Width: Plus 1/8 inch, no minus.

3.10 FIELD QUALITY CONTROL

A. Testing and Inspecting: Owner will engage a qualified testing laboratory to perform field tests and prepare test reports. Refer to the DSA-103 Structural Tests and Inspections Form at the end of Section 01 40 00 - Quality Control.

B. Waiver of Batch Plant Inspection: Batch plant inspection may be waived under the following condition:

1. The concrete plan complies fully with the requirements of ASTM C94, Sections 8 and 9, and has a current certificate from the National Ready Mixed Concrete Association or another agency acceptable to DSA. The certification shall indicate that the plant has automatic batching and recording capabilities.
2. When batch plant inspection is waived the following requirements shall apply:

   a. An approved inspector of the testing laboratory shall check the first batching at the start of work and furnish mix proportions to the licensed weighmaster.

b. The licensed weighmaster shall positively identify materials as to quantity and certify each load by a ticket.
c. The ticket shall be transmitted to the project inspector by a truck driver with load identified thereon. The inspector will not accept the load without a load ticket identifying the mix. The inspector will keep a daily record of placements, identifying each truck, its load and time of receipt, and approximate location of deposit in the structure. The inspector will transmit a copy of the daily record to DSA.
d. At the end of the project, the weighmaster shall furnish an affidavit to DSA on form SSS 411-8 certifying that all concrete furnished conforms in every particular to the proportions established by mix designs.

C. Testing Services: Testing of composite samples of fresh concrete obtained according to CBC Section 1905A.6 and ASTM C 172 shall be performed according to the following requirements:

1. Testing Frequency: Samples for strength tests of each class of concrete placed each day shall be taken not less than once a day, or not less than once for each 50 cubic yards of concrete, or not less than once for each 2,000 square feet of surface area for slabs or walls. Additional samples for seven-day compressive strength tests shall be taken for each class of concrete at the beginning of the concrete work or whenever the mix or aggregate is changed.

   a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.

2. Slump: ASTM C 143; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
3. Air Content: ASTM C 231, pressure method; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
4. Concrete Temperature: ASTM C 1064; one test hourly when air temperature is 40 deg F and below and when it is 80 deg F and above, and one test for each composite sample.
5. Compression Test Specimens: ASTM C 31; cast and laboratory cure one set of three standard cylinder specimens for each composite sample.
6. Compressive-Strength Tests: ASTM C 39; test one specimen at seven days and one specimen at 28 days.

D. Strength of each concrete mixture will be satisfactory if average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.

E. Test results shall be reported in writing to Architect, DSA, concrete batch plant, and Contractor on same day that tests are made. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.

F. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect.

G. Concrete paving will be considered defective if it does not pass tests and inspections.

H. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

I. Prepare test and inspection reports.

3.11 REPAIRS AND PROTECTION

A. Remove and replace concrete paving that is broken, damaged, or defective or that does not comply with requirements in this Section. Remove work in complete sections from joint to joint unless otherwise approved by Architect.

B. Drill test cores, where directed by Architect, when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory paving areas with portland cement concrete bonded to paving with epoxy adhesive.

C. Protect concrete paving from damage. Exclude traffic from paving for at least 14 days after placement. When construction traffic is permitted, maintain paving as clean as possible by removing surface stains and spillage of materials as they occur.

D. Maintain concrete paving free of stains, discoloration, dirt, and other foreign material. Sweep paving not more than two days before date scheduled for Substantial Completion inspections.

END OF SECTION 32 13 13

SECTION 32 13 73 - CONCRETE PAVING JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Cold-applied joint sealants.
2. Joint-sealant backer materials.
3. Primers.

B. Related Requirements:

1. Section 07 92 00 "Joint Sealants" for sealing nontraffic and traffic joints in locations not specified in this Section.

1.3 SUBMITTALS

A. Product Data: For each type of product.

B. Installation Instructions: Manufacturer’s written installation instructions for products and applications indicated for each joint-sealant product.

