MILITARY DEPARTMENT
OFFICE OF THE ADJUTANT GENERAL
10601 Bear Hollow Drive
Rancho Cordova, California 95670

Invitation for Bid (IFB)
Notice to Prospective Bidders
IFB No. 130940 - Road Paving - 1300 Area
Camp San Luis Obispo - San Luis Obispo, CA

7/13/2026

You are invited to review and respond to this IFB. In submitting your bid, you must comply with these instructions. In addition to those programs and preferences that are specified in this solicitation, Prospective Contractors are encouraged to consider programs and preferences that are available, such as those for the use of small businesses, disadvantaged businesses, disabled veteran businesses, and other businesses covered by State and Federal programs and preferences.

The DVBE Participation Program applies, and a five percent (5%) goal is required for this IFB. The DVBE Incentive Program may also apply to this IFB. See **Section 4, Special Programs, Disabled Veteran Business Enterprise (DVBE) Program Requirement**, in this IFB for requirements.

As required by Government Code 14838, the California Military Department (CMD) is committed to meeting the State's 25 percent (25%) Small Business (SB) participation goal. Certified SBs, Micro Businesses (MB), and contractors willing to commit to subcontracting a minimum of 25 percent (25%) of their net bid price to certified SBs or MBs are encouraged to submit bids. See **Section 4**, **Special Programs, Small Business (SB) or Microbusiness (MB) Preference**, in this IFB for requirements.

In the opinion of CMD, this IFB is complete and without need of explanation. However, if you have questions, or should you need any clarifying information, the contact person for this IFB is:

Robert Hawkins
California Military Department
10601 Bear Hollow Drive
Rancho Cordova, CA 95670
Robert.Hawkins@cmd.ca.gov

Please note that no *verbal* information given will be binding upon the State unless such information is issued in writing as an official addendum.

Technical questions regarding this solicitation will be addressed, in writing, and in accordance with the Questions and Answers portion of this IFB. See **Section 3**, **Key Actions Dates** for more details.

Robert Hawkins
Contracting Administrator

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1. Purpose and Description of Services

a. Contractor agrees to provide to CMD **Road Paving - 1300 Area** services, as described herein:

Contractor shall provide all materials, labor, bonds, licenses, insurance, equipment, tools, permits, taxes, transportation, and fees to remove and replace existing asphalt roadways, improve drainage infrastructure, construct concrete walkways, install pavement striping and signage, perform associated site work, and complete all related work at the 1300 Area, Camp San Luis Obispo, California.

Contractor shall have **180** calendar days to complete the Work.

2. Bidder Minimum Qualifications

a. The Prime Bidder must be either an individual or firm currently licensed to do business in California and provide proof of such as required in **Attachment 1 – Required Attachment Checklist**.

b. The Prime Bidder must have a business license or incorporation papers for their respective State showing that their company is in good standing in that state, if the Prime Bidder's base of operation is located outside the State of California and provide proof of such as required in **Attachment 1 – Required Attachment Checklist**.

c. Pursuant to Public Contract Code section 2010, a person that submits a bid or proposal to […] a state agency with respect to any contract in the amount of $100,000.00 shall complete the **Attachment 10 – California Civil Rights Laws**.

d. The Prime Contractor shall possess a **A - General Engineering Contractor** license issued by the California Contractors State Licensing Board (CSLB).

e. Failure of Bidder to sufficiently provide any or all of the minimum qualifications, in the opinion of CMD, will result in the Bidder's bid deemed non-responsive.

f. By submitting its bid, Bidder certifies, under penalty of perjury, that its Contractors State License Board (CSLB) license is in a classification appropriate to the work to be undertaken as identified in the **Attachment 12 – Sample Standard Agreement, Exhibit A, Scope of Work**. This requirement has also been added in the **Attachment 12 – Sample Standard Agreement, Exhibit E**. Refer to **Section 3, Bid Requirements and Information, Contractor's License**, for submittal requirements.

g. Failure of Bidder to sufficiently provide any or all of the minimum qualifications, in the opinion of CMD, will result in the Bidder's bid deemed non-responsive.

3. Bid Requirements and Information

a. Key Action Dates

It is recognized that time is of the essence. All bidders are hereby advised of the following schedule and will be expected to adhere to the required dates and times.

Event	Date	Time (PST)
IFB published on Cal eProcure	7/13/2026	2:00 PM
Mandatory Pre-Bid Job Walk	7/23/2026	10:00 AM
Request for Information (RFI) Submission Deadline	8/5/2026	5:00 PM
Bid Submission Deadline	8/28/2026	2:00 PM
Public Bid Opening	8/28/2026	2:15 PM

b. Mandatory Pre-Bid Job Walk

i. A mandatory pre-bid job walk is scheduled at 10:00 AM on 7/23/2026 for the purpose of viewing the site. Arrive at least 15 minutes early and bring business cards.

ii. Designated Meeting Location:

1. Camp San Luis Obispo – 10 Sonoma Avenue, San Luis Obispo, CA 93405

a. Prospective bidders shall park in the designated dirt lot located to the right and outside of the main gate and await further instructions from authorized contracting or delegated department personnel.

iii. Failure to arrive at the designated meeting location by the scheduled start time may result in disqualification from submitting a bid. All prospective bidders must comply with current federal requirements, such as the acceptable identification, vehicle registration and insurance, when accessing federal facilities.

iv. In the event a potential prime contractor is unable to attend the mandatory pre-bid walk-through, an authorized representative may attend on their behalf. The representative may only sign-in for one (1) company. Subcontractors may not represent a potential prime contractor at a mandatory pre-bid walkthrough. No bid will be accepted unless the bidder or their authorized representative was in attendance.

c. Request for Information (RFI) Period

i. Potential Bidders who attended the mandatory pre-bid job walk may submit written questions regarding the project by 8/5/2026. All questions should be emailed in writing to Robert.Hawkins@cmd.ca.gov. NO QUESTIONS will be entertained after 8/5/2026.

ii. Written questions must include: the individual's name, firm name, complete address and must reference **IFB No. 130940**.

iii. Written responses to all questions will be collectively compiled and posted to the Cal eProcure website (https://caleprocure.com/pages/index.aspx). It is the responsibility of the Bidder to access the website for any changes or addenda that may be posted. Refer to this **IFB, Section 3, A, Key Action Dates**, for the schedule of events and dates/times.

d. Costs Included in Bid Rates

Bid prices/rates shall include the cost of employer payments to or on behalf of employees, subsistence, travel, compensation insurance premiums, unemployment contributions, social security taxes, contract bond premiums, and any other taxes or assessments, including but

not limited to, sales and use taxes required by law or otherwise and no additional allowance will be paid unless separate payment provisions in the Agreement should specifically provide otherwise.

e. Employment of undocumented Workers

No State agency or department, as defined in California Public Contract Code Section 10335.7, that is subject to this code, shall award a public works contract to a bidder or contractor, nor shall a bidder or contractor be eligible to bid for or receive a Public Works Agreement, who has, in the preceding five (5) years, been convicted of violating a State or Federal law regarding the employment of undocumented workers (Pub. Cont. Code Section 6101).

f. State General Prevailing Wage Rates

The predetermined general prevailing wage rates published by the Director of Industrial Relations may be obtained via the Internet: https://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. It is the bidder's responsibility to use the correct classification determination published by the Department of Industrial Relations.

g. Postconsumer Content Certification

Your signature affixed hereon and dated on the Bid/Bidder Certification Sheet, Attachment 2 shall signify that you are aware of the recycle materials, goods, and supplies program requirements of Public Contract Code Sections 12200 and 12205, and that the Recycled-Content Certification will be required for the successful contractor. The awarded bidder will be required to complete a Postconsumer-Content Certification (CalRecycle 74) and provide the form with the signed Agreement. An incomplete form or failure to provide a completed form will result in cancellation of the Agreement. The Postconsumer-Content Certification (CalRecycle 74 form) may be downloaded from CalRecycle's website: https://calrecycle.ca.gov/.

h. Mandatory Organic Waste Recycling

The Contractor generating organic waste or commercial solid waste shall arrange for the recycling services required by this section in a manner that is consistent with State and local laws and requirements, including a local ordinance or local jurisdiction's franchise agreement, applicable to the collection, handling, or recycling of organic waste and commercial solid waste. This requirement does not modify, limit or abrogate the Contractors right to sell or donate its recyclable organic waste materials consistent with the requirements of Public Resources Code Sections 42649.8 et seq.

i. Motor Carrier Permit Requirements

i. Contractor is responsible for determining whether California Vehicle Code Sections 34601 and 34620 require Contractor to have a valid Motor Carrier Permit (MCP) issued by the Department of Motor Vehicles (DMV) in order for Contractor to lawfully perform any part or aspect of the work described in Exhibit A, Scope of Work, and, if California Vehicle Code Sections 34601 and 34620 do require same for any part or

aspect of such work, Contractor must have a valid MCP(s) issued from the DMV for its services as a Motor Carrier of Property under this Agreement. Contractor shall pay any required fees necessary to obtain and maintain in good standing during the entire term of this Agreement the any such required MCP(s).

ii. The MCP(s), if any, required for the Contractor's Motor Carriers of Property under California Vehicle Code Sections 34601 and 34620 shall be on file with the Contractor for the duration of this Agreement. Upon request of CMD, the Contractor must immediately provide to CMD a copy of the required MCP(s), if any.

j. Contractor Registration Program

i. No Contractor or Subcontractor may be listed on a bid proposal for a public works contract unless registered with the Department of Industrial Relations (DIR), pursuant to Labor Code Section 1725.5 with limited exceptions from this requirement for bid purposes only under LC Section 1771.1(a)).

ii. No Contractor or Subcontractor may be awarded a public works contract or commercial service contract requiring prevailing wages, unless registered with DIR pursuant to Labor Code Section 1725.5.

iii. CMD will verify each of the registration numbers prior to contract award. Bidders that do not possess the required DIR registration will be deemed non-responsive and rejected from further consideration in the solicitation process.

k. Contractor's License

Bidder must have, at time of bid submittal and for the duration of the contract, a valid, current A - General Engineering Contractor license issued by the Contractors State License Board (CSLB), for the type of work to be performed. Bidder shall obtain, pay for and maintain, in good standing, all necessary licenses and permits to accomplish the work. Bidders will be considered non-responsive unless proper licensing requirements are met. An invalid license will result in rejection of the bid. Positive verification of a valid license issued by the CSLB will be performed by CMD (reference Business and Professions Code Section 7028.15).

l. Subcontractors

Bidder may subcontract portions of the work as defined in the attached Sample Standard Agreement. Bidder shall perform on the site, and with its own organization, work equivalent to at least twenty percent (20%) of the total amount of work to be performed under the contract If subcontractors are used, complete the Bidder Declaration (GSPD–05-105), Attachment 5. Bidder must ensure that the subcontractor(s) will have all necessary licenses, permits, and/or certifications to accomplish its portion of the work. Failure of a subcontractor(s) to have the proper licenses, permits, and/or certifications, shall be cause for rejection of bid. The Bidder Declaration can also be downloaded at which can be downloaded at https://www.documents.dgs.ca.gov/dgs/fmc/GS/PD/GSPD05-105.pdf.

m. Non-Collusion Declaration for Public Works

Bidder must submit, as described herein, a non-collusion declaration for Public Works. The non-collusion declaration is attached to this IFB as Attachment 11. Failure to submit a complete declaration shall result in rejection of the bid.

n. Bonds

i. If the proposed bid amount exceeds $24,999.99, the contractor must submit a bid bond in the amount of at least 10% of the bid amount with the bid packet utilizing a bond form provided by the Surety.

ii. The bid bond must include the IFB No.130940 and must identify the owner as:

California Military Department
IFB No. 130940
10601 Bear Hollow Drive
Rancho Cordova, California 95670-6350

iii. Prior to the commencement of performance, the contractor must obtain and provide to the State, a payment bond, on Standard Form 807, when the contract involves a public works expenditure (labor/installation costs) in excess of $24,999.99. Such bond shall be in a sum not less than one hundred percent (100%) of the contract price. Forms shall be provided to the contractor. The contractor shall ensure the payment bond remains in full force and effect during execution of the contracted work, the guarantee period and through such time that all subcontractors and suppliers are paid in full by the contractor.

iv. If the contract amount is less than $25,000.00, and a subsequent change order or contract amendment causes the total amount of the contract to exceed $24,999.99, then a payment bond will be required in the amount of one hundred percent (100%) of the new contract total amount.

v. If the contract amount exceeds $9,999.99 and progress payments will be made, a performance bond in the amount of 100% of the contract amount must be submitted by the successful bidder at the time signed contracts are returned to the California Military Department. The contractor shall ensure the performance bond remains in full force and effect during execution of the contracted work and guarantee period.

vi. Bonds must be issued by a California-admitted surety (CCP § 995.311.).

o. Insurance

i. The bidder, who receives the Agreement award, must provide a Certificate of Insurance providing proof of insurance to the California Military Department within ten (10) working days from the date of notification of award. Refer to the Sample Standard Agreement Exhibit F for the applicable and specific Insurance requirements and coverage limits.

ii. The insurance carrier shall provide an endorsement for the additional insured statement as follows:

CMD, State of California, its officers, agents, and employees shall be included as additional insured, but only with respect to work performed for the State of California under this Agreement.

iii. The additional insured endorsement must accompany the certificate of insurance.

iv. Available Coverages/Limits

v. In the event the insurance coverages obtained by the Contractor is broader in scope than, and/or the limits are higher than, those required under the contract, all such broader coverage and/or higher limits available to the Contractor shall also be available and applicable to the State.

vi. In the case of Contractor and/or Permittee's utilization of subcontractors to complete the contracted scope of work, contractor and/or Permittee shall include all subcontractors as insured under Contractor and/or Permittee's insurance or supply evidence of insurance to The State equal to policies, coverages and limits required of Contractor and/or Permittee.

p. California Civil Rights Laws

Any person that submits a bid or proposal to, or otherwise proposes to enter into or renew a contract with, a state agency with respect to any contract in the amount of one hundred thousand dollars ($100,000.00) or more shall certify, under penalty of perjury, at the time the bid or proposal is submitted or the contract is renewed, that they satisfy all of the conditions set forth in California Public Contract Code Section 2010 and they shall execute the California Civil Rights Laws Certification, as Attachment 10, completed, signed, and returned with its bid or proposal.

q. Darfur Contracting Act

i. The Darfur Contracting Act, Public Contract Code Section 10475-10481, applies to any company that currently or within the previous three (3) years has had business activities or other operations outside of the United States. The Act was passed by the California Legislature and signed into law by the Governor to preclude State agencies generally from contracting with "scrutinized" companies that do business in the African nation of Sudan (of which the Darfur region is a part), for the reasons described in Public Contract Code Section 10475. All bidders shall complete the Darfur Contracting Act Certification, Attachment 6, and submit with the proposal.

ii. If your company has not, within the previous three (3) years, had any business activities or other operations outside of the United States, complete Option 1 on the Darfur Contracting Act Certification form.

iii. A scrutinized company is a company doing business in Sudan as defined in Public Contract Code Section 10476. Scrutinized companies are ineligible to, and cannot bid on, or submit a bid or proposal for an Agreement with a State agency for goods or services. (Pub. Cont. Code Section 10477(a)).

iv. Therefore, Public Contract Code Section 10478(a) requires a company that currently has (or within the previous three (3) years has had business activities or other operations outside of the United States to certify that it is not a "scrutinized" company when it submits a bid or proposal to a State agency.

v. A scrutinized company may still; however, submit a bid or proposal for an Agreement with a State agency for goods or services if the company first obtains permission from the Department of General Services according to the criteria set forth in Public Contract Code Section 10477(b).

r. Iran Contracting Act

i. Pursuant to the Iran Contracting Act of 2010 (Pub. Cont. Code Sections 2200 et seq., hereinafter "the Act"), persons identified on the list established under Public Contract Code Section 2202.5 (hereinafter "List") are ineligible to bid on, submit a proposal for, enter into, or renew any contract with the State for goods or services of one million dollars or more.

ii. Any person who submits a bid or proposal must complete and submit to CMD with its bid proposal, the Iran Contracting Act Verification Form, Attachment 7, certifying that it is not on the most current List unless the person is exempted from the certification requirement by Public Contract Code Section 2203(c) or (d). If claiming an exemption, the person shall provide written evidence that supports an exemption under Public Contract Code Section 2203(c) or (d) with its bid or proposal. The Iran Contracting Act Verification Form can also be downloaded at https://www.dgs.ca.gov//-/media/Divisions/PD/PTCS/OPPL/SCM/SCM-Link-Docs/Iran-Contracting-Act.pdf.

iii. Any person, for a contract that is exempt from bidding or is renewed, or for whom a contract is otherwise awarded by the State, must complete and submit to CMD the Iran Contracting Act Verification Form, certifying that it is not on the most current List, before the contract has been executed by the parties, unless the person is exempted from the certification requirement by Public Contract Code Section 2205(c) or (d). If claiming an exemption, the person shall provide written evidence that supports an exemption under Public Contract Code Section 2203(c) or (d), before execution of the contract.

s. Submission of Bid

i. All bids must be submitted to CMD by date and time shown in Section 3, Bid Requirements and Information, Item a) Key Action Dates.

ii. Bids **MUST** be submitted electronically.

iii. Electronic Submissions

1. Electronic bid submittals shall be sent to PWC@cmd.ca.gov and shall include Robert Hawkins at Robert.Hawkins@cmd.ca.gov as a copied recipient.

2. All bid documents will be in an attachment (as one PDF). If any bid information is in the body of the email, it shall be rejected. Bids submitted via links to cloud storage services or file-sharing drives will not be accepted.