C. Samples for Verification: For each kind and color of joint sealant required, provide Samples with joint sealants in 1/2-inch-wide joints formed between two 6-inch-long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.

D. Paving-Joint-Sealant Schedule: Include the following information:

1. Joint-sealant application, joint location, and designation.
2. Joint-sealant manufacturer and product name.
3. Joint-sealant formulation.
4. Joint-sealant color.

E. Qualification Data: For Installer.

F. Product Certificates: For each type of joint sealant and accessory.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

1.5 FIELD CONDITIONS

A. Do not proceed with installation of joint sealants under the following conditions:

1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer.
2. When joint substrates are wet.
3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

A. Compatibility: Provide joint sealants, backing materials, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

2.2 COLD-APPLIED JOINT SEALANTS

A. Single-Component, Self-Leveling, Silicone Joint Sealant: ASTM D 5893/D 5893M, Type SL.

2.3 JOINT-SEALANT BACKER MATERIALS

A. Joint-Sealant Backer Materials: Non-staining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by joint-sealant manufacturer, based on field experience and laboratory testing.

B. Round Backer Rods for Cold-Applied Joint Sealants: ASTM D 5249, Type 3, of diameter and density required to control joint-sealant depth and prevent bottom-side adhesion of sealant.

C. Backer Strips for Cold- and Hot-Applied Joint Sealants: ASTM D 5249; Type 2; of thickness and width required to control joint-sealant depth, prevent bottom-side adhesion of sealant, and fill remainder of joint opening under sealant.

2.4 PRIMERS

A. Primers: Product recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joints to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.

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

3.2 PREPARATION

A. Surface Cleaning of Joints: Before installing joint sealants, clean out joints immediately to comply with joint-sealant manufacturer's written instructions.

1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.

B. Joint Priming: Prime joint substrates where indicated or where recommended in writing by joint-sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

3.3 INSTALLATION OF JOINT SEALANTS

A. Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated unless more stringent requirements apply.

B. Joint-Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions.

C. Install joint-sealant backings to support joint sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of joint-sealant backings.
2. Do not stretch, twist, puncture, or tear joint-sealant backings.
3. Remove absorbent joint-sealant backings that have become wet before sealant application and replace them with dry materials.

D. Install joint sealants immediately following backing installation, using proven techniques that comply with the following:

1. Place joint sealants so they fully contact joint substrates.
2. Completely fill recesses in each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

E. Provide joint configuration to comply with joint-sealant manufacturer's written instructions unless otherwise indicated.

3.4 CLEANING AND PROTECTION

A. Clean off excess joint sealant as the Work progresses, by methods and with cleaning materials approved in writing by joint-sealant manufacturers.

B. Protect joint sealants, during and after curing period, from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately and replace with joint sealant so installations in repaired areas are indistinguishable from the original work.

3.5 PAVING-JOINT-SEALANT SCHEDULE

A. Joint-Sealant Application: Joints within concrete paving (**PJS-1)**.

1. Joint Location:

a. Expansion and isolation joints in concrete paving.
b. Contraction joints in concrete paving.
c. Other joints as indicated.

2. Joint Sealant: Single-component, self-leveling, silicone joint sealant.
3. Joint-Sealant Color: Manufacturer's standard.

END OF SECTION 32 13 73

SECTION 32 31 13 – CHAIN LINK FENCING AND GATES:

1. GENERAL:

1.1 RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Special Conditions and Division 1 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF WORK:

A. Extent of chain link fences and gates is indicted on drawings.

1.3 QUALITY ASSURANCE:

A. Provide chain link fences and gates as complete units controlled by a single source including necessary erection accessories, fittings, and fastenings.

1.4 SUBMITTALS:

A. Product Data: Submit manufacturer's technical data, and installation instructions for metal fencing, fabric, gates and accessories.