3. Subject line must include the IFB No. 130940, Road Paving - 1300 Area and Contractor Business Name.

4. The bid submission email inbox is ONLY for bid submissions, contact the Contracting Administrator directly with contract questions and/or to receive confirmation that their bid was received.

iv. **Late bids will not be considered.**

v. All bids shall include the documents identified in Required Attachment Checklist, Attachment 1. Bids with incomplete documents or not including the proper "required attachments" shall be deemed non-responsive. A non-responsive bid is one that does not meet the basic bid requirements.

vi. All documents requiring a signature must bear an original signature of a person authorized to bind the bidding firm.

vii. Bids must be submitted for the performance of all the services described herein. Any deviation from the work specifications will not be considered and will cause a bid to be rejected.

viii. A bid may be rejected if it is conditional or incomplete, or if it contains any alterations of form or other irregularities of any kind. The State may reject any or all bids and may waive an immaterial deviation in a bid. The State's waiver of immaterial deviation shall in no way modify the IFB document or excuse the bidder from full compliance with all requirements if awarded the agreement.

ix. Costs for developing bids and in anticipation of award of the agreement are entirely the responsibility of the bidder and shall not be charged to the State of California.

x. An individual who is authorized to bind the bidder contractually shall sign Bid/Bidder Certification Sheet, Attachment 2. The signature should indicate the title or position that the individual holds in the firm. An unsigned bid may be rejected.

xi. A bidder may modify a bid after its submission by withdrawing its original bid and resubmitting a new bid prior to the bid submission deadline. Bidder modifications offered in any other manner, oral or written, will not be considered.

xii. A bidder may withdraw its bid by submitting a written withdrawal request to the State, signed by the bidder or an authorized agent. A bidder may thereafter submit a new bid prior to the bid submission deadline. Bids may not be withdrawn without cause subsequent to bid submission deadline.

xiii. The awarding agency may modify the IFB prior to the date fixed for submission of bids by the issuance of an addendum to all parties who received a bid package.

xiv. The awarding agency reserves the right to reject all bids. The agency is not required to award an agreement.

xv. Before submitting a response to this solicitation, bidders should review, correct all errors and confirm compliance with the IFB requirements.

xvi. Where applicable, bidder should carefully examine work sites and specifications. Bidder shall investigate conditions, character, and quality of surface or subsurface materials or obstacles that might be encountered. No additions or increases to the agreement amount will be made due to a lack of careful examination of work sites and specifications.

xvii. The State does not accept alternate contract language from a prospective Contractor. A bid with such language will be considered a counter proposal and will be rejected. The State's General Terms and Conditions (GTC) are not negotiable. The GTC may be viewed at Internet site https://www.dgs.ca.gov/OLS/Resources/Page-Content/Office-of-Legal-Services-Resources-List-Folder/Standard-Contract-Language.

xviii. No oral understanding or agreement shall be binding on either party.

xix. Bidder must complete and submit to the awarding agency Payee Data Record, STD 204, Attachment 8, to determine if the Contractor is subject to state income tax withholding pursuant to California Revenue and Taxation Code Sections 18662 and 26131. This form can be found on the Internet at https://www.documents.dgs.ca.gov/dgs/FMC/PDF/Std204.pdf. No payment shall be made unless a completed STD 204 has been returned to the awarding agency.

xx. Bidder must sign and submit to the awarding agency, Contractor Certification Clauses (CCC), Attachment 9, which can be found on the Internet at: https://www.dgs.ca.gov/-/media/Divisions/OLS/Resources/CCC-042017.pdf.

t. Bid Opening

i. Bid openings will be held virtually on Microsoft Teams.

ii. To attend the bid opening, contact Robert Hawkins at Robert.Hawkins@cmd.ca.gov in advance to request a Microsoft Teams meeting invitation. Requests submitted on the day of the bid opening may not be received or processed in time to allow participation.

u. Evaluation and Selection

i. After the time of bid opening, each bid will be checked for the presence or absence of required information in conformance with the submission requirements of this IFB.

ii. The State will evaluate each bid to determine its responsiveness to the published requirements.

iii. Bids that contain false or misleading statements, or which provide references, which do not support an attribute or condition claimed by the bidder, may be rejected.

iv. Award if made, will be to the lowest responsive responsible bidder.

v. The State reserves the right to require the apparent lowest responsive and responsible bidder to participate in a bid verification meeting prior to award of the contract. The purpose of this meeting is to review and confirm the bidder's pricing, scope understanding, and compliance with all bid requirements. Failure or refusal to participate in the bid verification meeting, or inability to satisfactorily verify the bid, may result in the bid being deemed non-responsive and rejected.

vi. In the event of a tie bids, the award will be determined by a coin toss. The coin toss will be held in the State Agency's headquarters area office. This is a public event, which the bidders will be invited to attend. The selection of the Contractor will be at the sole discretion of the State.

v. Award and Protest

i. When the evaluation has been completed and a contractor has been selected, the awarding agency shall post a notice of intent to award in a place accessible by the general public, including any Internet site identified in the IFB within 5 to 10 business days after the bid opening date.

ii. State Contracting Manual Volume 1, 6.03 Protest Exclusions: F - The contract award is for a type of contract not subject to the protest procedures. This category includes public works contracts awarded under the State Contract Act (PCC §10100 et seq.); contracts for professional architecture or engineering services under GC § 4525; contracts awarded under GC §§ 14838.5 and 14838.7.

w. Disposition of Bids

i. Upon bid opening, all documents submitted in response to this IFB will become the property of the State of California and will be regarded as public records under the California Public Records Act (Government Code Section 6250 et seq.) and subject to review by the public.

x. Standard Conditions of Service

i. After award of the Agreement and execution of the Agreement, should the Contractor fail to commence work within five (5) working days after notification of the starting date, or suspend work for a period of five (5) continuous working days after work has begun, CMD may provide five (5) calendar days written notice, posted at the job site or mailed to the Contractor, to timely prosecute and complete the work or the Agreement may be terminated and liquidated damages assessed for administrative costs for re-bidding the work or awarding the work to another Contractor. In addition, that Contractor shall be liable to CMD for the difference between the Contractor's bid price and the actual cost of performing the work by the second low bidder or by another Contractor.

ii. All performance under the Agreement shall be completed on or before the termination date of the Agreement.

y. Antitrust Provisions

i. The Contractor offers and agrees and will require all of his other subcontractors and suppliers to agree to assign to the awarding body all rights, title, and interest in and to

all causes of action they may have under Section 4 of the Clayton Act (15 USC section 15) or under the Cartwright Act [Chapter 2, commencing with section 16700, of Part 2 of Division 7 of the Business and Professions Code] arising from purchases of goods, services, or materials pursuant to the public works contract or subcontract. The assignment made by the contractor and all additional assignments made by the subcontractors and suppliers shall be deemed to have been made and will become effective at the time the awarding body tenders final payment to the Contractor without further acknowledgment or the necessity of tendering to the awarding body any written assignments.

ii. If an awarding body receives, either through judgment or settlement, a monetary recovery for a cause of action assigned under Government Code Sections 4550-4554, the assignor shall be entitled to receive reimbursement for actual legal costs incurred and may, on demand, recover from the public body any portion of the recovery, including treble damages, and attributable overcharges that were paid by the assignor but were not paid by the public body as a part of the bid price, less the expenses incurred in obtaining that portion of the recovery. On demand in writing by the assignor, the assignee shall, within one year from such demand, reassign the cause of action assigned under Government Code Sections 4550-4554 if the assignor has been or may have been injured by the violation of law for which the cause of action arose and (a) the assignee has not been injured thereby, or (b) the assignee declines to file a court action for the cause of action.

z. If the bidder is awarded the Agreement and refuses to sign the Agreement presented for signature within 10 business days of receipt, (not including Saturdays, Sundays, and legal holidays) and manner required, the bidder will be liable to CMD for actual damages resulting to CMD therefrom or 10 percent (10%) of the amount bid, whichever is less.

aa. Loss Leader usage is prohibited in this solicitation: It is unlawful for any person engaged in business within this State to sell or use any article or product as a "loss leader" as defined in California Business and Professions Code Section 17030. "Loss Leader" means any article or product sold at less than cost: a) where the purpose is to induce, promote or encourage the purchase of other merchandise; or b) where the effect is a tendency or capacity to mislead or deceive purchasers of prospective purchasers; or c) where the effect is to divert trade from or otherwise injure competitors.

bb. No oral understanding or agreement shall be binding on either party.

4. Special Programs

a. Disabled Veteran Business Enterprise (DVBE) Program Requirement

i. DVBE Participation Program with Goals:

1. The required DVBE participation goal for this IFB is five percent (5%). The resultant Agreement is financed with State funds and subject to Public Contract Code Section 10115 et seq., Military and Veterans Code Section 999 et seq., and Title 2, California Code of Regulations, Sections 1896.60 (2 CCR Section 1896.60) et seq., that provides contracting opportunities for qualified DVBEs certified by the DGS. The DVBE Incentive Program may also apply.

2. Bidder shall complete and submit the Bid/Bidder Certification Sheet Attachment 2; Bidder Declaration (GSPD-05-105), Attachment 5, and, as applicable, the Disabled Veteran Business Enterprise Declarations (DGS PD 843), Attachment 4. Bidder shall complete or collect DGS PD 843(s) when the following situations occur:

   a. Bidder is DVBE (prime) Contractor.

   b. Bidder subcontracts with any DVBE firm. Bidder collects and submits with its bid package a completed and signed DGS PD 843 from each of the DVBE subcontractor(s) listed on the GSPD-05-105.

3. Failure to provide required DVBE information will result in the bid being rejected as non-responsive. For each certified DVBE subcontractor listed on the Bidder Declaration, GSPD-05-105, the bidder may submit a copy of the quotes from each DVBE as Attachment 5, "Quotes from SB/DVBE Subcontractors", as proof of commitment.

4. Additional references: https://www.dgs.ca.gov/PD-OSDS.

ii. DVBE Incentive Program

1. The DVBE Incentive Program applies to this solicitation. It is separate from the DVBE Participation Program and was established in Military and Veterans Code Sections 999 et seq., and Title 2, California of Regulations, Sections 1896.99 (2 CCR Section1896.99) et seq., to encourage bidders to partner with DVBE subcontractors. A dollar cap of $100,000 is set for all combined incentives and preferences. The incentive is used only for evaluation purposes to arrive at the successful bidder and does not alter the amounts of the actual bid. Any responsive and responsible bidder with the confirmed DVBE participation per the Tables in paragraph 3 below is eligible to receive the incentive. Bidders who are not responsive and responsible regardless of the amount of DVBE participation are not eligible to receive the incentive.

2. CMD will apply an incentive to bids proposing the utilization of DGS certified DVBE firms identified on the Bidder Declaration (GSPD-05-105). Information provided on the GSPD-05-105 shall be verified by CMD prior to the award of the Agreement. The incentive amount is equal to a percentage of the lowest responsive and responsible bid based on the amount of DVBE participation in the bid being evaluated per the Tables below.

3. Tables for IFB (Low Price Method)

Required 5%Goal

Verified DVBE Participation	DVBE Incentive Amount
7.00% or more	5%
6.50% - 6.99%	4%
6.00% - 6.49%	3%
5.50% - 5.99%	2%
5.01% - 5.49%	1%

4. When applying the DVBE Incentive, an NSB shall not displace an award to a DGS Certified Small Business.

5. Additional information: https://www.dgs.ca.gov/PD-OSDS.

b. Small Business (SB) or Microbusiness (MB) Preference

i. Government Code Section 14835 et seq. requires that a five percent (5%) preference be given to contractors who qualify as a certified SB or MB. References to a SB shall also include MB. The rules and regulations of this law, including the definition of a SB for the delivery of services, are contained in Title 2, California Code of Regulations, Section 1896 (2 CCR Section 1896) et seq.

ii. To claim the SB preference, your firm must have its principal place of business located in California and be certified by the California Department of General Services (DGS), Office of Small Business and DVBE Services (OSDS). The preference amount may not exceed fifty thousand dollars ($50,000) for any bid. If prospective Contractor is claiming the five percent (5%) SB preference, complete Section 14 of the Bid/Bidder Certification Sheet Attachment 2.

iii. Pursuant to Government Code Section 14838 and 2 CCR Section 1896, if a bidder is not a certified SB, but wishes to be eligible for the five percent (5%) non-small business (NSB) preference, the bidder must subcontract at least twenty five percent (25%) of its net bid price to one or more certified SBs. If bidder is claiming the five percent (5%) NSB preference, complete the Bidder Declaration, GSPD-05-105, which can be downloaded at https://www.documents.dgs.ca.gov/dgs/fmc/GS/PD/GSPD05-105.pdf. Bidder shall list the names of all certified SB firms being claimed for credit on the GSPD-05-105 form. For each certified SB subcontractor listed, the bidder shall submit a copy of the quotes from each SB (on the SB's company letterhead) as Attachment 5, "Quotes from SB/ DVBE Subcontractors."

1. This preference shall not be awarded to a noncompliant bidder and shall not be used to achieve any applicable minimum requirements.

2. Certified SB bidder(s) shall have precedence over NSB bidders in the application of SB preference(s).

3. SB preferences may not be applied to any bid deemed non-responsive with the solicitation instructions or from a non-responsible bidder.

4. Questions regarding the certification approval process or SB program should be directed to OSDS at the contact information found on their website.

5. Additional references are at https://www.dgs.ca.gov/PD-OSDS.

c. Commercially Useful Function

i. It is the law. All California-certified Small Businesses (SB) and Disabled Veteran Business Enterprise (DVBEs) doing business with the state must perform a Commercially Useful Function (CUF). Performing CUF is a critical requirement for all

California-certified firms - SB and DVBE - that do business with the state (Government Code Section 14837 and Military and Veterans Code Section 999).

ii. More information can be found on Department of General Services website: https://www.dgs.ca.gov/PD/Resources/Page-Content/Procurement-Division-Resources-List-Folder/Commercially-Useful-Function-for-Certified-Firms.

d. CMD Advocates

CMD Small Business and Disabled Veteran Business Enterprise Advocates are available to answer questions regarding the SB/DVBE Programs and Incentives and to help identify possible SB/DVBE vendors. CMD ADVOCATES: Advocate@cmd.ca.gov.

5. Executive Order N-6-22 – Russia Sanctions

On March 4, 2022, Governor Gavin Newsom issued Executive Order N-6-22 (the EO) regarding Economic Sanctions against Russia and Russian entities and individuals. “Economic Sanctions” refers to sanctions imposed by the U.S. government in response to Russia’s actions in Ukraine, as well as any sanctions imposed under state law. By submitting a bid or proposal, Contractor represents that it is not a target of Economic Sanctions. Should the State determine Contractor is a target of Economic Sanctions or is conducting prohibited transactions with sanctioned individuals or entities, that shall be grounds for rejection of the Contractor’s bid/proposal any time prior to contract execution, or, if determined after contract execution, shall be grounds for termination by the State.

6. Required Attachments (Attachments 1 – 12):

Attachment 1 – Required Attachment Check List

Bidder's Company Name:

_____

A complete bid or bid package will consist of the items identified below.

	Attachment	Attachment Name/Description
_____	Attachment 1	Required Attachment Checklist
_____	Attachment 2	Bid/Bidder Certification Sheet
_____	Attachment 3	Rate Sheet
_____	Attachment 4	Disabled Veteran Business Enterprise Declarations (DGS PD 843) * https://www.documents.dgs.ca.gov/dgs/fmc/gs/pd/pd_843.pdf
	Attachment 5	Bidder Declaration (GSPD-05-105) * https://www.documents.dgs.ca.gov/dgs/fmc/GS/PD/GSPD05-105.pdf
_____	Attachment 6	Darfur Contracting Act Certification
_____	Attachment 7	Iran Contracting Act Verification Form * https://www.dgs.ca.gov//-/media/Divisions/PD/PTCS/OPPL/SCM/SCM-Link-Docs/Iran-Contracting-Act.pdf
_____	Attachment 8	Payee Data Record (STD 204) https://www.documents.dgs.ca.gov/dgs/FMC/PDF/Std204.pdf
_____	Attachment 9	Contractor Certification Clauses (CCC 04/2017) https://www.dgs.ca.gov/-/media/Divisions/OLS/Resources/CCC-042017.pdf
	Attachment 10	California Civil Rights Laws Attachment * https://www.documents.dgs.ca.gov/dgs/FMC/DGS/OLS004.pdf
_____	Attachment 11	Non-Collusion Affidavit
_____	Additional Required Information:	The Prime Bidder must be either an individual or firm currently licensed to do business in California.

1. The Prime Bidder has a business license or incorporation papers for their respective State showing that their company is in good standing in that state, if the Prime Bidder's base of operation is located outside the State of California.
2. The Prime Bidder and their subcontractors shall possess required license(s) issued by the California Contractors State Licensing Board (CSLB) and be registered with the Department of Industrial Relations (DIR).
3. Prime Bidder shall provide a bid bond with their bid packet.*

* If applicable

Attachment 2 – Bid/Bidder Certification Sheet

This Bid/Bidder Certification Sheet must be signed and returned along with all the "required attachments" as an entire package in duplicate with original signatures/electronic signature. The bid must be transmitted in accordance with IFB instructions.

A. Our all-inclusive bid is submitted as detailed in **Attachment 3, Rate Sheet.**
B. All required attachments are included with this certification sheet.
C. I have read and understand the DVBE participation requirements and have included documentation demonstrating that I have met the participation goals.
D. The signature affixed hereon and dated certifies compliance with all the requirements of this bid document. The signature below authorizes the verification of this certification.

An Unsigned Bid/Bidder Certification Sheet May Be Cause for Rejection

<table>
<tr><td colspan="2">1. Company Name</td><td colspan="2">2. Telephone Number
( )</td><td colspan="2">2a. Fax Number
( )</td></tr>
<tr><td colspan="6">3. Address

Email Address</td></tr>
<tr><td colspan="6">Indicate your organization type:</td></tr>
<tr><td>4. ☐ Sole Proprietorship</td><td>5. ☐ Partnership</td><td>6. ☐ Corporation</td><td colspan="2">6a. ☐ L.L.C. Limited Liability Corporation</td><td></td></tr>
<tr><td colspan="6">Indicate the applicable employee and/or corporation number:</td></tr>
<tr><td colspan="3">7. Federal Employee ID No. (FEIN)</td><td colspan="3">8. California Corporation No.</td></tr>
<tr><td colspan="6">9. Indicate applicable license and/or certification information:</td></tr>
<tr><td colspan="3">10. Bidder’s Name (Print)</td><td colspan="3">11. Title</td></tr>
<tr><td colspan="3">12. Signature</td><td colspan="3">13. Date:</td></tr>
<tr><td colspan="6">14. Are you certified with the Department of General Services, Office of Small Business and DVBE Certification as:</td></tr>
<tr><td colspan="3">California Small Business Enterprise

Yes ☐ No ☐

If yes, enter certification number:</td><td colspan="3">Disabled Veteran Business Enterprise

Yes ☐ No ☐

If yes, enter certification number:</td></tr>
<tr><td colspan="6">**NOTE**: A copy of your Certification is required to be included if either of the above items is checked **“Yes”**. Date application was submitted to OSBCR, if an application is pending:</td></tr>
</table>

Attachment 2 – Completion Instructions for Bid/Bidder Certification Sheet

Complete the numbered items on the Bid/Bidder Certification Sheet by following the instructions below.

Item Numbers	Instructions
1, 2, 2a, 3	Must be completed. These items are self-explanatory.
4	Check if your firm is a sole proprietorship. A sole proprietorship is a form of business in which one (1) person owns all the assets of the business in contrast to a partnership and corporation. The sole proprietor is solely liable for all the debts of the business.
5	Check if your firm is a partnership. A partnership is a voluntary agreement between two (2) or more competent persons to place their money, effects, labor, and skill, or some or all of them in lawful commerce or business, with the understanding that there shall be a proportional sharing of the profits and losses between them. An association of two (2) or more persons to carry on, as co-owners, a business for profit.
6, 6a	Check if your firm is a corporation. A corporation is an artificial person or legal entity created by or under the authority of the laws of a state or nation, composed, in some rare instances, of a single person and his successors, being the incumbents of a particular office, but ordinarily consisting of an association of numerous individuals. Or a Limited Liability Corporation.
7	Enter your federal employee tax identification number.
8	Enter your corporation number assigned by the California Secretary of State's Office. This information is used for checking if a corporation is in good standing and qualified to conduct business in California.
9	Complete, if applicable, by indicating the type of license and/or certification that your firm possesses and that is required for the type of services being procured.
10, 11, 12, 13	Must be completed. These items are self-explanatory.
14	If certified as a California Small Business, place a check in the "Yes" box, and enter your certification number on the line. If certified as a Disabled Veterans Business Enterprise, place a check in the "Yes" box and enter your service code on the line. If you are not certified to one (1) or both, place a check in the "No" box. If your certification is pending, enter the date your application was submitted to OSBCR.

.

Attachment 3 – Rate Sheet

Contractor agrees to provide to CMD **Road Paving - 1300 Area** services, as described herein:

Contractor shall provide all materials, labor, bonds, licenses, insurance, equipment, tools, permits, taxes, transportation, and fees to remove and replace existing asphalt roadways, improve drainage infrastructure, construct concrete walkways, install pavement striping and signage, perform associated site work, and complete all related work at the 1300 Area, Camp San Luis Obispo, California.

BASE BID:

Description	Price
• Grind and Remove: Demolish and remove the existing roadway surface along Contra Costa Avenue. • Subgrade Preparation: Scarify and recompact 6" of native earth to 95% relative compaction. • Base Installation: Place and compact 6" of Class 2 Aggregate Base (AB) to 95% relative compaction. • Asphalt Paving: Install 3.25" of Asphalt Concrete (AC) paving. • Traffic Signage & Striping: Install center striping and three (3) vehicle "STOP" signs along Contra Costa Avenue.	**$**

The lowest responsive, responsible contractor with the lowest base bid price shall be awarded the contract. Based on the availability of funds, Alternative/Additional Bid Items shall be awarded. The Alternative/Additional Bid Items to be awarded shall be determined by the Contracting Officer.

ALTERNATIVE/ADDITIONAL BID ITEMS (1 – 3):

Description	Price
ABI 1: Yuba Avenue • Grind, remove, and replace existing roadway. • Establish straight-line elevations between locations and edge of roads. • Culvert & Drainage Work: Clean and clear one (1) existing culvert, construct structural concrete protection slab over crossing, and install drainage headwall. • Install center striping and four (4) vehicle "STOP" signs.	$
ABI 2: Yolo Avenue • Grind, remove, and replace existing roadway. • Establish straight-line elevations between locations and edge of roads. • Culvert & Drainage Work: Clean and clear one (1) existing culvert, construct structural concrete protection slab over crossing, and install drainage headwall. • Install center striping and six (6) vehicle "STOP" signs.	$
ABI 3: Placer Avenue • Grind, remove, and replace existing roadway. • Establish straight-line elevations between locations and edge of roads. • Culvert & Drainage Work: Clean and clear one (1) existing culvert, construct structural concrete protection slab over crossing, and install drainage headwall. • Install center striping and four (4) vehicle "STOP" signs.	$

ABI 4: Lassen Avenue • Grind, remove, and replace existing roadway. • Establish straight-line elevations between locations and edge of roads. • Install center striping and two (2) vehicle "STOP" signs.	$
ABI 5: El Dorado Avenue • Grind, remove, and replace existing roadway. • Establish straight-line elevations between locations and edge of roads. • Install center striping and two (2) vehicle "STOP" signs.	$
ABI 6: Site Clearing, Drainage, and Concrete Walkways • Vegetation & Obstacle Clearing: Scarify and remove vegetation and miscellaneous obstacles to create a clear zone for sidewalk placement. • Drainage Slopes: Provide straight-line slopes for drainage between the bottom of culvert elevations to ensure proper water runoff. • Concrete Walkways: Form and pour thirty-two (32) new 5'-0" wide, 5" thick, concrete sidewalks adjacent to designated buildings to act as a fire prevention measure, totaling approximately 10,000 SF. • Concrete Reinforcement: Walkways shall be reinforced with #4 rebar placed at 16" on center (each way). Tool radius to 1/8" to receive saw cuts after pour.	$
ABI 1 – 6 Total Price	**$**

Failure to provide a bid for the Base Bid AND all Alternative/Additional Bid Items (ABIs) may result in the bid being deemed non-responsive.

GRAND TOTAL PRICE (Base Bid & ABIs) **$** _____

Submitted by: _____ Date: _____

Contact Name / Title:	
Company Name:	
Company Address:	
Telephone Number:	
Fax Number:	
E-Mail Address:	

The total costs indicated above will be used solely for computing the cost as a fair and equitable formula to determine the low bidder and is not binding on the contracting agency. However, the actual costs quoted above by the bidder shall be binding for the term of the Agreement. Small Business and Disabled Veteran Business Enterprise incentives will also be applied to determine the lowest bid.

Addendum Acknowledgement (Please initial for Addenda published on Cal eProcure)

Addendum #1 _____	Addendum #4 _____	Addendum #7 _____
Addendum #2 _____	Addendum #5 _____	Addendum #8 _____
Addendum #3 _____	Addendum #6 _____	Addendum #9 _____

Failure to acknowledge the published addendum on Cal eProcure may result in the bid being deemed non-responsive.

Attachment 4 – Disabled Veteran Business Enterprise Declarations (DGS PD 843)

Bidders who are disabled veteran (DV) owner(s) and DV manager(s) of a Disabled Veteran Business Enterprise must complete Disabled Veteran Business Enterprise Declarations (DGS PD 843) when a DVBE Contractor or subcontractor will provide materials, supplies, services or equipment and include it with the bid response.

The DGS PD 843 Disabled Veteran Business Enterprise Declarations form can be found at:
https://www.documents.dgs.ca.gov/dgs/fmc/gs/pd/pd_843.pdf

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Attachment 5 – Bidder Declaration Form (GSPD-05-105)

All bidders must complete the Bidder Declaration Form (GSPD-05-105) and include it with the bid response.

The Bidder Declaration Form can be found at:
https://www.documents.dgs.ca.gov/dgs/fmc/GS/PD/GSPD05-105.pdf

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Attachment 6 – Darfur Contracting Act Certification

Pursuant to Public Contract Code section 10478, if a bidder or proposer currently or within the previous three years has had business activities or other operations outside of the United States, it must certify that it is not a "scrutinized" company as defined in Public Contract Code section 10476.

Therefore, to be eligible to submit a bid or proposal, please complete only **one** of the following three paragraphs (via initials for Paragraph # 1 or Paragraph # 2, or via initials and certification for Paragraph # 3):

1. _____ Initials — We do not currently have, or we have not had within the previous three years, business activities or other operations outside of the United States.

OR

2. _____ Initials — We are a scrutinized company as defined in Public Contract Code section 10476, but we have received written permission from the Department of General Services (DGS) to submit a bid or proposal pursuant to Public Contract Code section 10477(b). A copy of the written permission from DGS is included with our bid or proposal.

OR

3. _____ Initials + certification below — We currently have, or we have had within the previous three years, business activities or other operations outside of the United States, but we certify below that we are not a scrutinized company as defined in Public Contract Code section 10476.

CERTIFICATION For# 3.

I, the official named below, CERTIFY UNDER PENALTY OF PERJURY that I am duly authorized to legally bind the prospective proposer/bidder to the clause listed above in # 3. This certification is made under the laws of the State of California.

Proposer/Bidder Firm Name (Printed)	*Federal ID Number*
By (Authorized Signature)	
Printed Name and Title of Person Signing	
Date Executed	*Executed in the County and State of*

YOUR BID OR PROPOSAL WILL BE DISQUALIFIED UNLESS YOUR BID OR PROPOSAL INCLUDES THIS FORM WITH EITHER PARAGRAPH # 1 OR# 2 INITIALED OR PARAGRAPH# 3 INITIALED AND CERTIFIED.

Attachment 7 – Iran Contracting Act Verification Form

Bidders must complete the Iran Contracting Act Verification Form Attachment and include it with the bid response.

The Iran Contracting Act Verification Form Attachment is available at the following website:
https://www.dgs.ca.gov//-/media/Divisions/PD/PTCS/OPPL/SCM/SCM-Link-Docs/Iran-Contracting-Act.pdf

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Attachment 8 – Payee Data Record (STD 204)

All bidders must complete the Payee Data Record (STD 204) and include it with the bid response.

The Payee Data Record (STD 204) is available at the following website:
https://www.documents.dgs.ca.gov/dgs/FMC/PDF/Std204.pdf

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Attachment 9 – Contractor Certification Clauses (CCC 04/2017)

All bidders must complete the Contractor Certification Clauses form (CCC 04/2017) and include it with the bid response.

The Contractor Certification Clauses Form (CCC 04/2017) is available at the following website:
https://www.dgs.ca.gov/-/media/Divisions/OLS/Resources/CCC-042017.pdf

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Attachment 10 – California Civil Rights Laws Attachment

All bidders must complete the California Civil Rights Laws Attachment and include it with the bid response.

The California Civil Rights Laws Attachment is available at the following website:
https://www.documents.dgs.ca.gov/dgs/FMC/DGS/OLS004.pdf

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Attachment 11 – Non-Collusion Affidavit

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID FOR PUBLIC WORKS

STATE OF CALIFORNIA

County of_____

The undersigned declares:

I am the _____of_____, the party making the foregoing bid.

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

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

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____, at _____, ____.
Date City State

_____
Signature of Bidder

Attachment 12 – Sample Standard Agreement

Reset Form | Print Form | **SCO ID:** 8940-XXXXX

STATE OF CALIFORNIA - DEPARTMENT OF GENERAL SERVICES
STANDARD AGREEMENT
STD 213 (Rev. 04/2020)

AGREEMENT NUMBER	PURCHASING AUTHORITY NUMBER (If Applicable)
XXXXX	MIL - 8940

1. This Agreement is entered into between the Contracting Agency and the Contractor named below:

CONTRACTING AGENCY NAME
California Military Department

CONTRACTOR NAME

2. The term of this Agreement is:

START DATE
Month XX, 20XX

THROUGH END DATE
Month XX, 20XX

3. The maximum amount of this Agreement is:
Written Amount ($XXX,XXX.XX)

4. The parties agree to comply with the terms and conditions of the following exhibits, which are by this reference made a part of the Agreement.

Exhibits	Title	Pages
Exhibit A	Scope of Work	XX
Exhibit B	Budget Detail and Payment Provisions	XX
Exhibit C *	General Terms and Conditions (02/2025)	*
+ - Exhibit D	General Conditions of Public Works Contract	XX
+ - Exhibit E	Special Contract Provisions	XX
+ - Exhibit F	Insurance Liability Section	XX
+ - Attachment 1	Project Manual	XX
+ - Attachment 2	Plans/Drawings	XX
+ - Attachment 3	Rate Sheet	XX
+ - Attachment 4	Bidder Declaration Form (GSPD-05-105)	XX

Items shown with an asterisk (*), are hereby incorporated by reference and made part of this agreement as if attached hereto.
These documents can be viewed at https://www.dgs.ca.gov/OLS/Resources

IN WITNESS WHEREOF, THIS AGREEMENT HAS BEEN EXECUTED BY THE PARTIES HERETO.

CONTRACTOR

CONTRACTOR NAME (if other than an individual, state whether a corporation, partnership, etc.)

CONTRACTOR BUSINESS ADDRESS	CITY	STATE	ZIP

PRINTED NAME OF PERSON SIGNING	TITLE
CONTRACTOR AUTHORIZED SIGNATURE	DATE SIGNED

MILITARY DEPARTMENT
OFFICE OF THE ADJUTANT GENERAL
10601 Bear Hollow Drive
Rancho Cordova, California 95670

SCOPE OF WORK
CSLO Road Paving – 1300 Area
Camp San Luis Obispo, CA
DATE: 08 JULY 2026

SCOPE OF WORK: Work will consist of furnishing notifications, fees, labor, materials, disposal needs, equipment, and warranties. Contractor is responsible for all necessary permits, providing supervision, quality control and safety during the entire project. Contractor will be responsible for having all underground utilities marked prior to Job Start. Contractor is responsible for implementing best practices to protect the environment in accordance with state, local laws and provisions in the California Military Department environmental recommendations provided. Work shall be performed during normal business hours, unless otherwise specified. Any damage done by the contractor shall be repaired or replaced at no additional cost to the Army National Guard. All concrete and asphalt removed shall be recycled or utilized on Post by Camp SLO DPW, Contractor will coordinate with DPW for location. Submit copies of recycled material weigh master tickets to the government.

The primary objective is to update and repair the existing road with new AC pavement and improve storm water drainage from the site. Other design objectives include the following:

- New HMA
- Full Depth Repair
- Culvert Clearing
- New Concrete Headwalls/Flared End Section
- New Signage & Striping
- Submitting Manning Rosters Weekly for access to Camp SLO.
- All Personnel will follow the Real ID Act.
- Providing a Resident Project Superintendent to observe construction of the project.
- All required labor, tools, equipment and materials unless otherwise noted.
- All required excavation, dewatering, backfill, compaction and restoration to grade, and testing.
- Acceptable bedding as specified.
- Subgrade will be protected from damage and maintain it in a smooth, compact, and rut-free condition until the base course has been placed.
- Disposal of all surplus or waste materials, unsuitable materials, and debris.
- Protection of existing utilities, including but not limited to locating, diligent care in handling and working around, relocating or repairing if needed.

- The actual area of material placed will be determined by measurements taken and confirmed by the Contractor.
- Adjusting Manhole frames and covers and drain frames and covers as necessary to match with new pavement surface.
- All clearing and site work repair required to leave the site in good condition.
- Contractor responsible for hiring a Third-Party Laboratory to perform all subgrade and asphalt testing. Cost will be covered by the Contractor.
- Where new pavement will intersect existing concrete gutters, sidewalks, or existing pavement, the pavement that is to be removed will be saw cut in a straight line along the entire length of the intersecting surface to produce a uniform and clean surface at the joint.

The project will not be required to comply with AT/FP requirements. Buildings are not proposed for this project. The project is situated within a controlled perimeter of the Camp SLO Installation.

The area repair requires the following repairs:

ASPHALT

The contractor will conduct full depth excavation of the existing roadway. The final road cross section shall be composed of 3.25" asphalt, 6" class 2 base at 95% RC, 6" stabilized and/or recompacted native earth to 95%. Finish with center line, shoulder striping, and signage.

CULVERTS

Within the road repair there are identified culverts to be cleared and head walls installed. Assumptions based on previous work is that the culverts are in varying degrees of deterioration.

CONCRETE WALKWAYS

The Contractor shall provide all labor, equipment, and materials necessary to perform clearing of existing vegetation, prepare the subgrade, and install reinforced concrete walkways within the designated project footprint. The intention of the concrete slabs is to act as a fire fuel mitigation measure.

Base Bid and Alternative Bid Structure: The procurement package for this project is partitioned into a single Base Bid and five separate Alternative Bid Items.

- **Base Bid Item (BBI):** Encompasses all work to be performed on Contra Costa Road, including full depth asphalt replacement, striping and signage, and work on associated culverts.

- **Alternative Bid Item (ABI):** Each additional road and associated culverts are separate ABIs, including Yuba, Placer, El Dorado, Lassen and Yolo. Work included for concrete walkways and vegetation removal is a separate ABI.

1. **BACKGROUND:** Camp SLO is an operating Military Facility that meets Department of Defense standards to provide Support and training facilities for military units and other National, State and Local Organizations, to include Emergency Operations.

2. **LOCATION:** 1300 Area, Camp San Luis Obispo, CA 93405. Roads include Contra Costa, Yuba, Placer, El Dorado, Lassen and Yolo.

3. PRINCIPAL FEATURES: The work to be performed will include the following items:

3.1 DEMOLITION:

3.1.1 Remove and dispose of all vegetation, waste, and debris. All materials shall be disposed of, off the installation at the contractor's expense.

3.1.2 Electrical, water, gas and communication services to the affected portions of the site should be de-energized, as needed, and made safe in accordance with all local, state and federal regulations. Contractor shall provide temporary power as needed. Contractor shall work with the COR and DPW to identify service disconnect locations.

3.1.3 Unless noted otherwise, Contractor shall dispose of all removed items in accordance with contract documents and all local, State and Federal regulations.

3.1.4 Unless otherwise noted, Contractor shall remove, relocate, demolition, and/or dispose of all materials, structures, finishes, and landscaping required in order to complete the installation, renovation, improvements noted in the plans and specifications. Contractor shall replace all removed items in accordance with the plans and specifications. This scope of work persists regardless of whether the item(s) are specifically annotated on the drawings.

3.1.5 All demolition and construction waste will be transported off post to a certified 50% recycling wastes facility. Provide the government copies of weigh master receipts identifying type of waste disposed and recycled. Provide an estimate of weight or volume of concrete for recycling purposes.

3.2 BUILD BACK

3.2.1 The Contractor shall include all work required to comply with all applicable codes and standards.

3.2.2 All work shall be of good quality, free from defects, and in accordance with the requirements of the construction documents.

3.2.3 The Contractor shall become fully acquainted with conditions related to the work. Any discrepancies between the drawings and the actual conditions shall be reported to the Project Manager for resolution prior to proceeding with the work.

3.3 CLOSE OUT AND WARRANTY

3.3.1 Provide a two (2) year applicators performance and labor warranty, which shall cover workmanship and repair or replacement at no cost to the Government on all Asphalt work, Concrete work, Electrical/Lighting, Piping, Striping and all underground work.

3.3.2 Close out packet shall include Contractor and Manufacturer's warranty certificates for all labor and materials.

3.4 SPECIFICATIONS FOR CONTRA COSTA ROAD PAVING (BASE BID)

3.4.1 Scope of Work:

- Grind and Remove: Demolish and remove the existing roadway surface along Contra Costa Avenue.
- Subgrade Preparation: Scarify and recompact 6" of native earth to 95% relative compaction.
- Base Installation: Place and compact 6" of Class 2 Aggregate Base (AB) to 95% relative compaction.
- Asphalt Paving: Install 3.25" of Asphalt Concrete (AC) paving.
- Traffic Signage & Striping: Install center striping and three (3) vehicle "STOP" signs along Contra Costa Avenue.

3.5 ADDITIONAL BID ITEMS (ABIs 1-5) - REMAINING ROADS

The following Additional Bid Items (ABIs) cover the grinding, removal, and repaving of the five remaining roads on the facility. The pavement cross-section for all ABIs shall match the Base Bid (3.25" Asphalt, 6" Class 2 Base, 6" Stabilized Native Earth).

Where indicated on the drawings, these ABIs shall also include the clearing of existing culverts, the construction of concrete protection slabs, and the installation of drainage headwalls to ensure a fully functioning stormwater system.

3.5.1 ABI 1: Yuba Avenue

- Grind, remove, and replace existing roadway.
- Establish straight-line elevations between locations and edge of roads.
- Culvert & Drainage Work: Clean and clear one (1) existing culvert, construct structural concrete protection slab over crossing, and install drainage headwall.
- Install center striping and four (4) vehicle "STOP" signs.

3.5.2 ABI 2: Yolo Avenue

- Grind, remove, and replace existing roadway.
- Establish straight-line elevations between locations and edge of roads.
- Culvert & Drainage Work: Clean and clear one (1) existing culvert, construct structural concrete protection slab over crossing, and install drainage headwall.
- Install center striping and six (6) vehicle "STOP" signs.

3.5.3 ABI 3: Placer Avenue

- Grind, remove, and replace existing roadway.
- Establish straight-line elevations between locations and edge of roads.
- Culvert & Drainage Work: Clean and clear one (1) existing culvert, construct structural concrete protection slab over crossing, and install drainage headwall.
- Install center striping and four (4) vehicle "STOP" signs.

3.5.4 ABI 4: Lassen Avenue

- Grind, remove, and replace existing roadway.
- Establish straight-line elevations between locations and edge of roads.
- Install center striping and two (2) vehicle "STOP" signs.

3.5.5 ABI 5: El Dorado Avenue

- Grind, remove, and replace existing roadway.
- Establish straight-line elevations between locations and edge of roads.
- Install center striping and two (2) vehicle "STOP" signs.

3.6. ADDITIONAL BID ITEM (ABI 6) - VEGETATION CLEARING & NEW CONCRETE

3.6.1 ABI 6: Site Clearing, Drainage, and Concrete Walkways

- Vegetation & Obstacle Clearing: Scarify and remove vegetation and miscellaneous obstacles to create a clear zone for sidewalk placement.
- Drainage Slopes: Provide straight-line slopes for drainage between the bottom of culvert elevations to ensure proper water runoff.
- Concrete Walkways: Form and pour thirty-two (32) new 5'-0" wide, 5" thick, concrete sidewalks adjacent to designated buildings to act as a fire prevention measure, totaling approximately 10,000 SF.
- Concrete Reinforcement: Walkways shall be reinforced with #4 rebar placed at 16" on center (each way). Tool radius to 1/8" to receive saw cuts after pour.

4. GENERAL NOTES:

4.1 Post-Award Job Start Meeting

- Timeline: The Contractor shall attend a mandatory Job Start Meeting no later than **ten (10) calendar days** following the effective date of the Notice to Proceed (NTP) or Contract Award.
- Purpose: To review administrative requirements, establish communication channels, and define the specific requirements and timeline for the mandatory pre-construction submittals.

4.2 Pre-Construction Submittal Period

- Timeline: The Contractor shall utilize the **thirty (30) calendar day period** immediately following the Job Start Meeting to complete, submit, and route all mandatory pre-construction submittals for Government review and approval.
- Mandatory Submittals: including but not limited to the Accident Prevention Plan (APP) / Site Safety Plan, and the Quality Control (QC) Plan.

4.3 Construction Start Meeting

- Timeline: The Contractor shall attend the Construction Start Meeting thirty **(30) calendar days** following the completion of the Job Start Meeting. **No work may be performed on the job site prior to the construction start meeting.**

- Purpose: To verify Government approval of all mandatory submittals, review the site mobilization plan, and grant authorization for physical site access and construction commencement.

4.7 Per "The Federal Facilities Act 1992" the contracted work shall conform to the applicable local building codes, and ordinances, and regulations listed in the contract specifications, or on the construction documents (plans), and required by the local building authorities. The governing codes, rules, and regulations are collectively referred to as "The Codes". The Contractor shall report any inconsistencies, conflicts, or omissions that may be discovered, to the Project Manager for interpretation prior to performing the work.

4.8 Contractor shall be responsible for making him/herself familiar with all surface utilities, pipes and structures, roadways, within the Limits of Construction. Contractor shall take sole responsibility for cost incurred due to damage and replacement of said utilities.

4.9 The Contractor shall field verify all conditions and dimensions of the job site and report all discrepancies and/or unusual conditions to the Project Manager prior to finalized bids or commencement of any construction.

4.10 The Contractor must obtain any required permits, bonds, special inspections and tests from the building department as required prior to the start of construction, unless noted otherwise. This shall include all fees and comply with governing authorities' requirements for construction and inspections. This project will be performed on government property and prevailing wages apply.