B. Shop Drawings: Submit shop drawings indicating extent, type gate locations and post footing details.

2. PRODUCTS:

2.1 GENERAL: Dimensions indicated for pipe, roll-formed, and H-sections are outside dimensions, exclusive of coatings.

2.2 MANUFACTURER: Subject to compliance with requirement, provide products of one of the following:

A. Galvanized Steel Fencing and Fabric: Equal to:

1. United States Steel Corp.

2. Anchor Fence, Inc.

3. Master-Holco Co.

2.3 STEEL FABRIC:

A. Fabric: No 9-gauge (0.148" + or – 0.005") size steel wires, 2" mesh, with top and bottom selvages knuckled.

B. Furnish one-piece fabric widths for fencing up to 12' high.

C. Fabric Finish: Galvanized, ASTM A 392, Class I, with not less than 1.2 oz. Zinc per sq. ft of surface.

2.4 FRAMING AND ACCESSORIES:

A. Steel Framework General: Galvanized steel, ASTM A 120 or A 123, with not less than 1.8 oz. Zinc per sq. ft. of surface.

B. Fittings and Accessories: Galvanized, ASTM A 153, with zinc weights per Table 1.

C. Line Posts: Space 10' o.c. maximum, unless otherwise indicated of following minimum sizes and weights.

1. 6' to 8' fabric height 2.375" OD steel pipe, 3.65 lbs. per lin. ft.

2. Over 8' fabric height, 2.875" OD steel pipe, 5.79 lbs. per lin. ft.

2.5 GATE POSTS: Furnish posts for supporting single gate leaf, or one leaf of a double gate installation, for nominal gate widths as follows:

LEAF WIDTH	GATE POST	LBS./LIN. FT.
Up to 6’	3.5 “x 3.5” roll-formed Section	4.85
	or 2.875: OD pipe	5.79
Over 6’ to 13’	4.000 OD pipe	9.11
Over 13’ to 18’	6.625 OD pipe	18.97
Over 18’	8.625 OD pipe	28.55

2.6 TOP RAIL: Manufacturer’s longest lengths, with 1-5/8” x 7” long, 0.57 lbs steel galvanized sleeves, for each joint. Provide means for attaching top rail securely to each gate corner, pull and end.

A. 1.66” OD pipe, 2.27 lbs. per ft.

B. Post Brace Assembly: Manufacturer’s standard adjustable brace at end and gate posts and at both sides of corner and pull posts, with horizontal brace located at mid-height of fabric. Use same material as top rail for brace, and truss to line posts with 0.375” diameter rod and adjustable tightener.

2.7 TENSION WIRE (BOTTOM):

A. Metallic-Coated Steel Wire: 0.177-inch diameter, marcelled tension wire according to ASTM A817 or ASTM A824 with the following metallic coating:

1. Type II: Zinc coated (galvanized) by hot-dip process, with the following minimum coating weight:

a. Class 4: Not less than 1.2 oz./sq. ft. of uncoated wire surface.

2.8 POST TOPS: Provide weathertight closure cap with loop to receive tension wire or top rail; one cap for each post.

2.9 STRETCHER BARS: One-piece lengths equal to full height of fabric, with minimum cross-section of 3/16” x 3.4”. Provide one stretcher bar for each gate and end post, and two for each corner and pull post, except where fabric is integrally woven into post.

2.10 STRETCHER BAR BANDS: Space not over 15” o.c., to secure stretcher bars to end, corner, pull, and gate posts.

2.11 MAINTENANCE/SERVICE GATES:

A. Fabrication: Fabricate perimeter frames of gates from metal and finish to match fence framework. Assemble gate frames by welding, providing security against removal or breakage connections. Provide horizontal and vertical members to ensure proper gate operation and attachment of fabric, hardware, and accessories. Space frame members maximum of 8’ apart unless otherwise indicated. Provide same fabric as for fence, unless otherwise indicated. Install fabric with stretcher bars at vertical edges and at top and bottom edges. Install diagonal cross bracing consisting of 3/8” diameter adjustable length truss rods on gates to ensure frame rigidity without sag or twist.

B. Swing Gates: Fabricate perimeter frames of minimum 1.90” OD pipe.

C. Gate Hardware: Provide hardware and accessories for each gate, galvanized per ASTM A 153, and in accordance with the following:

1. Hinges: Size and material to suit gate size, non-lift-off type, offset to permit 180-degree gate opening. Provide 1 5/8” pair of hinges for each leaf over 6’ nominal height. Single gates higher than 6’- 0” high, use building industrial hinges.

2. Latch (Single Gates wider than 4’-0” wide): Forked type or plunger bar type to permit operation from either side of gate, with padlock eye as integral part of latch.

   a. Padlock and Chain: Padlock: Schlage KS 47-743 Brass Padlock w/ Schlage Composite Keyway to accept district standard gate key for site. Chain to be welded to gate frame and padlock.

3. Latch (Single Gates 3’-0” wide to 4’-0” wide): Lockset w/ lever handles equal to: Schlage ND96PD – Storeroom Function w/ Schlage “Primus” System, Security Level Three, Type EP Keyways using 20-700 controlled access cylinders. Coordinate keying with the District’s Locksmith Department.

4. Kickplate (Single Gates 3-0” wide to 4’-0” wide): Provide 10” high (minimum) galvanized steel kickplate on both sides of gate.

D Keeper: Provide keeper for vehicle gates, which automatically engages gate leaf and holds it in open position until manually released.

E. Double Gates: Provide gate stops for double gates, of pipe sleeve, set in concrete, and designed to engage center drop bolt. Include locking device and padlock eyes as integral part of latch, permitting both gate leaves to be locked with single padlock.

1. Padlock and Chain: Padlock: Schlage KS 47-743 Brass Padlock w/ Schlage Composite Keyway to accept district standard gate key for site. Chain to be welded to gate frame and padlock.

2.12 PEDESTRIAN GATES:

A. HARDWARE:

1. Lock Box: See plan for size, must be able to accommodate Panic Hardware

2. Hinges - Pedestrian Gates (Gate-Closer) (3'-0" to 5'-0" wide swinging gate leaf): Vandal-proof 180-degree self-closing hinge with hydraulic damping, and powder coated aluminum housing. Universal design that allows for left and right opening gates.

   A. Basis-of-Design Product: Subject to compliance with requirements, provide Locinox; Mammoth 180 or comparable product by one of the following:

   B. District and Architect approved equal.

   C. Gate-Closer shall be capable of operating gates weighing up to 330 lbs and 5'-0" in width.

   D. Opening pressure of the Gate-Closer shall be between 3 and 5 pounds maximum applied perpendicular to the gate.

   E. The gate closing sweep period from an open position of 90 degrees to a position of 12 degrees from the latch shall be 5 seconds minimum.

   F. Color: Silver 3.

3. Panic Device (where called for): Corbin Russwin ED8200 (Night latch function) w/ P857 Wing Pull. Provide Schlage Primus Keyways per Section 08 71 00 - Finish Hardware. Manual cane bolts are prohibited on leaf with panic device. CONTACT COCKSMITHS

4. Kickplate: Provide 10" high galvanized steel kickplate on both sides of pedestrian gates (see approved drawings).

5. The post on each side of a pedestrian gate must be braced together by a welded header of the same material as the posts (see approved drawings) at a minimum of 7'-0" above walking surface.

6. Side Panels: Fabricate a min. of 12 inches wide steel panel on each side of the pedestrian gate to prevent the ability to reach around the sides to open the gate.