4.11 The Contractor shall provide a named Field Superintendent and a list of all subcontractors to be used and submit the list to the Project Manager within 10 working days upon award of the contract.

4.11.1 The assigned Field Superintendent shall be present whenever scheduled work is to occur.

4.11.2 The Contracting Officer is the only person who can approve a change in subcontractor.

4.12 The Contractor shall notify the Project Manager in writing of anticipated mobilization with prospective construction schedule notating keystone events and critical path, 10 working days in advance.

4.13 The Contractor (if necessary) to provide temporary services including barricade construction, power, lighting, and telephone, shall coordinate 10 working days prior to their installation and use with the Project Manager. The Contractor shall remove temporary services prior to completion and clean space as specified in the project.

4.14 Contractor shall not willfully proceed with construction as designed when it is obvious that unknown obstructions and/or differences exist that may not have been known during design.

4.14.1 Such conditions shall be immediately brought to the attention of the Project Manager.

4.14.2 The Contractor shall assume full responsibility for all revisions due to a failure to give notification.

4.15 The Contractor shall maintain required documents and up-to-date Construction Documents at job site.

4.15 The Contractor shall assume sole and complete responsibility for job site condition during the course of this project including the safety of all personnel and properties.

4.15.1 This requirement shall apply continuously and not to be limited to normal work hours.

4.15.2 The Contractor shall provide public protection as necessary and required by governing agencies. (ADA, ICBO, UBC, UFC, UMC, UPC, NEC & NFPA)

4.16 The Project Manager, Assistant Project Manager, DPW, and inspectors from pertinent agencies shall be permitted access to the job site at all times during normal working hours.

4.16 Details are intended to show the intent of the design. Minor modification may be required to suit the field dimensions or conditions, and such modifications shall be included as part of the work of the contract. Notification of all parties is required.

4.17 The Contractor shall maintain handbook, operating manuals, paperwork, and keys in an organized manner and within a safe place.

4.17.1 These shall be turned over to the Project Manager along with certificate of occupancy, lien waivers, warranties, and guarantees upon completion of said contract.

4.17 Contractor will notify the Project Manager of anticipated final inspection date 5 working days in advance in writing.

5. QUALIFICATIONS:

5.1 Contractor/Applicator: Company specializing in performing the work, will have a current and valid Class A Contractor's license issued by the State of California, Consumer Affair, Contractor State License Board (CLSB).

5.2 Provide a work-in-progress inspection at beginning of work, 50%, and at completion of the work.

5.3 Promptly conduct a final inspection, to certify that materials installed comply in all respects with the requirements of this specification; and were installed in strict accordance with manufacturer’s current requirements for the specified system.

6. SUBMITTALS:

6.1 The Contractor shall submit for approval all necessary residual equipment for the operation of the completed project, after award of contract, including all manufacturer's catalogs and specifications to the Project Manager.

6.2 Submit product data for all materials used in the work for this project Thirty (30) working days prior to mobilization.

7. MATERIALS/EQUIPMENT:

7.1 Unless otherwise specified all materials and equipment used will be as specified in this scope of work and on the approved drawing (plans) and follow the Made in America ACT.

7.2 All materials shall be new and equipment in use for this contract shall be in good & safe working order.

7.3 Unless noted otherwise on the construction documents (plans) or in the contract specifications as being N.I.C. or existing; all items, materials, etc., and the installation of same are part of the contract defined by the construction documents (plans) and contract specifications.

8. HOURS OF OPERATION:

8.1 All work to be provided under this contract shall be normally accomplished between 7:00 AM and 4:00 PM, Monday through Friday, except on holidays, unless otherwise approved by COR/PM.

8.3 In addition all work shall be performed in such a manner that there will be minimum interruption in or interference with, the proper execution of government business.

9. SECURITY REGULATIONS:

9.1 Unless otherwise directed by the entrance gate officer and/or Contract Manager, the Contractor, Contractor’s employees and subcontractors shall enter the facility through the main entrance.

9.2 In order to maintain facility safety and security, periodic fire prevention inspections and site searches may become necessary, and Contractor must furnish keys to facility

authorities to access all locked areas on the worksite. The State shall in no way be responsible for Contractor's loss due to fire.

9.3 Due to security procedures, the Contractor, Contractor's employees, and subcontractors may be delayed at the facility vehicle/pedestrian gates. Any loss of time checking in and out of the facility gates shall be borne by the Contractor.

9.4 Contractor, Contractor's employees and subcontractors shall observe all security rules and regulations and comply with all instructions given by facility authorities.

9.5 Contractor, Contractor's employees and subcontractors shall not cause undue interference with the operations of the facility.

10. GATE CLEARANCE:

10.1 Contractor and Contractor's employee(s) and/or subcontractor(s) must be cleared prior to entry onto base. Minimum 3 days prior to entry onto base, Contractor to provide Project Manager names of all personnel entering base for security clearance and security approval for entry.

10.2 Possession of the following is required for entry onto base:

10.2.1 Current vehicle registration.

10.2.2 Proof of vehicle insurance.

10.2.3 One of the following identifications:

<u>FEDERALLY ISSUED IDENTIFICATION</u>

a. U.S. Passport
b. U.S. Passport Card
c. PIV or Federally-issued Personal Identification Verification – Interoperable (PIV-I) Cards
d. Driver's License issued by the U.S. Department of State
e. Border Crossing Card (Form DSP-150)
f. DHS "Trusted Traveler" Cards (Global Entry, NEXUS, SENTRI, FAST)
g. U.S. Military ID (all members of the U.S. Armed Forces [including retirees and dependent ID card holders]) and veterans. (Visit the Department of Defense's Common Access Card website for more information)
h. Veterans Health Identification Card issued by the U. S. Department of Veterans Affairs
i. U.S. Permanent Resident Card (Form I-551)
j. U.S. Certificate of Naturalization or Certificate of Citizenship (Form N- 550)
k. Employment Authorization Document issued by DHS (Form I-766)

l. U.S. Refugee Travel Document or other travel document or evidence of immigration status issued by DHS containing a photograph (Permit to Re- enter Form I-327 and Refugee Travel Document Form I-571)
m. Transportation Worker Identification Credential (TWIC)
n. Merchant Mariner Card issued by DHS/United States Coast Guard (USCG)

STATE-ISSUED IDENTIFICATION

a. A REAL ID Driver's License issued by a state that meets the REAL ID standards
b. State prisoner identification cards
c. Interim Driver's License issued by a state that meets the REAL ID standards or has an extension
d. Native American Tribal Photo ID
e. Foreign government-issued passport
f. PIV-I cards (issued by non-Federal Government entities)

11. EXECUTION:

11.1 Verify that surfaces and site conditions are ready to receive work.

11.2 Contractor shall coordinate with DPW Electrical Department prior to all electrical clearances in an effort to minimize customer interruptions.

11.3 Contractor shall verify that the system has been inspected by the CM in accordance with intent of contract.

11.4 Contractor shall schedule with CM for work-in-progress inspection at beginning of work, 50% of work, and at completion of the work.

11.5 Contractor shall promptly schedule with CM a final inspection, to certify that materials installed comply in all respects with the requirements of this specification; and were installed in strict accordance with Federal, State, and Local regulations as well as manufacturer's instructions/requirements for the specified system.

11.6 Workmanship:

11.6.1 All work shall be accomplished with a foreman, journeymen and laborers who are thoroughly skilled in the application of specified materials; with all workmanship done in such a manner as to fulfill the requirements of the drawings and specifications.

11.6.2 The Contractor shall maintain a competent foreman, English speaking, to continuously supervise the work, with authority to discard unsuitable materials and remove unsatisfactory workmen from the project.

11.6.3 Certify this requirement to the Officer Representative in writing.

11.7 All work of others that is damaged in the execution of work under this contract shall be replaced or restored to the original condition by Contractor at the Contractor's expense.

12. DELIVERY, STORAGE, and HANDLING:

12.1 Material shall be delivered to job site in new, dry, manufacturers' original unopened containers with seals and labels intact, clearly showing catalog number, product description approved inspection agency label, where and by whom manufactured and in quantities sufficient to assure continuous work.

12.2 Assure that materials are kept clean, and away from excessive heat, cold and moisture; do not remove labels or tear off protective covering until ready for application and inspected by the Project Manager. Unless otherwise specified by material manufacturer storage and handling instructions, store all materials in an enclosed area where temperature is above 50 degrees and below 90 degrees Fahrenheit.

12.3 Material shall not be stored directly on the ground or improved surface.

13. ENVIRONMENTAL REQUIREMENTS:

13.1 Do not apply material during unsuitable weather when ambient temperature per manufacturer's instructions.

13.2 Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.

14. COORDINATION:

14.1 The general contractor shall be responsible for any coordination with other subcontractors as required to accomplish construction operations.

15. QUALITY ASSURANCE:

15.1 Regulatory Requirements:

15.1.1 Where the cited references contain more than one detail for a specific purpose, the most stringent condition shall govern.

15.2 Field inspections will be performed, with emphasis on the manufacturer's requirements.

15.3 Deficiencies identified during field inspections shall be corrected within two (2) working days and will be inspected at Final Inspection.

15.4 Notification to all concerned parties must be received not less than one (1) business day prior to required attendance.

16. CLEAN UP:

16.1 The Contractor shall clean up all debris and discarded materials resulting from the operations of the day, prior to the completion of each workday.

16.2 Broom clean exterior surface adjacent to premises (paths and walkways driveways, roads used during construction).

16.3 Remove all stickers, glues, adhesives, and clean all surfaces prior to acceptance.

17. DISPOSITION OF MATERIALS:

17.1 All materials to be handled, transported, and disposed of in accordance with all applicable Federal, State, and Local regulations. Materials to be placed in proper containers and trucked off site to an approved landfill. No open burning will be allowed.

17.2 Contractor shall make own arrangements for disposal of debris or other waste material away from Camp SLO at own expense and assume total responsibility for proper disposal of all materials in accordance with local, State and Federal regulations.

17.3 Debris from project will be removed daily, and at no time allowed to block any thoroughfare. Premises shall be cleaned to satisfaction of the Project Manager.

18. WARRANTIES:

18.1 Provide a two (2) year labor and material warranty, which shall cover workmanship, labor and materials to repair or replace at no cost to the Government.

19. SAFETY REQUIREMENTS:

19.1 Accident Prevention:

19.1.1 In order to provide safety controls for protection to the life and health of employees and other people, for prevention of damage to property, materials, supplies and equipment and for avoidance of work interruption of this contract, the Contractor shall comply with all applicable OSHA laws, etc.

19.1.2 The Contractor will maintain and provide an accurate record of: exposure data, all accidents resulting in death, traumatic injury, occupational disease and damage to property, materials, supplies, and equipment incident to work performed under this contract.

19.1.3 The Contractor shall provide an exact copy of the record within 24 hours, upon request of the Project Manager for the length of the contract and its warranty period.

19.2 Occupational Safety and Health Administration:

19.2.1 Safety standards set forth by OSHA shall be maintained and followed by the Contractor, subcontractor(s) and work crews at all times.

19.3 Fire Prevention:

19.3.1 Contractor shall comply with the California Fire Code, Current Edition.

19.4 Rules of Safety:

19.4.1 All rules of safety that are or may be imposed upon the Contractor by Federal, State or Municipal Code, CALOSHA and the applicable Army regulations shall be effectively carried out in the performance of the contract.

19.4.2 The Contractor shall be responsible for safety precautions during construction.

19.4.3 Contractor shall comply with all building and safety codes and shall report any non-compliance of these specifications or manufactured installation procedures to Project Manager prior to beginning work.

19.4.4 The Contractor shall complete Form 3394 and submit to the Project Manager within three (3) calendar days of an accident involving personal injury or property damage.

20. CLOSE OUT & INVOICES:

20.1 All invoices must be submitted to the Project Manager and the Contract Manager for verification before they can be processed by the Military Department. 30 days must elapse before the Contractor may bill again.

END OF SCOPE OF WORK

EXHIBIT B
(Budget Detail and Payment Provisions)

1. INVOICING AND PAYMENT

a. For services satisfactorily completed in accordance with the terms and conditions stated herein, and upon receipt and approval of the invoice(s), the State agrees to compensate the Contractor for actual expenditures incurred in accordance with the specified as follows: attached hereto as Attachment 3 – Rate Sheet and made a part of this Agreement.

b. Contractor shall submit, in arrears, not more frequently than once a month, and no less than quarterly, an invoice to CMD for cost incurred pursuant to the agreement. In addition, each invoice shall contain the following information:

c. Each Invoice shall include:
   i. The agreement number 130940
   ii. The dates or time-period which the invoiced costs were incurred.
   iii. Description of service, quantity, rate, and total for the current invoice.
   iv. Certified Small Business or DVBE #, if applicable.

d. Invoice(s) shall be submitted electronically to J8-PWR@cmd.ca.gov.

e. Contractor shall submit a copy of the Prime Contractor's **DVBE Subcontracting Report form (STD 817)** for verification by CMD Project Manager with final invoice.

f. Contractor agrees to certify on Prime Contractor's Certification DVBE Subcontractor Report, Form STD 817, that DVBE subcontractor participation under this agreement is in compliance with the goals specified at the time of award of contract or with any subsequent amendment. If for this Contract the Contractor made a commitment to achieve the DVBE participation goal, the Department will withhold $10,000.00 from the final payment, or the full final payment if less than $10,000.00, until the Contractor complies with the certification requirements of Military and Veterans Code Section 999.5. A Contractor that fails to comply with the certification requirement shall, after notice, be allowed to cure the defect. Notwithstanding any other law, if, after at least 15 calendar days but not more than 30 calendar days from the date of notice, the prime contractor refuses to comply with the certification requirements, the department shall permanently deduct $10,000.00 from the final payment, or the full payment if less than $10,000.00. The Contractor shall provide proof of payment for the work performed by the DVBE subcontractor(s) upon Department's request.

2. BUDGET CONTINGENCY CLAUSE

a. It is mutually agreed that if the Budget Act of the current year and/or any subsequent years covered under this Agreement does not appropriate sufficient funds for the program, this Agreement shall be of no further force and effect. In this event, the State shall have no liability to pay any funds whatsoever to Contractor or to furnish any other considerations under this Agreement and Contractor shall not be obligated to perform any provisions of this Agreement.

b. If funding for any fiscal year is reduced or deleted by the Budget Act for purposes of this program, the State shall have the option to either cancel this Agreement with no liability occurring to the State or offer an agreement amendment to Contractor to reflect the reduced amount.

3. CONTRACTS FUNDED IN WHOLE/IN PART BY THE FEDERAL GOVERNMENT

a. It is mutually understood between the parties that this contract may have been written before ascertaining the availability of congressional appropriation of funds, for the mutual benefit of both parties, in order to avoid program and fiscal delays which would occur if the contract were executed after that determination was made.

b. This contract is valid and enforceable only if sufficient funds are made available to the State by the United Stated Government for each Fiscal Year of the agreement for the purposes of this program. In addition, this contract is subject to any additional restrictions, limitations, or conditions enacted by the Congress or any statute enacted by the Congress which may affect the provisions, terms, or funding of this contract in any manner.

c. It is mutually agreed that if the Congress does not appropriate sufficient funds for the program, this contract shall be amended to reflect any reduction in funds.

d. The department has the option to void the contract under the 30-day cancellation clause or to amend the contract to reflect any reduction of funds.

4. PROMPT PAYMENT CLAUSE

a. Payment will be made in accordance with, and within the time specified in, Government Code Chapter 4.5, commencing with Section 927.

b. Pursuant to Public Contract Code Section 10262, Contractor shall pay its Subcontractor(s) within seven (7) calendar days from receipt of each payment made to Contractor by CMD.

c. Failure of Contractor adhering to Public Contract Code Section 10262 may result in termination of this Agreement per Public Contract Code Section 10253 and disciplinary action by the Contractors State License Board may be implemented.

d. Any subcontract entered into as a result of this Agreement shall contain all the provisions of this clause.

END OF EXHIBIT B

EXHIBIT D
(General Conditions of Public Works Contract)

1. GENERAL

The following general conditions apply to Standard Agreements and informal Contracts alike. They refer briefly to provisions of the State of California Labor Code, Business and Professions Code, and the State Contract Act, all provisions of which are applicable in full.

2. BIDDING REQUIREMENTS AND CONDITIONS

a. Examination of Plans, Specifications and Site of the Work:

   i. Contractor's Responsibility: The bidder shall carefully examine the work site and the plans and specifications. The bidder shall investigate and become satisfied with the site conditions to be encountered, the character, quality and quantity of surface, and subsurface materials or other obstacles to be overcome, the work to be performed, materials to be furnished, and as to all requirements of the proposal, plans, and specifications of the contract hereinafter referred to as the "Work".

   ii. Responsibility for Utilities: The Contractor shall be responsible for payment of all costs of the work required by the existence or proximity of utilities encountered in performing the work, including without limitation, repair of any damage hand or exploratory excavation required. If during the course of the work the Contractor encounters utility installations which are not shown or indicated in the plans or in the specifications, or which are found in a location substantially different from that shown in the contract documents, the contractor must promptly notify the State in writing.

b. Discrepancies or Errors: If omissions or discrepancies are found in the plan and specifications prior to the date of bid opening, bidders are required to submit a written request for clarification to the State. Any clarification will be given in the form of addendum to all bidders if time permits. Otherwise, in figuring the work, bidders shall consider that any discrepancies or conflict between drawings and specifications shall be governed by Article 5-E.

c. Proposal Forms: The Military Department will furnish to each bidder a standard proposal form (rate sheet) which, when filled out and executed, shall be submitted as the bid. Bids not presented on forms so furnished may be disregarded. All proposals shall give the prices proposed, both in writing and figures, and shall be signed by the bidder or a duly authorized representative, with his address. Proposals made by an individual, shall include the bidder's name and post office/mailing address; if made by partnership, the name and post office/mailing address of the partnership, and the signature of one or more partners must be shown: if made by a corporation, the proposal shall show the name of the state of incorporation, the name of the corporation and the title of the person who signs on behalf of the corporation along with evidence of authority to sign.

d. List of Subcontractors: Each bid shall have listed therein the name and address of each subcontractor to whom the bidder proposes to subcontract portions of the work in an amount in excess of one-half of one percent (1/2 of 1%) of the total bid, in accordance with Chapter 2, Division 5, Title 1, of the Government Code.

e. Rejection of Irregular Proposals: Proposals may be rejected if they show any alterations of form, additions not called for, conditional bids, incomplete bids, erasures, or irregularities of any kind.

f. Withdrawal of Proposals: Any bid may be withdrawn at any time prior to the time fixed in the public notice for the opening of bids, provided that a request in writing, executed by the bidder or his

duly authorized representative, for the withdrawal of such bid is filed with the Military Department by e-mail. The withdrawal of a bid shall not prejudice the right of a bidder to file a new bid within the time specified. This article does not authorize the withdrawal of any bid after the time fixed in the public notice for the opening of bids.

g. Public Opening of Proposals: Proposals will be opened publicly and read at the time and place indicated in the Invitation for Bidders. Bidders or their authorized agents and the general public are invited to be present.

h. Competitive Bidding:

   i. If more than one proposal is offered by an individual, partnership, corporation, association, or any combination thereof, under the same or different names, all such proposals may be rejected. A party who has quoted prices on materials or work to a bidder as a supplier or subcontractor is not thereby disqualified from quoting prices to other bidders.

   ii. All bidders are put on notice that any collusive agreement fixing the prices to be bid so as to control or affect the awarding of this contract is in violation of the competitive bidding requirements of the State Contract Act and may render void any contract let under such circumstances.