   A. Square tubes: 2 by 2 inches with 1/8-inch wall thickness.

   B. Steel Panel Height: See approval Plans.

   C. Center/Middle panel: Expanded Metal Mesh (Vandal Screens): ASTM F 1267, Type II (expanded and flattened), Class 1 (uncoated): ½" x #13 with 14-gauge Type 014 U-Edging (0.080" opening x 1" width) welded around the perimeter. Mesh shall be attached to the gate

   D. Side Panel Tabs: Weld 1" wide by 6" high steel tabs between each stretcher bar band to attached steel panels at each end. Field weld both sides, all the way around.

7. Gate Stop:

   A. Steel plate: 3 by 3 inches with 3/16-inch wall thickness.

   B. Length to match gate height.

   C. Stitch weld to Pedestrian gate frame per plan details.

B. GALVANIZING:

1. General: Hot-dip process per ASTM A123, A153, or A385, as Applicable Minimum coating: 2 oz. per square foot.

2. Repair Treatment: Galvaloy or approved equal.

   A. PRIMER: Manufacturer's standard high solids polyurethane primer.

   B. PAINT: Manufacturer's standard gloss polyurethane paint. Color: Silver.

   C. FINISH: Galva-Guard II or equal: Factory finish after galvanizing with one spray coat of high solids polyurethane primer and one spray coat of gloss polyurethane paint.

C. FABRICATION:

1. Pedestrian Gates to be welded construction and manufactured by Builders Fence Company, Inc., or approved equal.

2. Architectural and Miscellaneous Steel: ASTM A36.

3. Hot Rolled Structural Steel: ASTM A513 or A500.

4. Gate Configuration: Single Leaf

5. Gate Frame Height: See Approved Plans

6. Gate Opening Width: See Approved Plans

7. Steel Frames and Bracing: Fabricate members from square tubing. Hot-dip galvanize frames after fabrications.

8. Frame Members: Square tubes 2 by 2 inches with 1/8-inch wall thickness.

9. Bracing Members: Steel tubing 2 by 2 inches with 1/8-inch wall thickness.

10. Bracing Members for panic bar: Steel rectangle tubbing 2 by 4 inches with 1/8-inch wall thickness.

Pedestrian Gate Center/Middle Panels (No Pickets)

A. Expanded Metal Mesh (Ball and Security Screens): ASTM F 1267, Type II (expanded and flattened), Class 1 (uncoated): 1/2" x #13 with 14-gauge Type 014 U-Edging (0.080" opening x 1" width) welded around the perimeter. Mesh shall be attached to the gate.

D. GENERAL:

1. Shop assemble work in largest practicable sections to minimize field connections. File or grind smooth parts exposed to finish view; remove weld marks and leave free of noticeable marks. Bends, twists, open joints in finished members or projecting edges or corners at connections will not be permitted: Provide bolts and fastenings necessary to complete fabrication. Welding: Per AWS Standards. Grind all welds smooth on exposed surfaces. Spot welding not permitted on exposed surfaces.

E. ASSEMBLY:

1. Pedestrian Gates: Fully welded one-piece frame
2. Reinforcement: Provide proper reinforcement for hardware and where required on metal work. See gate plan for reinforcement location.
3. Hardware: Install as recommended by manufacturer as shown.

F. MATERIALS:

1. Frame Members: Square tubes 2 by 2 inches with 1/8-inch wall thickness
2. Bracing Members: Steel tubing 2 by 2 inches with 1/8-inch wall thickness
3. Gate Frame/Hinge Post: Shall be 3" x 3" x 3/16" Tubular Steel.

G. CLEANING:

1. After fabrication gate and Frame shall be power washed in a phosphoric acid solution, rinsed and dried.

2.13 HORIZONTAL-SLIDE GATES:

A. General: ASTM F 1184 for gate posts and single slide gate types.

1. Classification: Type II Cantilever Slide, Class 1 with external roller assemblies and 6-inch double rolling gate wheel carrier.
   a. Gate Frame Width and Height: More than 48 inches wide by any height (8'-0" maximum).