3. AWARDS AND EXECUTION OF CONTRACT

a. Award of Contract: The right is reserved to reject any and all proposals. The award of the contract, if awarded, will be to the lowest responsible bidder whose proposal complies with all the requirements prescribed. If the lowest responsible bidder refuses or fails to execute the contract, the Military Department may award the contract to the second lowest responsible bidder. If the second lowest responsible bidder refuses or fails to execute the contract, the Military Department may award the contract to the third lowest responsible bidder and so on and so forth. The Military Department will make the award of the contract on the date of the determination of the successful bidder.

b. Contract Bonds:

   i. Prior to the commencement of performance, the contractor must obtain and provide to the State, a payment bond, on Standard Form 807, when the contract involves a public works expenditure (labor/installation costs) in excess of $24,999.99. Such bond shall be in a sum not less than one hundred percent (100%) of the contract price. Forms shall be provided to the contractor. The contractor shall ensure the payment bond remains in full force and effect during execution of the contracted work, the guarantee period and through such time that all subcontractors and suppliers are paid in full by the contractor.

   ii. If the contract amount is less than $25,000.00, and a subsequent change order or contract amendment causes the total amount of the contract to exceed $24,999.99 then a payment bond will be required in the amount of one hundred percent (100%) of the new contract total amount.

   iii. If the contract amount exceeds $9,999.99 and progress payments will be made, a performance bond in the amount of 100% of the contract amount must be submitted by the successful bidder at the time signed contracts are returned to the Military Department. The contractor shall ensure the performance bond remains in full force and effect during execution of the contracted work and guarantee period.

iv. If the proposed bid amount exceeds $24,999.99, the contractor must submit a bid bond in the amount of at least 10% of the bid amount with the Proposal Form utilizing a bond form provided by the Surety.

v. Bonds must be issued by a California-admitted surety. (CCP § 995.311.)

c. Execution of Contract:

i. The contract shall be signed by the successful bidder and returned within 10 business days of receipt, not including Saturdays, Sundays, and legal holidays, together with the contract bonds. No contract shall be binding upon the State until the contractor receives a fully executed contract signed and approved by the Military Department.

ii. Contractor shall not begin work without the Notice to Proceed. If the contractor begins work prior to contract approval and receipt of the "Notice to Proceed", the contractor's sole remedy shall be to seek payment by filing with the Victim Compensation Board. The state has no legal obligation to the contractor until the contract is approved and "Notice to Proceed" has been issued.

d. Failure to Execute Contract: Failure to sign a contract and file acceptable bonds as provided herein within the required time mentioned above in paragraph C-1, shall be just cause for the annulment of the award. If the successful bidder refuses or fails to sign the contract, the Military Department may award the contract to second lowest responsible bidder. If the second lowest responsible bidder refuses or fails to execute the contract, the Military Department may award the contract to the third lowest bidder. Bidder who refuses to execute the contract may be held liable for additional costs to the State and/or claims against any bid bond.

e. When submittals are required for a project, the Government shall absorb the cost of review for the original submittal request and one re-submission for each submittal. For any additional reviews the contractor will be charged for the Project Manager's and Architect/Engineer's review time at a cost of $100.00 per hour. Payment will be due as determined in the sole discretion by the Procurement and Contracting Officer and will not be prorated in less than one-hour increments.

f. When Request for Information (RFI)s are submitted on a project, the Government shall absorb the cost of review for the original RFI and one clarification. For any additional RFIs regarding the same or similar issue, the contractor will be charged for the Project Manager's and Architect/Engineer's review time at a cost of $100.00 per hour. Payment will be due as determined in the sole discretion by the Procurement and Contracting Officer and will not be prorated in less than one-hour increments.

g. Americans With Disabilities Act (ADA): By signing the contract, the Contractor assures the State that it complies with the Americans with Disabilities Act (ADA) of 1990, (42 U.S.C. 12101 et seq.), which prohibits discrimination on the basis of disability, as well as all applicable regulations and guidelines issued pursuant to the ADA.

4. LEGAL, RELATIONS, AND RESPONSIBILITY

a. Regulations and Protection:

i. The contractor shall keep informed of and comply with and cause all of his agents and employees to observe and comply with all prevailing Federal and State laws, and all rules and regulations issued made pursuant to said Federal and State laws, which in any way affect the conduct of the work of this contract.

ii. The contractor shall obtain and pay for all permits and licenses required for excavating or other work on or in public streets, road or sidewalks, and shall comply with all laws in connection therewith. If any conflict arises between provisions of the plans and specifications and any such law the contractor shall notify the State at once in writing. The contractor shall protect and indemnity and defend the State or any of its officers, agents, and servants against any claim or liability arising from or based on the violation of any such law or regulation by the contractor or its agents or employees.

iii. Neither the State nor the contractor is subject to municipal, county, or district laws, rules or regulations pertaining to building permits or regulating the design or construction of buildings upon State property.

iv. The contractor shall be responsible for and provide and maintain all proper temporary walks, roads, guards, railings, lights, warning signs, and take precaution at all times to avoid injury or damage to any person or any property, and upon completion of the work, or at proper times as directed by the PM, shall restore the premises and adjacent property to proper condition.

v. The contractor shall protect adjoining property and nearby buildings, including State buildings, State roads, and public streets or roads, from dust, dirt, debris, or other nuisance arising out of the contractor's operations or storage practices. Sprinkling or other effective methods acceptable to the State shall control dust.

vi. No advertising by the contractor will be permitted in or about the work except by written order of the State.

b. Laws to be Observed:

i. Labor Discrimination: Attention is directed to Section 1735 of the Labor Code, which reads as follows: "No discrimination shall be made in the employment of persons upon public works because of race, color, or religion of such persons and every contractor for public works violating this section is subject to all the penalties for violation of this chapter".

ii. Labor Code Certifications:

1. The contractor certifies "I am aware of the provisions of Section 3700 of the Labor Code, which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that Code and I will comply with such provisions before commencing the performance of the work of this contract."

2. It is hereby mutually agreed that the contractor shall forfeit to the state a penalty of fifty dollars for each calendar day, or portion thereof, for each worker paid by him or her, or subcontractor under him or her, less than the prevailing wage so stipulated and in addition the contractor further agree to pay to each worker the difference between the actual amount paid for each calendar day, or portion thereof, and the stipulated prevailing wage rate for the same. This provision shall not apply to properly, registered apprentices.

3. It is further agreed that the maximum hours a worker is to be employed is limited to eight hours a day and 40 hours a week and the contractor shall forfeit, as a penalty to the state, twenty-five dollars for each worker employed in the execution of the contract for each calendar day during which a worker is required or permitted

to labor more than eight hours in any calendar day or more than 40 hours in any calendar week, in violation of Labor Code Sections 1810-1815, inclusive. Work performed by employees of contractors in excess of 8 hours per day, and 40 hours during any one week, shall be permitted upon compensation for all hours worked in excess of 8 hours per day at not less than one and one-half times the basic rate of pay, as provided in Labor Code Section 1815.

4. The wage rates set forth are the minimum that may be paid by the contractor. Nothing herein contained shall be construed as preventing the contractor from paying more than the minimum rates set forth. No extra compensation whatsoever will be allowed by the State due to inability of the contractor to hire labor at the minimum rates, nor for any necessity for payment by the contractor of subsistence, travel time, overtime, or other added compensations, all of which possibilities are elements to be considered and ascertained to the contractor's own satisfaction in preparing his bid.

5. Travel and subsistence payments shall be paid to each worker needed to execute the work, as such travel and subsistence payments are defined in the applicable collective bargaining agreements filed in accordance with Labor Code Section 1773.8.

6. Each contractor and subcontractor shall comply with the Labor Code section 1776 regarding record keeping.

7. In accordance with the provisions of Section 1773 of the Labor Code, the Director of the Department of Industrial Relations has ascertained the generally prevailing rate of wages applicable to the County in which the work is to be done on this contract. Included therein are employer payments for health and welfare, vacation, pension, apprenticeship or other authorized training programs, and similar purposes. Holidays shall be as defined in the collective bargaining agreement applicable to the classification(s) employed on the project.

8. Copies of the General Prevailing Wage rate for the applicable labor classification(s) are available at the web site for the State of California, Department of Industrial Relations-Division of Labor Statistics and Research at www.dir.ca.gov/DLSR.

9. By signing the contract, the contractor swears under penalty of perjury that no more than one final un-appealable finding of contempt of court by a federal court has been issued against the contractor with the immediately preceding two-year period because of the contractor’s failure to comply with an order of a federal court which orders the contractor to comply with an order of the Nation Labor Relations Board.

10. Properly registered apprentices may be employed in the prosecution of the work. Every such apprentice shall be paid the standard wage paid to apprentices under the regulations of the craft or trade at which he or she is employed and shall be employed only at the work of the craft or trade to which he or she is registered. The contractor and each subcontractor must comply with the requirements of Labor Code Section 1777.5 and any related regulations regarding the employment of registered apprentices.

iii. Registration of Contractors: All businesses or individuals, who construct, offer to construct, or alter any building, highway, road, parking facility, railroad, excavation, or other structure

in California must be licensed by the California Contractors State License Board (CSLB) if the total cost (labor and materials) of one or more contracts on the project is $1,000.00 or more. Contractors, including subcontractors, specialty contractors, and persons engaged in the business of home improvement must be licensed before submitting bids. Licenses may be issued to individuals, partnerships, corporations, or joint ventures.

iv. Responsibility for Damage: Neither the State of California, The Adjutant General, nor any officer or employee of the Military Department shall be accountable in any manner, for any loss or damage that may happen to the work or any part thereof, or for any of the materials or other things used or employed in performing the work, or for injury to any person or persons, either worker or the public, for damage to property from any cause which might have been prevented by the contractor, or any contractor's employee against all of which injuries or damages to persons and property the contractor having control over such work must properly guard. The contractor shall be responsible for any liability imposed by law for any damage to any person or property resulting from defects or obstructions or from any cause whatsoever during the progress of the work or at any time before the completion and final acceptance. The contractor shall indemnity and save harmless the State of California, the Adjutant General, and all officers and employees of the Military Department from all units or actions of every name, kind and description, brought for, or on account of any injuries or damages received or sustained by any person or persons, by or from the contractor, or any contractor's employee or agents, in the construction of the work or by or in consequence of any negligence in guarding the same, in improper materials used in its construction, or by or on account of any act or omission of the contractor or contractor's agents.

v. Occupancy by the State Prior to Acceptance:

    1. The State reserves the right to occupy all or any part of the project prior to completion of the entire contract, upon written notice to the contractor. In such event, the contractor will be relieved of responsibility for any injury or damage to such part as may result from such occupancy and use by the State.

    2. Such occupancy does not constitute waiver of any rights or acceptance by the State either of the complete work or of any portion thereof, nor will it relieve the contractor of full responsibility for correcting defective work or materials found at any time before the formal written acceptance of the entire contract or during the full guaranty period after such acceptance, as specified in Article 7C.

vi. Contractor's Responsibility for Work:

    1. Until the written acceptance of the Work, the contractor shall have the charge and care thereof and shall bear the risk of injury or damage to any part of the work by the action of the elements or from any other cause whether arising from execution or from the non-execution of the work.

    2. The contractor shall immediately rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before its completion and acceptance and shall bear the expense thereof. In case of suspension of work any cause whatsoever, the contractor shall be responsible for the work as above specified and shall also be responsible for all materials, and shall properly store them if necessary, and shall provide suitable drainage and erect temporary structures when necessary.

vii. No Personal Liability: Neither the Adjutant General, nor any other officer or authorized employees of the Military Department shall be personally responsible as an individual for any liability arising under the contract.

viii. Fair Employment Practices:

1. The contractor will not willfully discriminate against any employee or applicant for employment because of race, color, religion, ancestry, sex, age, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color religion, ancestry, sex, age, or national origin. Such action shall include, but not be limited to, the following: Employment upgrading, transfer, recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation, and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the awarding authority setting forth the provisions of this Fair Employment Practices Section.

2. The contractor will send to each labor union or representative of workers with which there is an existing collective bargaining agreement or other contract. A Notice to Labor Unions, to be provided by the awarding authority, advising the said labor union or worker's representative of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

3. The contractor will permit access to its record of employment, employment advertisements, application forms, and other pertinent data and records by the Fair Employment Practices Commission, the awarding authority or any other appropriate agency of the State of California designated by the awarding authority, for the purposes of investigation to ascertain compliance with the Fair Employment Practices section of this contract.

4. A finding of willful violation of the Fair Employment Practices section of this contract or of the Fair Employment Practices Act shall be regarded by the awarding authority as a basis for determining that the contractor is not a "responsible bidder" as to any future contracts for which such contractor may submit bids for revoking the con-tractor's pre-qualification rating, if any, and for refusing to establish, re-establish or renew a prequalification rating for the contractor.

5. The awarding authority shall deem a finding of willful violation of the Fair Employment Practices Act to have occurred upon receipt of written notice from the Fair Employment Practice Commission that it has investigated and determined that the contractor has violated the Fair Employment Practices Act and has issued an order under Labor Code Section 1426 or obtained an injunction under Labor Code Section 1429.

6. Upon receipt of such written notice from the Fair Employment Practices Commission, the awarding authority shall notify the contractor that unless they demonstrate to the satisfaction of the awarding authority within a stated period of time that the violation has been corrected, the contractor's pre-qualification rating will be revoked at the expiration of such period.

7. The contractor agrees, that should the awarding authority determine that the contractor has not complied with the Fair Employment Practices section of this

contract, then pursuant to Labor Code Section 1735 and 1775, the contractor shall, as a penalty to the awarding authority, forfeit, for each calendar day or portion thereof, for each person who was denied employment as a result of such noncompliance, the penalties provided in the Labor Code for violation of prevailing wage rates. Such monies may be recovered from the contractor. The awarding authority may deduct any such damages from any monies due the contractor from the State of California.

8. Nothing contained in this Fair Employment Practices Section shall be construed in any manner or fashion so as to prevent the awarding authority of the State of California from pursuing any other remedies that may be available at law.

9. Nothing contained in this Fair Employment Practices Section shall be construed in any manner or fashion so as to require or permit the hiring of an employee not permitted by the National Labor Relations Act.

10. Standards for Affirmative Compliance:

    a. Prior to award of the contract, the contractor shall certify to the awarding authority that the contractor has or will meet the following standards for affirmative compliance, which shall be evaluated in each case by the-awarding authority.

    b. The contractor shall provide evidence, as required by the awarding authority, that the contractor has notified all supervisors, foremen and other personnel officers in writing of the content of the anti-discrimination clause and their responsibilities under it.

    c. The contractor shall provide evidence, as required by the awarding authority, that he/she has notified all sources of employee referrals (including unions, employment agencies, advertisements, Department of Employment) of content of the anti-discrimination clause.

    d. Personally, or through an authorized representative(s), the contractor shall, through negotiations with the unions with whom he/she has agreements, attempt to develop an agreement, which will:

        i. Spell out responsibilities for non-discrimination in hiring, referral, upgrading and training.

        ii. Otherwise implement an affirmative anti-discrimination program in terms of the union's specific areas of skill and geography, to the end that qualified minority workers will be available and given an equal opportunity for employment.

    e. The contractor shall notify the contracting agency of opposition to the anti-discrimination clause by individuals, firms or organizations during the period of its pre-qualification.

11. Employment of undocumented aliens: No state agency or department, as defined in Public Contract Code § 10357, that is subject to this code, shall award a public works contract to a bidder or contractor, nor shall a bidder or contractor be eligible to bid for or receive a public works contract, who has, in the preceding five years,

been convicted of violating a state or federal law regarding the employment of undocumented aliens. See Public Contract Code § 6101.

12. Antitrust Claims: The contractor offers and agrees and will of his/her other subcontractors and suppliers to agree to assign to the awarding body all rights, title, and interest in and to all causes of action they may have under Section 4 of the Clayton Act (15 USC § 15) or under the Cartwright Act (Chapter 2 [commencing with § 16700] of Part 2 of Division 7 of the Business and Professions Code) arising from purchases of goods, services, or materials pursuant to the public works contract or subcontract. The assignment made by the contractor and all additional assignments made by the subcontractors or suppliers shall be deemed to have been made and will become effective at the time the awarding body tenders final payment to the contractor without further acknowledgment or the necessity of tendering to the awarding body any written assignments.

13. If an awarding body receives, either through judgment or settlement, a monetary recovery for a cause of action assigned under Government Code sections 4550-4554, the assignor shall be entitled to receive reimbursement for actual legal costs incurred and may, on demand, recover from the public body any portion of the recovery, including treble damages and attributable overcharges that were paid by the assignor but were not paid by the public body as a part of the bid price, less the expenses incurred on obtaining that portion of the recovery. On demand in writing by the assignor, the assignee shall, within one year from such demand, reassign the cause of action assigned under Government sections 4550-4554 if the assignor has been or may have been injured by the violation of law for which the cause of action arose and (a) the assignee has not been injured thereby, or (b) the assignee declines to file a court action for the cause of action

14. The contractor will include the provisions of the foregoing paragraphs 1 through 13 in every subcontract, so that such provisions will be binding upon each subcontractor.

ix. Workers Compensation

1. The contractor will be required to secure the payment of compensation to his employees in accordance with provisions of Labor Code Section 3700.

2. Travel and subsistence payments shall be paid to each worker needed to execute the work, as such travel and subsistence payments as defined in the applicable collective bargaining agreements tiled in accordance with Labor Code Section 1773.8.

3. Patents: The contractor shall assume all costs arising from the use of patented materials, equipment, devices, or processes used on or incorporated in the work, and agrees to indemnity and save harmless the State of California, The Adjutant General, and all duly authorized representatives, from all suits at law, or actions of every nature for, or on account of the use of any patented materials, equipment, devices, or processes.

x. CONFLICT OF INTEREST

1. Current State Employees:

a. No State officer or employee shall engage in any employment, activity, or enterprise from which the officer or employee receives compensation or has a financial interest, and which is sponsored or funded by any State Agency, unless the employment, activity, or enterprise is required as a condition of regular State employment.

b. No State officer or employee shall contract on his or her own behalf as an independent contractor with any State Agency to provide goods or services.

2. Former State employees:

a. For the two-year period from the date, he or she left State employment, no former State officer or employee may enter into a contract in which he or she engaged in any of the negotiations, transactions, planning, arrangements, or any part of the decision-making process relevant to the contract while employed in any capacity by any State Agency.

b. For twelve-month period from the date he or she left State employment, no former State officer or employee may enter into a contract with any State agency if he or she was employed by that State agency in a policy-making position in the same general subject area as the proposed contract within the twelve-month period prior to his or her leaving State service. (PCC 10410 and 10411 et seq.)