B. Fabrication:

1. Fabricate perimeter frames of minimum 1.90" OD pipe.
2. Fabricate perimeter frames of gates from metal and finish to match fence framework. Assemble gate frames by welding or with special fittings and rivets for rigid connections, providing security against removal or breakage connections. Provide horizontal and vertical members to ensure proper gate operation and attachment of fabric, hardware, and accessories. Space frame members maximum of 8' apart unless otherwise indicated.
3. Provide same fabric as for fence, unless otherwise indicated. Install fabric with stretcher bars at vertical edges and at top and bottom edges. Attach stretcher bars to gate ramp at not more than 15" o.c. Install diagonal cross bracing consisting of 3/8" diameter adjustable length truss rods on gates to ensure frame rigidity without sag or twist.

C. Horizontal-Slide Gate Hardware:

1. Hangers, Roller Assemblies, Stops, Double Wheel Carrier: Fabricated from galvanized steel. Wheel: Rubber
2. Latch: Forked type or plunger bar type to permit operation from either side of gate, with padlock eye as integral part of latch.
3. Padlock and Chain: Padlock: Schlage KS 47-743 Brass Padlock w/ Schlage Composite Keyway to accept district standard gate key for site. Chain to be welded to gate frame and padlock.
4. Roller Assemblies: 5” high heavy-duty wheel with bracket.

2.14 CONCRETE:

Provide concrete consisting of portland cement, ASTM C 150, aggregate ASTM C 33, and clean water. Mix materials to obtain concrete with a minimum 28-day compressive strength of 2500 psi using at least 4 sacks of cement per cu. yd., 1" maximum size aggregate, maximum 3" slump, and 2% to 4% entrained air.

2.15 PRIVACY SLATS (**where indicated on drawings**):

A. Tubular Polyethylene Slats: Minimum 0.023-inch-thick tubular polyethylene, manufactured for chain-link fences from virgin polyethylene with UV inhibitor, sized to fit mesh specified for direction indicated, with vandal-resistant fasteners and lock strips.

3. EXECUTION:

3.1 INSTALLATION:

A. Do not begin installation and erection before final grading is completed, unless otherwise permitted.

B. Install chain-link fencing according to ASTM F567 and more stringent requirements specified.

3.2 EXCAVATION: Drill or hand excavate (using post hole digger) holes for posts to diameters and spacings indicated, in firm, undisturbed or compacted soil.

3.3 SETTING POSTS: Center and align posts in holes 3" above bottom of excavation.

A. Place concrete around posts and vibrate or tamp for consolidation. Check each post for vertical and top alignment, and hold in position during placement and finishing operations. Unless otherwise indicated, extend concrete footings 2" above grade and trowel to a crown to shed water.

3.4 TENSION WIRE: Pull wire taut, without sags. Install tension wire in locations indicated before stretching fabric. Provide horizontal tension wire at the following locations:

A. Extended along bottom of fence fabric. Install bottom tension wire within 2 inches of bottom of fabric and tim to each post with not less than same diameter and type of wire.

3.5 TOP RAILS: Run rail continuously through post caps, bending to radius for curved runs. Provide expansion couplings as recommended by fencing manufacturer.

3.6 BRACE ASSEMBLIES: Install braces so posts are plumb when diagonal rod is under proper tension.

3.7 FABRIC: Leave approximately 1" between finish grade and bottom salvage, unless otherwise indicated. Pull fabricate taunt and tie to posts, rails, and tension wires. Install fabric on security side of fence, and anchor to framework so that fabric remains in tension after pulling force is released.

3.8 STRETCHER BARS: Thread through or clamp to fabric 4" o.c., and secure to posts with metal bands spaced 15" o.c.

3.9 GATES: Install gates plumb, level, and secure to full opening without interference. Attach fabric as for fencing. Attach hardware using tamper-resistant or concealed means. Install ground-set items in concrete for anchorage. Adjust hardware for smooth operation and lubricate where necessary.