5. PERFORMANCE, PROSECUTION AND PROGRESS OF WORK

a. The Prime Contractor shall perform on the site, and with its own organization, work equivalent to at least twenty percent (20%) of the total amount of work to be performed under the contract. The Prime Contractor shall provide at all times sufficient competent labor, materials, and equipment to properly carry on the work and to ensure completion within the time agreed.

b. Limitation on Work Site and Premises:

i. The "work site" or "job site" is defined as the area of actual construction and the areas immediately adjacent thereto, as shown on the plans or as specified. The "Premises" is defined as the area of State-owned property which surrounds the job site, limited by the property lines thereat. In some cases, the premises may coincide with the job site.

ii. The contractor shall limit construction operations to the work site unless otherwise shown on the plans or specifications. The contractor shall perform no operations of any nature over or on the premises except such operations as are specifically authorized in the plans or specifications, or as otherwise authorized in writing by the Military Department.

c. Accident Prevention: Precautions shall be exercised at all times for the protection of per-sons (including employees) and property. The contractor shall install adequate safety guards and protective devices for any and all equipment and machinery, whether used in the work or permanently installed as part of the work. The contractor shall comply with all applicable laws relating to safety precautions, including the safety regulations of the Division of Industrial Safety, Department of Industrial Relations, of the State of California.

d. Interpretation of Contract Requirements: The contract documents are intended to be consistent, and to describe and to provide for a complete scope of work. Any requirement occurring in one

document is binding as though occurring in all the contract documents. However, in the event of conflict or discrepancies therein, then the priorities stated below shall govern:

i. Addendum: An Addendum shall govern over all other contract documents. Subsequent addendum's issued shall govern over prior addendum's only to the extent specified.

e. Specifications and Drawings: The contractor shall keep on the work site a copy of the drawings, specifications and any amendments and/or RFI responses and shall at all times give the Procurement and Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of differences between drawings and specifications, the specifications shall govern. In any case of difference in the figures, in the drawings, or in specifications, the matter shall be promptly submitted to the Procurement and Contracting Officer who shall promptly make a determination in writing. Any adjustment by the contractor without this determination shall be at the contractor’s sole risk and expense. The Procurement and Contracting Officer shall furnish from time to time such detail drawing and other information, as he/she may consider necessary, unless otherwise provided.

f. Clarification and Additional Instructions: Should any discrepancies, omission or apparent errors, be found in the contract documents, or should any question arise concerning interpretation or clarification of the contract documents, or if it appears that the work to be done or any matters relative thereto are not sufficiently detailed or explained in the contract documents, then, before proceeding with the work affected, the contractor shall immediately notify the Military Department in writing through the Project Manager and request interpretation, clarification or furnishing of additional detailed instructions concerning the work. All such questions shall be resolved within a reasonable time by the Military Department, whose decision thereon shall become final. Should the contractor proceed with the work affected without giving such notice and time for Military Department response, the contractor may be required by the Military Department to then remove and replace or adjust said work at the contractor's sole cost and expense. The contractor shall be responsible for any damage, defect or added cost resulting from this action.

g. Product and Standards:

i. Product Designation: When descriptive catalogue designations, including product brand name, or model number are referred to in the contract documents, such designations shall be considered as being those found in industry publications of current issue at date of first IFB.

ii. Standards Incorporated by Reference: When standards of the State or Federal Government, trade societies, or trade associations are referred to in the contract documents by specific date of issue, these shall be considered a part of this contract. When such references do not bear a date of issue, the current published edition at date of first invitation to bid shall be considered as part of this contract.

h. Materials, Articles, and Equipment: Materials, articles and equipment furnished shall be new. When the contract documents indicate or require that materials, articles, or equipment are to be furnished but the quality or kind thereof is not specified, shown or indicated, the contractor shall furnish materials, article, or equipment at least equal to the class or quality of similar materials, articles, and equipment which are specified, shown or otherwise indicated. No-claim for additional compensation based on the State's failure to specify or indicate the class, type or quality of materials, articles or equipment will be recognized in any event, unless the contractor makes a clear showing that the contractor could not determine the class, type or quality of materials, articles, and/or equipment.

i. Socio-Economic Programs: (Buy Clean California Act (MM19-01)

   i. Beginning January 1, 2019, awarding authorities will request successful bidders for public works contracts to submit current facility-specific Environmental Product Declarations (EPDs) for all eligible materials.
   ii. Awarding authorities are those identified in PCC § 3501 (a) and state agencies granted authority to work on public works projects under MM 18-01. Eligible materials subject to the EPD requirement are structural steel, carbon steel rebar, flat glass, and mineral wool board insulation.

   iii. Project bid specifications must require that facility specific EPDs are compliant to ISO 14025 and applicable Product Category Rules located on the Department of General Services (DGS) Buy Clean California Act website.

j. Submittal of Shop Drawings and Product Data: The contractor shall submit to the State one (1) electronic and one (1) hard copy of shop drawings and product data for all work for which submittals are specifically required, an electronic copy will be returned to the contractor. All submittals shall be fully identified as to project, agency, locations, work order, contract numbers, and the contractor's firm name. Shop drawings for construction means drawings, submitted to the State by the construction contractor, subcontractor, or any lower tier subcontractor pursuant to a construct, showing in detail (i) the proposed fabrication and assembly of structural elements and (ii) the installation (i.e., form, fit, and attachment details) of materials or equipment. The State may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

k. Brand or Trade Names and Alternatives: For convenience in designation on the plans or in the specifications, certain materials, articles, or equipment may be designated by a brand or a trade name of the manufacturer together with catalogue designation or other identifying information. Such designation is for descriptive purposes only and does not mean that a particular product has any preference, or that an approved alternative product may not be used. The use of an alternative material, article, or equipment, which is of equal quality and of the required characteristics for the purpose intended, will be permitted if approved by the State in writing. Contractor shall be allowed a period of 35 days after award of the contract in which to submit data substantiating a request for substitution of an equal item, which determination will be by the sole discretion of the Procurement and Contracting Officer.

l. Conduct of Work:

   i. The State reserves the right to do other work in connection with the project or adjacent thereto by contract or otherwise, and the contractor shall at all times conduct its work so as to impose no hardship on the State or others engaged in the work, nor to cause any unreasonable delay or hindrance thereto.

   ii. The contractor shall indemnify, defend, and hold the State harmless for any claims against the State arising from the Contractor's failure to conduct adjust, correct, and coordinate its work with the work of others engaged in the work.

   iii. All construction equipment, including tools, plant, temporary construction elevators, hoist, scaffolding, false work, forms, and centering required for prosecution of the work of this contract, and all labor, power, and signals required for the installation, operation, and maintenance of such equipment shall be provided by the contractor. The contractor shall obtain all necessary measurements for the work and shall check dimensions, levels, and construction lay out and supervise the construction, for correctness of all of which he shall be responsible. Where work of one trade joins or is on other work, there shall be no

discrepancy when same is completed. In engaging work with other materials, marring or damaging some will not be permitted. Should improper work of any trade be covered by another and such improper work results in damage or defects, the whole work affected shall be made good without additional cost to the State. The contractor must anticipate relation of all parts of the work and at the proper time furnish and set anchorage, blocking, or bedding as required.

iv. Materials, articles, and equipment shall be furnished in ample quantities and at such times as to insure uninterrupted progress of the work. They shall be so stored and protected to ensure the preservation of their quality, appearance, and suitability for the work. When stored they shall be so located as to facilitate prompt inspection, and so as to avoid interference with the work of others. The CMD may accommodate the storage of material, but in no event shall the CMD have an obligation to do so. In the event material are stored on site it shall be the contractor's sole responsibility for security of said materials and contractor shall not be compensated for materials except as provided below.

m. Inspection of Records: The contractor agrees that the California Military Department, or the Bureau of Audits or its designated representative, shall have an absolute right of access to all of the contractor's records, files, documents, accounts, and financial affairs as deemed necessary for the purposes of conducting an audit to determine compliance with terms and conditions of this contract. The contractor shall provide the auditor(s) with any relevant information requested without unnecessary delay and, on reasonable notice, permit access to its premises during normal business hours for the purpose of interviewing staff and inspecting and copying such books, records, accounts, and other material as warranted to conduct the audit. The contractor further agrees to maintain such records for a period of three years after final payment is made on this contract or three years after resolution of all issues that may arise as a result of any litigation, claim, negotiation, or audit related to the contract, whichever is later. The state agrees to treat as confidential any proprietary information obtained as a part of any such audit.

n. Samples and Tests:

i. Whenever the contract documents require tests of materials, articles, equipment or other work, the contractor at its expense shall perform all such tests under the supervision of and provide the results to the Military Department. However, the State may test any portion of the work, at its option, any time during the progress of the work, and shall pay the cost thereof. Unless otherwise directed, all samples for testing will be taken by the Project Manager from the material, articles or equipment delivered, or from work performed, and test will be under the supervision of, or directed by, and at such places as may be convenient to the State.

ii. Materials, articles, and equipment requiring tests shall be delivered in ample time before intended use to allow for testing, and none may be used/installed before receipt of written approval by the State. Samples that are of value after testing or review shall remain the property of the State.

o. Rejection: Should any portion of the work done, or any materials delivered fail to comply with requirements of the contract, such work or materials shall be rejected and shall immediately be made satisfactory to the State by the contractor, at no additional expense to the State. Any materials that are rejected shall immediately be removed from the premises at the contractor's expense.

p. Preservation and Cleaning: The contractor having control of the work site shall clean up the work at the end of each day as it progresses. At frequent intervals and at all times when directed, the contractor shall remove and dispose of accumulations of old forms, rubbish, and debris of all

kinds. At the completion of the project, the entire work site including the surrounding premises shall be cleared of tools, false work, equipment, rubbish, etc., and ready for acceptance.

q. Labor:

i. The contractor shall observe strictly that each and every kind of work shall be per-formed by worker, laborers, or mechanics specially skilled in the class of work required and that workmanship shall be of the best, regardless of the quality of material. Prior to commencement of any work, contractor shall furnish as photographic identification of all staff proposed to work on the site, organized by company or as directed by the Project Manager. Identification shall be provided in electronic copy with a hard copy in a binder for retainage on the site by the appropriate on-site POC. As directed by the Project Manager at the job start meeting on a daily basis the contractor shall make available to the on-site POC a list of staff working on any given day.

ii. Any agent or employee of the contractor who the State deems incompetent or disorderly shall be promptly removed from the work by the contractor upon written notice from the State and shall not be re-employed on the contract worker premises.

r. Subcontracting:

i. This contract is subject to the provisions of Chapter 2, Division 5, Title 1, commencing with Section 4100 of the Government Code, which prohibits the subcontracting of the whole or any part of this contract to subcontractors other than those named in the contractor's original proposal.

ii. The contractor shall be responsible for all work performed under this contract, and no subcontractor will be recognized as such. All persons engaged in the work will be considered as employees of the contractor.

iii. The contractor shall give personal attention to the fulfillment of this contract and shall keep the work under its control. When any subcontractor fails to prosecute a portion of the work in a manner satisfactory to the State, the contractor shall remove such subcontractor immediately upon written request of the State and shall not thereafter be employed on the work.

iv. Although the specification sections of this contract may be arranged according to various trades general grouping of work, the contractor is not obligated to sublet the work in such manner. The State will not arbitrate disputes among subcontractors or between the contractor and one or more subcontractors concerning responsibility for performing any part of the work.

1. Substitutions of SBs and DVBEs

a. DVBE Subcontractors shall be used per the California Code of Regulations (CCR), Title 2, Section 1896.70 unless a substitution is approved in writing by CMD. A DVBE Subcontractor shall be replaced by another DVBE to perform the work originally stated. The substitution shall maintain, at minimum, the level of participation goal stated in the bid. CCR Title 2, Section 1896.73.

b. SB Subcontractor shall be replaced per regulations set by CCR Title 2, Section 1896.10.

c. Contractor shall simultaneously notify the CMD SB/DVBE Advocate at Advocate@cmd.ca.gov.

s. Time of Work and Damage:

i. The State will designate the starting day of the contract on which the contractor shall immediately begin and diligently coordinate the work to completion. The period of performance start date will be the job start meeting date which the Contractor and the Project Manager shall conduct within 7 days after receipt of the fully executed contract.

ii. By signing the job start letter, the contractor obligates himself to perform the work completely and satisfactorily on or before the expiration date to be determined from the number of working days stated in the agreement or by stipulated date of completion, plus such days as may be subsequently allowed by the State through amendments.

iii. The contractor shall not be assessed with liquidated damages nor the cost of engineering the inspection during any delay in the completion of the work caused by acts of God, fire, flood, epidemics, quarantine restrictions, freight embargo. Contractor shall notify the State in writing of the causes of delay within five (5) days from the beginning of any such delay.

t. Project Management

i. Contractors may be required to fully participate in the utilization of the CMD Project Management Software commonly referred to as Procore, which specific requirements are further outlined in the contract. This participation shall include but is not limited to Submittals, Daily Logs, Contract Management, RFI's, Drawings, Addenda's, Bulletins, ASI's, Transmittals, Inspections, Inspection Requests, Observations, Punch Lists, As-Builts, Photos, Specifications and any Other Documents that are necessary and pertinent to the efficient and complete performance of the proposed project.

6. CHANGES IN THE WORK

a. Requests for Changes:

i. The State reserves the right to order in writing, changes, alterations, omissions, or additions in the plans and specifications, at any time prior to the formal completion and acceptance of the work without in any way voiding the contract, and the contractor must comply with such order. The contractor may also request changes in the work.

ii. Any change or deviation from the contract plans and specifications made without authority in writing from the Military Department's Procurement and Contracting Officer in the form of an amendment to the original contract will be the sole responsibility of the contractor. Except where otherwise expressly provided in these articles, no such changes shall be made nor adjustment in compensation recognized unless the contractor receives an executed contract amendment prior to making the changes. In cases whereby State property will be damaged during the stoppage of work, the contractor may proceed on a written commitment by the Military Department's Procurement and Contracting Officer.

iii. The contractor shall be entitled to additional compensation for any change requiring labor, materials, or equipment over and above that originally required for the contract work, while any such change resulting in lesser quantities thereof shall entitle the State to a reduction in the contract price.

iv. Changed work shall be performed completely and in accordance with the original contract drawings and specifications except for the deviations specifically called for by the change order. Materials used on changed work shall be as specified in the original contract documents insofar as they do not conflict with the conditions set forth in the change order. All changed work will be prosecuted by the contractor with due diligence, and with an efficiency of labor and equipment at least equal to that exercised as to the rest of the work of the contract. All changed work shall be warrantied as stipulated in 7D.

b. Changed Work, Time Adjustments:

i. For any change in the work, the contractor shall be entitled only to such adjustment in time for which completion of the entire work is delayed due to performance of the changed work. Each estimate for a change in the work submitted by the contractor shall state the amount of extra time that he considers should be allowed for making the requested change. Failure to request extra time when submitting such estimates shall constitute a waiver of the right to subsequently claim any adjustment in the time for final completion based upon such changed work.

ii. If agreement is reached as to the adjustment in compensation for the performance of changed work, but agreement is not reached as to the time adjustment for such work, then the contractor shall proceed with the work at the agreed price, reserving to the contractor the right to further pursue his claim for the time adjustment.

iii. Contractor hereby agrees that compensation for any change work shall be marked up by the Prime contractor no more than 5% for any subcontractor work and no more than 15% for any self-performed work.

c. Supplementary Agreements: As to certain changes in the basic scope of the work, a supplementary agreement shall be executed at the option of the State, such agreement to be executed in the manner of the original agreement, to which the change shall be attached and become a part. The bonds required by Article 3B shall be furnished with such supplementary agreement, covering any increased amount of the contract due to the change.

7. ACCEPTANCE AND PAYMENTS

a. Acceptance: The contracted work shall be accepted by the Military Department when the project is completed in accordance with the contract documents, to the full satisfaction of the California Military Department.

b. Progress Payments: Military Department policy provides that public works projects which allow the contractor 30 working days or more to complete and are estimated to exceed $30,000.00 in value are eligible for progress payments. The contractor may request progress payments during performance of the contracted work. If authorized by the Military Department Procurement and Contracting Officer, progress payments shall not exceed 95% of the value of the completed work unless otherwise stipulated in 23B.

c. Final Payment: Final payment will not be made to the contractor until such time as all punch list items have been completed and the Military Department is in receipt of all expressed manufacturer’s warranties compliance with section 23 and the Project Manager has accepted all required administrative documents. Upon written acceptance of the contractor’s work by the Military Department, the Project Manager shall complete a Contract/Contractor Evaluation Form (Office of Adjutant General Form 4) and forward to the Military Department Contracting Section for final review and approval. Approved Contract/Contractor Evaluation Forms shall be forwarded

to the Military Department Accounts Payable Section where the Contract/Contractor Evaluation Form and the contractor's invoice shall be processed for payment.

d. Guarantee:

i. The contractor hereby unconditionally guarantees that the Work will be done in accordance with the requirements of the contract, and further guarantees the work of the contract to be and remain free of defects in workmanship and materials for a minimum period of one year from the date of acceptance of the contract, unless a longer guarantee period is specifically called for elsewhere in the contract documents. The date of the completed Work shall be defined as the date said Work is accepted in writing by the PM and this date shall be the start of the contractor's warranty period. The contractor hereby agrees to repair or replace any and all work, together with any other adjacent work which may be displaced in so doing, that may prove to be not in accordance with the requirements of the contract or that may be defective in its workmanship or material within the guarantee period specified, without any expense or obligation whatsoever to the State of California, ordinary wear and tear and unusual abuse or neglect excepted.

ii. Contract bonds will remain in full force and effect during the guarantee period. Contractor shall not be relieved of this bond requirement whatsoever.

8. LIQUIDATED DAMAGES

a. The Military Department will designate the starting date of the contract on which the contractor shall immediately begin and thereafter diligently prosecute the work to completion. The Contractor obligates himself/herself to complete the work within the number of working days or on the fixed date established by the Military Department.

b. The parties agree that if the work is not completed and accepted by the Military Department within the time established by the contract document and mutually agreed to by the contractor and the Project Manager prior to the start of work and any time extension agreed to in writing by the Military Department, additional costs will be incurred by the Military Department. These costs include the hourly time spent each day by the Project Manager, Project Engineer, Procurement and Contracting Officer, and the Judge Advocate General.

c. The contractor agrees to compensate the Military Department $1,360.00 per calendar day for each and every day's delay in finishing the work beyond the time prescribed. If the contractor fails to pay such liquidated damage the Military Department shall have the unilateral authority to and will deduct the amount thereof from any money due or that may become due the contractor under this contract.

9. WORKING HOURS

a. The work site shall be available for contractor's activities for 8 hours per day Monday through Friday, work hours shall be 8 am to 4 pm, however at the sole discretion of the Project Manager actual work schedule may be adjusted. The site will not be available for contractor's activities on weekends, or on State or Federal holidays.

10. CONTRACTS FUNDED IN WHOLE/IN PART BY FEDERAL GOVERNMENT

a. It is mutually understood between the parties that this contract may have been executed before ascertaining the availability of congressional appropriation of funds, for the mutual benefit of both parties, in order to avoid program and fiscal delays which would occur if the contract were executed after that determination was made.

b. This contract is valid and enforceable only if the United Stated Government makes sufficient funds available to the State for each fiscal year of the contract. In addition, this contract is subject to any additional restrictions, limitations, or conditions enacted by the Congress or any statute enacted by the Congress, which may affect the provisions, terms or funding of this contract in any manner.

c. It is mutually agreed that if the Congress does not appropriate sufficient funds for the program, this contract shall be amended to reflect any reduction in funds.

d. The department has the option to void the contract under the "30-day" cancellation clause or to amend the contract to reflect any reduction of funds.

11. STANDARD CALIFORNIA NON-DISCRIMINTATION CLAUSE-CONSTURCTION CONTRACT SPECIFICATIONS (Government Code, Section 12990): See the last two pages of this Section.

12. FORCED, CONVICT, AND INDENTURED LABOR

Contractor certifies, by submitting a bid, that no foreign-made equipment, materials, or supplies furnished to the State pursuant to the contract/agreement will be produced in whole or in part by forced labor, convict labor, or indentured labor. The contractor agrees to comply with the requirements of Public Contract Code, Section 6108.

PART 11 FEDERAL STATUTES, RULES, AND REGULATIONS

13. RELATIONSHIP OF THE FEDERAL GOVERNMENT

This contract may be funded in part by the Federal Government. The Federal Government is not a party to this contract, as a condition to receiving and expending Federal funds, there are certain rights of Federal inspection, Federal approval of contract changes and modifications, and Federal approval of settlements or dispute actions that the Federal Government will exercise prior to authorization of Federal funds. Therefore, no inspection or acceptance, change, modification, settlement, dispute claim payment, or dispute action will be considered binding until the required Federal approval is obtained. The chief, National Guard Bureau, or its designated representative, is the approval authority. This paragraph does not abrogate any rights conferred on the Federal Government by law or other clause required due to the use of Federal funding.

14. CHANGES AND EXTRAS

The Procurement and Contracting Officer may at any time, in writing and without notice to the sureties; order extras or make changes in the drawings and/or specifications of this contract, providing such extras or changes are within the general scope thereof. If any such extra or change causes an increase or decrease in the amount due under this contract, or in the time required for its performance, an equitable adjustment shall be made, and the contract shall be modified in writing. Federal Funding support for any change or extra is subject to prior approval by the Chief, National Guard Bureau, or his duly authorized representative. Any claim of the contractor for adjustment under this clause must be asserted in writing within 30 days after the date of receipt by the contractor of the notification extra or change Provided, however, that the Procurement and Contracting Officer, decides that the facts justify such action, may receive and act upon any such claim asserted at any time prior to the date of the final settlement of the contract. If the parties fail to agree upon the adjustment to be made, the dispute shall be determined as provided in the Clause 19 hereof entitled DISPUTES. Nothing provided in this clause, however, shall excuse the contractor from diligently proceeding with the prosecution of the work as changed. Except as otherwise herein provided, no charge for any extra work or material will be allowed.

15. CHANGED CONDITIONS

The Contractor shall promptly, and before such conditions are disturbed, notify the Procurement and Contracting Officer in writing of (1) subsurface or latent physical conditions at the site differing materially from those indicated in this contract, or (2) unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in this contract. The Procurement and Contracting Officer shall promptly investigate the conditions, and if he/she finds that such conditions do so materially differ and cause an increase or decrease in the cost of (or the time required for), performance of this contract, an equitable adjustment shall be made, and the contract modified in writing. Federal funding support to any change or extra is subject prior approval by the chief, National Guard Bureau, or his duly authorized representative. Any claim of the contractor for adjustment hereunder shall not be allowed unless he has given notice as required above. The Procurement and Contracting Officer, however, may if he determines the facts so justify, consider and adjust any such claim asserted before the date of final settlement of the contract. If the parties fail to agree upon the adjustment to be made, the dispute shall be determined as provided in Clause 19 hereof entitled Disputes.

16. SUPSENSION OF WORK

a. The Procurement and Contracting Officer may order the Contractor, in writing, to suspend, delay, or interrupt all or any part of the work of this contract for the period of time that the Procurement and Contracting Officer determines appropriate for the convenience of the Government.

b. If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed, or interrupted

    i. by an act of the Procurement and Contracting Officer in the administration of this contract, or

    ii. by the Procurement and Contracting Officer's failure to act within the time specified in this contract (or within a reasonable time if not specified), an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) necessarily caused by the unreasonable suspension, delay, or interruption, and the contract modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor, or for which an equitable adjustment is provided for or excluded under any other term or condition of this contract.

c. A claim under this clause shall not be allowed

    i. for any costs incurred more than 20 days before the Contractor shall have notified the Procurement and Contracting Officer in writing of the act or failure to act involved (but this requirement shall not apply as to a claim resulting from a suspension order), and

    ii. unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of the suspension, delay, or interruption, but not later than the date of final payment under the contract.

17. STOP WORK ORDER

a. The Procurement and Contracting Officer may, at any time, by written order to the Contractor, require the Contractor to stop all, or any part, of the work called for by this contract for a period of 90 days after the order is delivered to the Contractor, and for any further period to which the

parties may agree. The order shall be specifically identified as a stop-work order issued under this clause. Upon receipt of the order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage. Within a period of 90 days after a stop-work order is delivered to the Contractor, or within any extension of that period to which the parties shall have agreed, the Procurement and Contracting Officer shall either—

i. Cancel the stop-work order; or

ii. Terminate the work covered by the order as provided in the Default, or the Termination for Convenience of the Government, clause of this contract.

b. If a stop-work order issued under this clause is canceled or the period of the order or any extension thereof expires, the Contractor shall resume work. The Procurement and Contracting Officer shall make an equitable adjustment in the delivery schedule or contract price, or both, and the contract shall be modified, in writing, accordingly, if—

i. The stop-work order results in an increase in the time required for, or in the Contractor's cost properly allocable to, the performance of any part of this contract; and

ii. The Contractor asserts its right to the adjustment within 30 days after the end of the period of work stoppage; provided, that, if the Procurement and Contracting Officer decides the facts justify the action, the Procurement and Contracting Officer may receive and act upon a proposal submitted at any time before final payment under this contract.

c. If a stop-work order is not canceled and the work covered by the order is terminated for the convenience of the Government, the Procurement and Contracting Officer shall allow reasonable costs resulting from the stop-work order in arriving at the termination settlement.

d. If a stop-work order is not canceled and the work covered by the order is terminated for default, the Procurement and Contracting Officer shall allow, by equitable adjustment or otherwise, reasonable costs resulting from the stop work order.

18. CHANGES

(a) The Procurement and Contracting Officer may, at any time, without notice to the sureties, if any, by written order designated or indicated to be a change order, make changes in the work within the general scope of the contract, including changes— (1) In the specifications (including drawings and designs); (2) In the method or manner of performance of the work; (3) In the Government-furnished facilities, equipment, materials, services, or site; or (4) Directing acceleration in the performance of the work. (b) Any other written or oral order (which, as used in this paragraph (b), includes direction, instruction, interpretation, or determination) from the Procurement and Contracting Officer that causes a change shall be treated as a change order under this clause; provided, that the Contractor gives the Procurement and Contracting Officer written notice stating (1) the date, circumstances, and source of the order and (2) that the Contractor regards the order as a change order. (c) Except as provided in this clause, no order, statement, or conduct of the Procurement and Contracting Officer shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment. (d) If any change under this clause causes an increase or decrease in the Contractor's cost of, or the time required for, the performance of any part of the work under this contract, whether or not changed by any such order, the Procurement and Contracting Officer shall make an equitable adjustment and modify the contract in writing. However, except for an adjustment based on defective specifications, no adjustment for any change under paragraph (b) of this clause shall be made for any costs incurred more than 20 days before the Contractor gives written notice as required. In the case of defective specifications for which the Government is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the

Contractor in attempting to comply with the defective specifications. (e) The Contractor must assert its right to an adjustment under this clause within 30 days after (1) receipt of a written change order under paragraph (a) of this clause or (2) the furnishing of a written notice under paragraph (b) of this clause, by submitting to the Procurement and Contracting Officer a written statement describing the general nature and amount of proposal, unless this period is extended by the Government. The statement of proposal for adjustment may be included in the notice under paragraph (b) above. (f) No proposal by the Contractor for an equitable adjustment shall be allowed if asserted after final payment under this contract.

19. DISPUTES

Except as otherwise specifically provided in this contract, any dispute concerning a question of fact arising under this contract, which is not disposed of by mutual agreement, shall be decided by the California Military Department Procurement and Contracting Officer (PCO), who shall reduce any decision to writing and send a copy to the contractor by certified mail-return receipt requested, to the address shown herein. The contractor shall have the right to appeal the PCO's decision, which must be exercised within thirty (30) days of service of the PCO's written decision. The contractor's appeal must be in writing to the California Military Department Director, The Adjutant General of California (TAG). TAG, at their discretion, may grant the appeal and conduct a hearing pursuant to the Administrative Procedures Act or refer the appeal to the Office of Administrative Hearings (OAH). If a decision is made to use the services of OAH, each side shall equally share OAH costs. If TAG denies the appeal or if no action is taken on the appeal within thirty (30) days of CMD's receipt of the appeal, CMD shall issue a Notice of Right to Sue to contractor. An individual at the rank of Colonel (0-6) or above may be designated by TAG to resolve appeals under this contract. Pending final decision of a dispute hereunder, the contractor shall proceed diligently with the performance of the contract and in accordance with the Procurement and Contracting Officer's decision.

20. TERMINATION FOR CONVENIENCE OF THE GOVERNMENT

(a) The Government may terminate performance of work under this contract in whole or, from time to time, in part if the Procurement and Contracting Officer determines that a termination is in the Government's interest. The Procurement and Contracting Officer shall terminate by delivering to the Contractor a Notice of Termination specifying the extent of termination and the effective date.
(b) After receipt of a Notice of Termination, and except as directed by the Procurement and Contracting Officer, the Contractor shall immediately proceed with the following obligations, regardless of any delay in determining or adjusting any amounts due under this clause:
(1) Stop work as specified in the notice.
(2) Place no further subcontracts or orders (referred to as subcontracts in this clause) for materials, services, or facilities, except as necessary to complete the continued portion of the contract.
(3) Terminate all subcontracts to the extent they relate to the work terminated.
(4) Assign to the Government, as directed by the Procurement and Contracting Officer, all right, title, and interest of the Contractor under the subcontracts terminated, in which case the Government shall have the right to settle or to pay any termination settlement proposal arising out of those terminations.
(5) With approval or ratification to the extent required by the Procurement and Contracting Officer, settle all outstanding liabilities and termination settlement proposals arising from the termination of subcontracts; the approval or ratification will be final for purposes of this clause.
(6) As directed by the Procurement and Contracting Officer, transfer title and deliver to the Government (i) the fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced or acquired for the work terminated, and (ii) the completed or partially completed plans, drawings, information, and other property that, if the contract had been completed, would be required to be furnished to the Government.
(7) Complete performance of the work not terminated.

(8) Take any action that may be necessary, or that the Procurement and Contracting Officer may direct, for the protection and preservation of the property related to this contract that is in the possession of the Contractor and in which the Government has or may acquire an interest.
(9) Use its best efforts to sell, as directed or authorized by the Procurement and Contracting Officer, any property of the types referred to in subparagraph (6) above; provided, however, that the Contractor (i) is not required to extend credit to any purchaser and (ii) may acquire the property under the conditions prescribed by, and at prices approved by, the Procurement and Contracting Officer. The proceeds of any transfer or disposition will be applied to reduce any payments to be made by the Government under this contract, credited to the price or cost of the work, or paid in any other manner directed by the Procurement and Contracting Officer.
(c) After expiration of the plant clearance period which means the period beginning on the effective date of contract completion or termination and ending 90 days (or such longer period as may be agreed to) after receipt by the Procurement and Contracting Officer of acceptable inventory schedules for each property classification. The Contractor may submit to the Procurement and Contracting Officer a list, certified as to quantity and quality, of termination inventory not previously disposed of, excluding items authorized for disposition by the Procurement and Contracting Officer. The Contractor may request the Government to remove those items or enter into an agreement for their storage. Within 15 days, the Government will accept title to those items and remove them or enter into a storage agreement. The Procurement and Contracting Officer may verify the list upon removal of the items, or if stored, within 45 days from submission of the list, and shall correct the list, as necessary, before final settlement.
(d) After termination, the Contractor shall submit a final termination settlement proposal to the Procurement and Contracting Officer in the form and with the certification prescribed by the Procurement and Contracting Officer. The Contractor shall submit the proposal promptly, but no later than 1 year from the effective date of termination, unless extended in writing by the Procurement and Contracting Officer upon written request of the Contractor within this 1-year period. However, if the Procurement and Contracting Officer determines that the facts justify it, a termination settlement proposal may be received and acted on after 1 year or any extension. If the Contractor fails to submit the proposal within the time allowed, the Procurement and Contracting Officer may determine, on the basis of information available, the amount, if any, due the Contractor because of the termination and shall pay the amount determined.
(e) Subject to paragraph (d) above, the Contractor and the Procurement and Contracting Officer may agree upon the whole or any part of the amount to be paid because of the termination. The amount may include a reasonable allowance for profit on work done. However, the agreed amount, whether under this paragraph (e) or paragraph (f) below, exclusive of costs shown in subparagraph (f)(3) below, may not exceed the total contract price as reduced by (a) the number of payments previously made and (2) the contract price of work not terminated. The contract shall be amended, and the Contractor paid the agreed amount. Paragraph (f) below shall not limit, restrict, or affect the amount that may be agreed upon to be paid under this paragraph.
(f) If the Contractor and the Procurement and Contracting Officer fail to agree on the whole amount to be paid because of the termination of work, the Procurement and Contracting Officer shall pay the Contractor the amounts determined by the Procurement and Contracting Officer as follows, but without duplication of any amounts agreed on under paragraph (e) above:
(1) The contract price for completed supplies or services accepted by the Government (or sold or acquired under subparagraph (b)(9) above) not previously paid for, adjusted for any saving of freight and other charges.
(2) The total of—
(i) The costs incurred in the performance of the work terminated, including initial costs and preparatory expense allocable thereto, but excluding any costs attributable to supplies or services paid or to be paid under subparagraph (f)(1) above;
(ii) The cost of settling and paying termination settlement proposals under terminated subcontracts that are properly chargeable to the terminated portion of the contract if not included in subdivision (i) above; and
(iii) A sum, as profit on subdivision (i) above, determined by the Procurement and Contracting Officer is in effect on the date of this contract, to be fair and reasonable; however, if it appears that the Contractor would have sustained a loss on the entire contract had it been completed, the Procurement and

Contracting Officer shall allow no profit under this subdivision (iii) and shall reduce the settlement to reflect the indicated rate of loss.
(3) The reasonable costs of settlement of the work terminated, including—
(i) Accounting, legal, clerical, and other expenses reasonably necessary for the preparation of termination settlement proposals and supporting data;
(ii) The termination and settlement of subcontracts (excluding the amounts of such settlements); and
(iii) Storage, transportation, and other costs incurred, reasonably necessary for the preservation, protection, or disposition or the termination inventory.
(g) Except for normal spoilage, and except to the extent that the Government expressly assumed the risk of loss, the Procurement and Contracting Officer shall exclude from the amounts payable to the Contractor under paragraph (f) above, the fair value, as determined by the Procurement and Contracting Officer, of property that is destroyed, lost, stolen, or damaged so as to become undeliverable to the Government or to a buyer. (h) The Contractor shall have the right of appeal, under the Disputes clause, from any determination made by the Procurement and Contracting Officer under paragraph (d), (f), or (k), except that if the Contractor failed to submit the termination settlement proposal within the time provided in paragraph (d) or (k), and failed to request a time extension, there is no right of appeal. If the Procurement and Contracting Officer has made a determination of the amount due under paragraph (d), (f), or (k), the Government shall pay the Contractor (1) the amount determined by the Procurement and Contracting Officer if there is no right of appeal or if no timely appeal has been taken, or (2) the amount finally determined on an appeal.
(i) In arriving at the amount due the Contractor under this clause, there shall be deducted—
(1) All unliquidated advance or other payments to the Contractor under the terminated portion of this contract.
(2) Any claim which the Government has against the Contractor under this contract; and
(3) The agreed price for, or the proceeds of sale of, materials, supplies, or other things acquired by the Contractor or sold under the provisions of this clause and not recovered by or credited to the Government.
(k) If the termination is partial, the Contractor may file a proposal with the Procurement and Contracting Officer for an equitable adjustment of the price(s) of the continued portion of the contract. The Procurement and Contracting Officer shall make any equitable adjustment agreed upon. Any proposal by the Contractor for an equitable adjustment under this clause shall be requested within 90 days from the effective date of termination unless extended in writing by the Procurement and Contracting Officer.
(l) (1) The Government may, under the terms and conditions it prescribes, make partial payments and payments against costs incurred by the Contractor for the terminated portion of the contract if the Procurement and Contracting Officer believes the total of these payments will not exceed the amount to which the Contractor will be entitled.
(2) If the total payments exceed the amount finally determined to be due, the Contractor shall repay the excess to the Government upon demand, together with interest computed at the rate established by the State of California. Interest shall be computed for the period from the date the excess payment is received by the Contractor to the date the excess is repaid. Interest shall not be charged on any excess payment due to a reduction in the Contractor's termination settlement proposal because of retention or other disposition of termination inventory until 10 days after the date of the retention or disposition, or a later date determined by the Procurement and Contracting Officer because of the circumstances.
(m) Unless otherwise provided in this contract or by statute, the Contractor shall maintain all records and documents relating to the terminated portion of this contract for 3 years after final settlement. This includes all books and other evidence bearing on the Contractor's costs and expenses under this contract. The Contractor shall make these records and documents available to the Government, at the Contractor's office, at all reasonable times, without any direct charge. If approved by the Procurement and Contracting Officer, photographs, microphotographs, or other authentic reproductions may be maintained instead of original records and documents.

21. DEFAULT FIXED-PRICE CONSTRUCTION

(a) If the Contractor refuses or fails to prosecute the work or any separable part, with the diligence that will insure its completion within the time specified in this contract including any extension, or fails to

complete the work within this time, the Government may, by written notice to the Contractor, terminate the right to proceed with the work (or the separable part of the work) that has been delayed. In this event, the Government may take over the work and complete it by contract or otherwise, and may take possession of and use any materials, appliances, and plant on the work site necessary for completing the work. The Contractor and its sureties shall be liable for any damage to the Government resulting from the Contractor's refusal or failure to complete the work within the specified time, whether or not the Contractor's right to proceed with the work is terminated. This liability includes any increased costs incurred by the Government in completing the work.
(b) The Contractor's right to proceed shall not be terminated nor the Contractor charged with damages under this clause, if-
(1) The delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include-
(i) Acts of God or of the public enemy,
(ii) Acts of the Government in either its sovereign or contractual capacity,
(iii) Acts of another Contractor in the performance of a contract with the Government,
(iv) Fires,
(v) Floods,
(vi) Epidemics,
(vii) Quarantine restrictions,
(viii) Strikes,
(ix) Freight embargoes,
(x) Unusually severe weather, or
(xi) Delays of subcontractors or suppliers at any tier arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and the subcontractors or suppliers; and
(2) The Contractor, within 10 days from the beginning of any delay (unless extended by the Procurement and Contracting Officer), notifies the Procurement and Contracting Officer in writing of the causes of delay. The Procurement and Contracting Officer shall ascertain the facts and the extent of delay. If, in the judgment of the Procurement and Contracting Officer, the findings of fact warrant such action, the time for completing the work shall be extended. The findings of the Procurement and Contracting Officer shall be final and conclusive on the parties, but subject to appeal under the Disputes clause.
(c) If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been issued for the convenience of the Government.
(d) The rights and remedies of the Government in this clause are in addition to any other rights and remedies provided by law or under this contract.

22. TERMINATION FOR DEFAULT-DAMAGES OR DELAY-TIME EXTENSIONS

a. If the contractor refuses or fails to prosecute the work, or any separable part thereof, with such diligence as will insure its completion within the time specified in this contract, or any extension thereof, or fails to complete said work within such time, the State may, by written notice to the contractor, terminate his right to proceed with the work or such part of the work as to which there has been delay. In such event the State may take over the work and prosecute the same to completion, by contract or otherwise, and the contractor and his sureties shall be liable to the State for any excess cost occasioned the State thereby, and for liquidated damages for delay, as fixed in the specifications or accompanying papers, until such reasonable time as may be required for final completion of the work; or if liquidated damages are not so fixed, any actual damages occasioned by such delay. If the contractor's right to proceed is so terminated, the State may take possession of and utilize in completing the work such materials, appliances, and plant as may be on the site of the work and therefore necessary.

b. If the State does not terminate the right of the contractor to proceed, as provided in subparagraph (A) hereof, the contractor shall continue the work, in which event he and his sureties shall be liable to the State, in the amount set forth in the specifications or accompanying papers, for the

fixed, agreed, liquidated damages for each calendar day of delay until the work is completed or accepted: or if liquidated damages are not so fixed, any actual damages occasioned by such delay.

c. The right of the contractor to proceed shall not be terminated, as provided in subparagraph (A) hereof, not the contractor charged with liquidated or actual damages, as provided in subparagraph (B), because of any delays in the completion of the work due to causes beyond his control which could not reasonably have been anticipated and were without his fault or negligence, including, but not restricted to, acts of God, acts of the public enemy, acts of the Government or the State (either in its sovereign or contractual capacity), acts of another contractor in the performance of a contract with the State quarantine restrictions, strikes, freight embargoes, or unusually severe weather; or, delays of subcontractors or suppliers due to such unforeseeable causes beyond the control and without the fault or negligence of both the contractor and such subcontractors or suppliers at any tier; provided, that the contractor shall, within 10 days after the beginning of any such delay, unless the Procurement and Contracting Officer shall grant a further period of time prior to the date of final settlement of the contract, notify the Procurement and Contracting Officer in writing of the causes of delay. The Procurement and Contracting Officer shall ascertain the facts as to the extent of the delay and decide whether or not to extend the time for completing the work. When in the Procurement and Contracting Officer's judgment, the findings of fact justify such an extension, and Procurement and Contracting Officer's findings of fact thereon shall be final and conclusive on the parties hereto, subject only to appeal as provided in the DISPUTES clause hereof.

23. PAYMENTS TO CONTRACTORS

a. Unless otherwise provided in the specifications, partial payments may be made as the work progresses at the end of each calendar month, or as soon thereafter as practicable, on work completed and approved by the Procurement and Contracting Officer. The Military Department shall make partial payments on materials only once they have been installed not just delivered to the work site.

b. In making such partial payments there shall be retained five (5) percent on the estimated amount until final completion and acceptance of all work covered by the contract. Provided, however that on completion and acceptance of any separated building, public work, or other division of the contract on which the price is stated separately in the contract, payment may be made in full, including the retained percentage therein, less authorized deductions. The retainage on partial payments of Federal funds shall be determined by the United States Property and Fiscal Officer (USPFO) of the State in conformance with the Defense Acquisition Regulations (DAR).

c. All material and work covered by partial payments made shall thereupon become the sole property of the State, but this provision shall not be construed as relieving the contractor from the sole responsibility for all materials and work upon which payments have been made or the restoration of any damaged work, nor as a waiver of the right of the State to require the fulfillment of all of the terms or the contract or such time as the Military Department accepts the entire Work as defined in the contract.

d. Upon completion and acceptance of all Work required hereunder, and after the contractor shall have furnished the State with a release of all claims against the State arising under and by virtue of this contract, other than such claims, if any, as may be specifically excepted by the contractor from the operation of the release, in stated amount to be set forth therein, the amount due the contractor under this contract will be paid upon the presentation of a properly executed and duly certified voucher. If the contractor's claim to amounts payable under the contract has been assigned under the Assignment of Claims Act of 1940, as amended (41 U.S.C, 15), a release

may also be required of the assignee at the option of the Procurement and Contracting Officer or USPFO of the State.