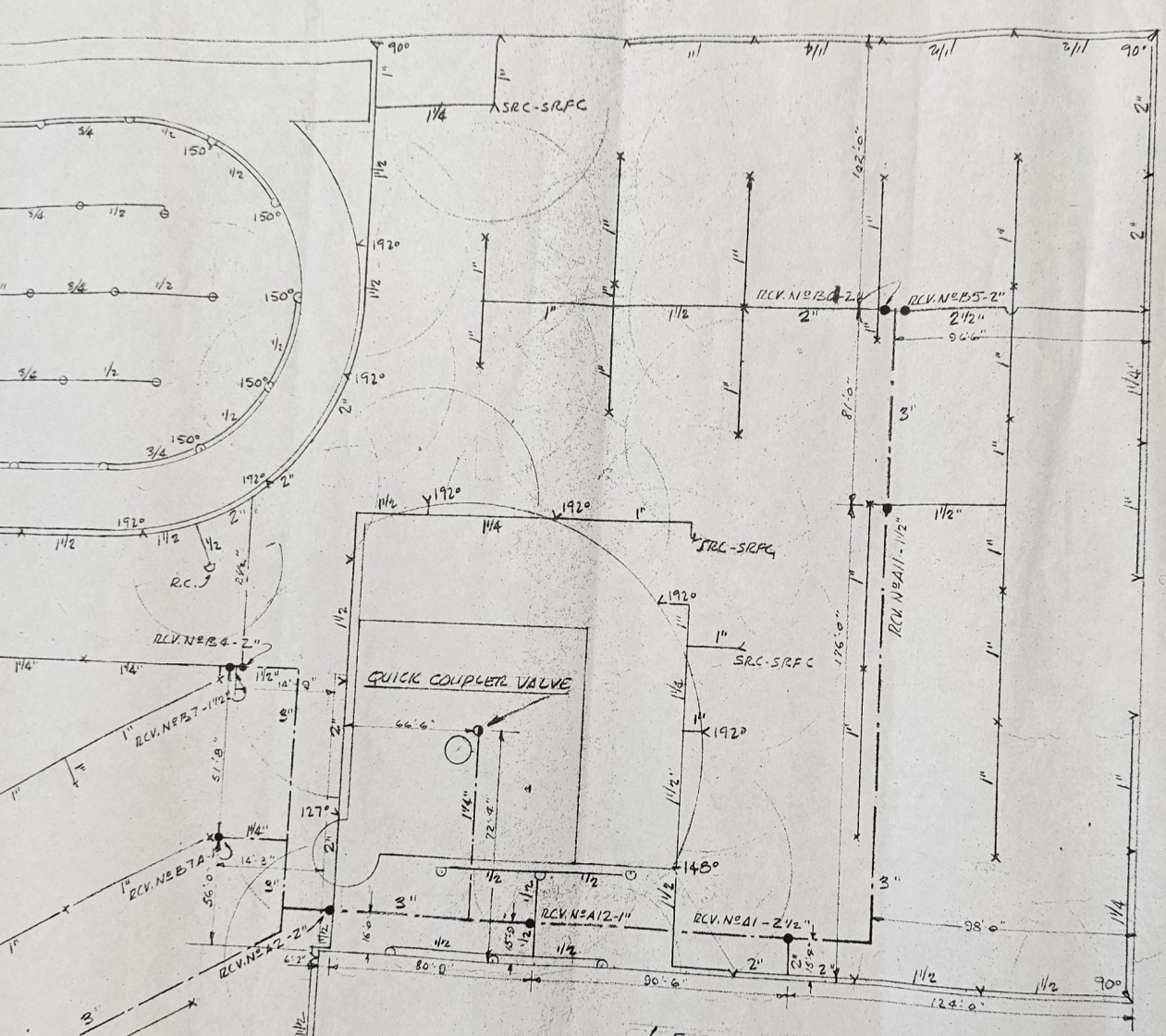
3.10 TIE WIRES: Use U-shaped wire, conforming to diameter of pipe to which attached, clasping pipe and fabric firmly with ends twisted at least two full turns. Bend ends of wire to minimize hazard to persons or clothing. Tie fabric to line posts, with wire ties spaced 12" o.c. Tie fabric to rails and braces, with wire ties spaced 24" o.c. Tie fabric to tension wires, with hog rings spaced 24" o.c.

3.11 FASTENERS: Install nuts for tension bands and hardware bolts on side of fence opposite fabric side. Peen ends of bolts or score threads to prevent removal of nuts.

3.12 PRIVACY SLATS: Install slats vertically for privacy factor of 70 to 75 percent securely locked in place. Pop rivet locking strips at ends. Use viewguard plus fabric for complete privacy.

END OF SECTION 32 31 13

EXHIBIT G



LEGEND

- X FULL CIRCLE ROTORY HD. RAINOMAT Nº 11FRB
- ⊖ " " " " " Nº 7XFR
- ○ PART " " " " Nº 7FR
- " " " " THOMPSON Nº 17/64" (173° UNLESS NOTED)
- ⊗ ⊕ ⊠ FULL, HALF QUARTER CIRCLE HD. FERCO Nº 112 SERIES
- ● REMOTE CONTROL VALVE - FERCO Nº 152 OR 202 SERIES - SEE DRWG.
- ⋈ GATE VALVE
- SPR. LATERALS - "LASCOPIPE" ABS TYPE II I.P.S. 200# W.P.
- NEW MAIN LINE
- ◘ QUICK COUPLER VALVE RAINBIRD Nº 33 WITH 3 COUPLER KEYS

NOTES

ALL 3" MAIN LINE SHALL BE "JOHNS-MANVILLE" TRANSITE 325 FT. HD. INSTALLED AS PER MFR'S. SPECS.
ALL OTHER MAIN TO BE P.V.C. SCHED. 40

CONTRACTOR SHALL INSTALL LINE-SIZED VAC. BRKRS ON DISCH'G. SIDE OF ALL VALVES NOT PROTECTED BY PRESS. TYPE V.B. ALL V.B.s SHALL BE ELEVATED AS PER LOCAL CODE & AS NEAR AS POSSIBLE TO BLDGS. ATMOS. BRKRS TO BE FERCO Nº 710A.

ALL RCVs NOT PROTECTED BY AN ATMOS. BRKR. SHALL BE INDICATED WITH A VALVE MARKER - FERCO Nº 40 INSTALLED PER MFR'S RECOMMENDATIONS.

AUTO. CONTROLLERS "A" [illegible] SIMULTANEOUSLY

EXHIBIT H
PLACARD SAMPLE ON FENCE

EXHIBIT I
ADD ALTERNATE

EXHIBIT J

Stockton Unified School District

FACILITIES & PLANNING DIVISION
PLANNING DEPARTMENT
1944 El Pinal Drive • Stockton, California • 95205-2551

(209) 933-7045 • Fax (209) 933-7046

Mandatory Job Walk Sign-In Sheet
Walkway for Energy Display including Fence PROJECT BID # 25.934
Wednesday, February 5TH, 2025 AT 10:30 A.M.

PLEASE WRITE LEDGIBLY

Contractor or Entity	Representative	Signature	Phone Number	Email Address
1. B and M Builders	Daniel Edwards	Daniel Edwards	(916) 638-8626	Service@bm-builders.com
2. SDM Construction	Deyon Diaz		415-610-0444	SDMconstruction2@GMail.com
3. Pacific Metro Electric	Glen Ross		209-603-9257	glenepacificmetroelectric.com
4.	Jason Bibbo		209-929-3222	
5. AM Stephens	Ray Kelley		(916) 768-6718	steve@amstephens.net
6. Golden Bay Fence	William Moreno		(209) 944-9457	wmoreno@goldenbayfence.com
7. PMT	Jordan Ayala		530-401-6263	Jordan@[illegible]
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