24. MATERIAL AND WORKMANSHIP

Unless otherwise specifically provided for in the specification, all equipment, materials, and articles incorporated in the work covered by this contract are to be new and of the most suitable grade of their respective kinds for the purpose intended and all workmanship shall be first class. Where equipment, materials, or articles are referred to in the specifications as "equal to" any particular standard, the Procurement and Contracting Officer shall solely decide the question of equality. The contractor shall furnish to the Procurement and Contracting Officer for approval the name of the manufacturer of machinery, mechanical and other equipment, which is contemplated to be incorporated in the work, together with the performance capacities and other pertinent information. When required by the specifications, or when called for by the Procurement and Contracting Officer, the contractor shall furnish to the Procurement and Contracting Officer for approval full information concerning the materials or articles, which is contemplated for incorporation in the work. Samples of materials shall be submitted for approval when so directed. Machinery, equipment, materials, and articles installed or used without such approval shall be at the risk of subsequent rejection. The Procurement and Contracting Officer may in writing require the contractor to remove from the work site such employee as the Procurement and Contracting Officer deems incompetent, careless, insubordinate, or otherwise objectionable, or whose continued employment on the work site is deemed by the Procurement and Contracting Officer to be contrary to the public interest.

25. INSPECTION

a. Except as otherwise provided in subparagraph (D) hereof, all material and workmanship shall be subject to inspection, examination, and testing by representatives of the Procurement and Contracting Officer at any and all times during manufacture and/or construction (and at any and all places where such manufacture and/or construction are carried on). The State shall have the right to reject defective material and workmanship or require its correction. Rejected workmanship shall be satisfactorily corrected and rejected material shall be replaced with proper material without charge and the contractor shall promptly segregate and remove rejected material from the premises. No extension of the contract will be granted for rejected work. If the contractor fails to proceed at once with the replacement of rejected material and/or the correction of defective workmanship, the State may, by contract or otherwise, replace such material and/or correct such workmanship and charge the cost thereof to the contractor, or the State may terminate the right of the contractor to proceed as provided in Clause 17 of this contract, the contractor and surety being liable for any damage to the same extent as provided in said Clause 17 for termination.

b. The contractor shall furnish promptly, without additional charge, all reasonable facilities, labor and materials necessary for the safe and convenient inspections and tests that may be required by the Procurement and Contracting Officer or by the USPFO of the State. All inspections and tests by the State shall be performed in such manner as not unnecessarily to delay the work. Special, full size, and performance tests shall be as described in the specifications. The contractor will be charged with any additional cost of the inspection when material and workmanship is not ready at the time inspection is requested by the contractor. Compensation shall be in full day increments and no less than that stipulated in 8 C above.

c. Should it be considered necessary or advisable by the State, or by the representatives of the Chief, National Guard Bureau, at any time before final acceptance of the entire work to make an examination of the work already completed, by removing or tearing out same, the contractor shall on request promptly furnish all necessary facilities, labor, and material to accomplish such inspection. If such work is found to be defective or non-conforming in any material respect due to the fault of the contractor or a subcontractor, the contractor shall bear all the expenses of such

examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the contract, an equitable adjustment shall be made in the contract price to compensate the contractor for the additional services involved in such examination and reconstruction: and, if completion of the work has been delayed thereby, the contractor shall, in addition, be granted a suitable extension of time. Federal funding support of the cost for examination and replacement of satisfactorily completed work that requires removal or that is damaged due to inspection requirements is subject to prior approval by the Chief, National Guard Bureau, or a duly authorized representative.

d. In the sole discretion of the Military Department inspection of material and finished articles to be incorporated in the work at the site shall be made at the place of production, manufacture, or shipment, whenever the quantity justifies it, unless otherwise stated in the specifications; and such inspection and acceptance shall be in writing, and unless otherwise stated in the specifications, shall be final, except as regards latent defects, departures from specific requirements of the contract and the specifications and drawings made a part thereof, damage or loss in transit, fraud, or such gross mistakes as amount to fraud. Subject to the requirement contained in the preceding sentence, the inspection of material and workmanship for final acceptance as a whole or in part, shall be made at the site. Nothing contained in this paragraph (D) shall in any way restrict the State's rights under any warranty or guarantee.

26. SUPERINTENDENT BY CONTRACTOR

The Job Superintendent must be present anytime work is being performed on the job site. The Job Site Superintendent must be appointed in writing and must have full authority to act on behalf of the prime contractor.

27. UTILITY PERMITS AND RESPONSIBILITY FOR WORK

The contractor shall, without additional expense to the State, obtain all licenses and permits required for the prosecution of the work and pay all charges related to the connection of utility services to existing systems. The contractor shall be responsible for all damages to persons or property that occurs as a result of his/her fault or negligence in connection with the prosecution of the work. The contractor shall take proper safety and health precautions to protect the work, the workers, the public, and the property of others. The contractor shall also be responsible for all materials delivered and work performed until completion and final acceptance, except for any completed unit thereof which therefore may have been finally accepted.

28. OTHER CONTRACTS

The State may undertake or award other contracts for additional work in or around the work areas and the contractor shall fully cooperate with such other contractors and State employees and carefully fit its own work to such additional work as may be directed by the Procurement and Contracting Officer. The contractor shall not commit or permit any act that will interfere with the performance of work by any other contractor or by State employees.

29. ADDITIONAL BOND SECURITY

If any surety upon any bond furnished in connection with this contract becomes unacceptable to the State, or if any such surety shall fail to furnish reports as to the contractor's financial condition from time to time as requested by the State, the contractor shall promptly furnish such additional security as may be required from time to time to protect the interests of the State or of persons supplying labor or materials in the prosecution of the work contemplated by the contract.

30. COVENANT AGAINST CONTINGENT FEES

The contractor warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the contractor for the purpose of securing business. For breach or violation of this warranty the State shall have the right to annul this contract without liability or in its discretion to deduct from the contract price or consideration the full amount of such commission, percentage, brokerage, or contingent fee.

31. OFFICIALS TO BENEFIT

No member of or delegate to Congress, State Legislation or resident commissioner or State official or employee shall be admitted to any share or part of this contract, or to any benefit that may arise from it; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

32. CONVICT LABOR

In connection with the performance of work under this contract, the contractor agrees not to employ any person undergoing sentence of imprisonment, as provided by Public Law 89-176, September 10, 1965 (18 USC 4082 (c) (2)) and executive order 11755, December 29, 1973.

33. GRATUITIES

a. The State may, by written notice to the contractor, terminate the right of the contractor to proceed under this contract if it is found, after notice and hearing, by the Secretary or Governor or the duly authorized representative of either, that gratuities (in the form of entertainment, gifts, or otherwise) were offered or given by the contractor, or any agent or representative of the contractor, to any officer or employee of the State with a view toward securing a contract or securing favorable treatment with respect to the awarding or amending, or the making of any determinations with respect to the performance, of such contract: Provided, that the existence of the facts upon which the Secretary or Governor or the duly authorized representative of either makes such findings shall be in issue and may be reviewed in any competent court.

b. In the event this contract is terminated as provided in paragraph (A) hereof, the State shall be entitled (1) to pursue the same remedies against the contractor as it could pursue in the event of breach of the contract by the contractor, and (2) as a penalty in addition to any other damages to which it may be entitled by law, to exemplary damages in an amount (as determined by the Secretary or Governor or the duly authorized representative of either) which shall be not less than 3 nor more than 10 times the costs incurred by the contractor in providing any such gratuities to any such officer or employee.

c. The rights and remedies of the State provided in this Clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this contract.

34. COPELAND (“ANTI-KICKBACK”) ACT NON-REBATE OF WAGES

The regulations of the Secretary of Labor applicable to contractors and subcontractors (29 CFR, Part 3), made pursuant to the Copeland Act, as amended (40 U.S.C. 276c) and to aide in the enforcement of the Anti-Kickback Act (18 U.S.C. 874) are made a part of this contract by reference. The contractor will comply with these regulations and any amendments or modifications thereof and the prime contractor will be responsible for the submission of affidavits required of subcontractors. The foregoing shall apply except as the Secretary of Labor may specifically provide for reasonable limitations, variations, tolerances, and exemptions.

35. WITHHOLDING OF FUNDS

a. The Procurement and Contracting Officer may withhold or cause to be withheld from the State prime contractor so much of the accrued payment or advances as may be considered necessary (i) to pay laborers and mechanics, including apprentices, trainees, watchmen, and guards, employed by the contractor or any subcontractor on the work the full amount of wages required by the contract, and (ii) to satisfy any liability of the contractor and any subcontractor for liquidated damages under paragraph (B) of the Clause entitled Contract Work Hours and Safety Standards Act - Overtime Compensation.

b. If the contractor or any subcontractor fails to pay any laborer, mechanic, apprentice, trainee, watchman, or guard employed or working on the site of the work, all or part of the wages required by the contract, the Procurement and Contracting Officer may, after written notice to the State prime contractor, take such action as may be necessary to cause suspension of any further payments or advances until such violations have ceased.

36. DISPUTES CONCERNING LABOR STANDARDS

Disputes arising out of the labor standards provisions of this contract shall be subject to the Disputes Clause except to the extent such disputes involve the meaning of classification or wage rates contained in the wage determination decision of the Secretary of Labor or the applicability of the labor provisions of this contract which questions shall be referred to the Secretary of Labor in accordance with the procedures of the Department of Labor.

37. SUBCONTRACTS-TERMINATION

The contractor agrees to insert the clauses hereof entitled Prevailing Wage - Labor Code Sections 1775 to 1780 inclusive, provide access to the Payrolls and Basic Records by the Fair Employment Practice Commission, Copeland ("Anti-Kickback") Act-Non-Rebate of Wages, Withholding of Funds and Subcontracts-Termination physically in all subcontracts and the contractor further agrees that a breach of any of the requirements of these Clauses may be grounds for termination of this contract. The term "contractor" as used in such clauses in any subcontract shall be deemed to refer to the subcontractor except in the phrase "prime contractor."

38. EQUAL OPPORTUNITY (See paragraphs 4, B 2 and G 1 through 13; Standard California Nondiscrimination Construction Contract Specifications (GOV. Code Section 12990))

39. CERTIFICATION OF NON-SEGREGATED FACILITIES

(Applicable to contracts, subcontracts, and to agreements with applicants who are themselves performing Federally assisted construction contracts, exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause). By the submission of this bid, the bidder, offeror, applicant, or subcontractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. He certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The bidder, offeror, applicant, or subcontractor agrees that a breach of this certification is a violation of the Equal Opportunity Clause in the Contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis

of race, color, religion or national origin, because of habit, local custom or otherwise. He further agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause: that he will retain such certifications in his files" and that he will forward the following notice to such proposed subcontractors (except where the proposed subcontractors have submitted identical certifications for specific time periods):

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENT FOR CERTIFICATIONS OF NONSE¬GREGATED FACILITIES: A certification of Non-segregated Facilities must be submitted prior to award of a subcontract exceeding $10,000 which is not exempt from the provisions of the Equal opportunity clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semiannually, or annually).

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

40. CLEAN AIR AND WATER

(Applicable only it the contract exceeds $100,000, or the Procurement and Contracting Officer has determined that orders under an indefinite quantity contract in any one year will exceed $100,000, or a facility to be used has been the subject of a conviction under the Clean Air Act (42 U.S.C. 1 857c-8(c)(1)) or the Federal Water Pollution Control Act (33 U.S.C 1 31 9(c)) and is listed by EPA, or the contract is not otherwise exempt.)

a. The bidder or offeror certifies as follows:

   i. Any facility to be utilized in the performance of this proposed contract is ( ), is not ( ), listed on the Environmental Protection Agency List of Violating Facilities:

   ii. The bidder/offeror will promptly notify the Procurement and Contracting Officer, prior to award, or the receipt of any communication from the Director, Office of Federal Activities, U.S. Environment Protection Agency, indicating that any facility which is proposes for use for during the performance of the contract is under consideration to be listed on the EPA List Violating Facilities: and

   iii. The bidder/offeror will include substantially this solicitation certification, including this paragraph (iii), in every nonexempt subcontract.

b. The terms used in this clause have the following meanings:

   i. The term "Air Act" means the Clean Air Act, as amended (42 U.S.C. 1857 et seq., as amended by Public Law 91-604).

   ii. The Term "Water Act" means the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by Public Law 92-500).

   iii. The term "clean air standards" means any enforceable rules, regulations, guidelines, standards, limitations, orders, controls, prohibitions, or other requirements which are contained in, issued under, or otherwise adopted pursuant to the Air Act or Executive order 11738, an applicable implementation plan as described in section 110(d) of the Clean Air Act (42 U.S.C. 1875c-5(d)), an approved implementation procedure or plan under section 111(c) or section 111(d), respectively, of the Air Act 942 U.S.C. 1 875c-6(c) or (d)), or an approved implementation procedure under section 112(d) of the Air Act (42 U.S.C. 1875c-7(d)).

iv. The term "clean water standards" means any enforceable limitation, control, condition, prohibition, standard or other requirement which is promulgated pursuant to the Water Act or contained in a permit issued to a discharge by the Environmental Protection Agency or by a State under an approved program, as authorized by section 402 of the Water Act (33 U.S.C. 1342), or by a local government to ensure compliance with pretreatment regulations as required by section 307 of the Water Act (33 U.S.C. 1317).

v. The term "compliance" means compliance with clean air or water standards. Compliance shall also mean compliance with a schedule or plan ordered or approved by a court of competent jurisdiction, the Environmental Protection Agency or an air or water pollution control agency in accordance with the requirement of the Air Act or Water Act and regulations issued pursuant thereto.

vi. The term "facility" means any building, plant, installation, structure, mine, vessel or other floating craft location, or site of operations, owned, leased, or supervised by a contractor, subcontractor, to be utilized in the performance of a contract or subcontract. Where a location or site of operations contains or includes more than one building, plant, installation, or structure, the entire location or site shall be deemed to be facility except where the Director, Office of Federal Activities, environmental Protection Agency, determines that independent facilities are co-located in one geographical area.

vii. The term "nonexempt contract or subcontract" means a contract or subcontract of more than $100,000 which is not otherwise exempted pursuant to the EPA regulations implementing the Air Act and Water Act (40 CFR 15.5), as further implemented in ASP R 1 -2302.4 or in FPR 1-1.230204 (whichever is applicable) and the procedures of the Department awarding the contract.

41. AUDIT BY DEPARTMENT OF DEFENSE

a. The contractor will permit access to the contractor's records of employment, employment advertisements, application forms, and other pertinent data and records by the National Guard Bureau Representative, the awarding authority or any other appropriate agency of the State of California designated by the awarding authority, for the purposes of investigation to ascertain compliance with the Fair Employment Practices section of this contract. In additional to employment records, the Contractor will permit access to the following documentation:

b. Examination of Cost: If this is a cost reimbursement type, incentive, time and materials, labor hour, or price re-determinable contract, or any combination thereof, the contractor shall maintain, and the Procurement and Contracting Officer or his representatives shall have the right to examine books, records, documents, and other evidence and accounting procedures and practices, sufficient to reflect properly all direct and indirect costs of whatever nature claimed to have been incurred and anticipated to be incurred for the performance of this contract. Such right of examination shall include inspection at all reasonable times of the contractor's plants, or such parts thereof, as may be engaged in the performance of this contract.

c. Cost and Pricing Data. If the contractor submitted cost or pricing data in connection with the pricing of this contract or any change or modification thereto, unless such pricing was based on adequate price competition, established catalog of market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation, the Procurement and Contracting Officer or his representatives who are employees of the State of California (or representatives listed above) shall have the right to examine all books, records, documents and other data of the contractor related to the negotiation, pricing or performance of such contract,

change or modification, for the purpose of evaluating the accuracy, completeness and currency of the cost or pricing data submitted

d. Reports. If the contractor is required to furnish Contractor Cost Data Reports (CCDR) Contract Fund Status Reports (CFSR), or Cost Performance Reports (CPR) the Procurement and Contracting Officer or his representatives shall have the right to examine books, records, other documents, and supporting materials, for the purpose of evaluating (i) the effectiveness of the contractor's policies and procedures to produce data compatible with the objectives of these reports, and (ii) the data reported.

e. Availability. The materials described in (B), and (C) above shall be made available at the office of the contractor, at all reasonable times, for inspection, audit, or reproduction, until the expiration of three (3) years from the date of final payment under this contract.

f. The contractor shall insert a clause containing all the provisions of this Clause, including this paragraph (D), in all subcontracts hereunder, except altered as necessary for proper identification of the contracting parties and the Procurement and Contracting Officer under the State prime contract.

42. SUBCONTRACTOR COST OR PRICING DATA-PRICE ADJUSTMENT

The contractor shall require subcontractors to certify that to the best of their knowledge and belief the cost and pricing data submitted is accurate, complete, and current as of the date of agreement on the negotiated price of the subcontract or subcontract change of modification.

43. BUY AMERICAN ACT

a. Agreement: In accordance with the Buy American Act (41 U.S.C. 1Oa-10d) the contractor agrees that only domestic construction material will be used (by the contractor, subcontractor, and suppliers) in the performance of this contract, except for non-domestic construction material listed in the "Non-domestic Construction Materials" clause, if any, of this contract.

b. Domestic Construction Material: "Construction material" means any article, material, or supply brought to the construction site for incorporation in the building or work. A non-manufactured construction material is a "domestic construction material" if it has been mined or produced in the United States. A manufactured construction material is a "domestic construction material" if it has been manufactured in the United States and if the cost of its components which have been mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. "Component" means any article, material, or supply directly incorporated in a construction material.

c. Domestic Component: A component shall be considered to have been "mined, produced, or manufactured in the United States" (regardless of its source in fact) if the article, material, or supply in which it is incorporated was manufactured in the United States and the component is of a class or kind determined by the government to be not mined, produced, or manufactured in the United States in sufficient and reasonable available commercial quantities and of satisfactory quality.

d. Submittals that are not in compliance with the Buy American Act and provided to the government for approval are invalid and hereby rejected. If the government or its representative inadvertently approves a submittal and materials are installed and finished, the contractor is still “At Fault”. Contractors may not be paid for work, rework or material acquisition for materials installed that do not comply with the Buy American Act, even if they were approved by the government. *Exception: The government may issue an exception however that exception must specifically address this

paragraph and release the specified unauthorized material into the contract on a case-by-case basis. An exception will be granted for each piece of material not by phase, trade or the entire project itself.

44. BUY CLEAN CALIFORNIA ACT

In accordance with the Buy Clean California Act, Contractors shall submit current facility-specific Environmental Product Declarations (EPDs) for all eligible materials and ensure EPDs are compliant to ISO 14025 and applicable Product Category Rules located on the Department of General Services (DGS) Buy Clean California Act website located at: https://www.dgs.ca.gov/PD/Resources/Page-Content/Procurement-Division-Resources-List-Folder/Buy-Clean-California-Act. Contractors shall collect the data on all structural steel (hot-rolled sections, hollow structural sections, and plate), carbon steel rebar, flat glass, and mineral wool board insulation. The data will be submitted using the attached form the excel sheet you attached, name it and attach it and required as part of the projects close out documents.

45. DEFINITIONS

As used throughout this contract, the following terms shall have the meaning set forth below:

a. The term "Procurement and Contracting Officer" means the person executing this contract on behalf of the State and any other officer or civilian employee who is properly designated Procurement and Contracting Officer (PCO) and the term includes, except as otherwise provided in this contract, the authorized representative of a Procurement and Contracting Officer acting within the limits of his authority.

b. The term "Government" means the United States and any Department head thereof,

c. The term "State" means the State, Commonwealth, or Territory, which is the party to this contract.

d. The term "Governor" means the Governor of the State or a duly appointed representative (other than the Procurement and Contracting Officer).

e. The term "USPFO" means the United States Property and Fiscal Officer assigned to the State

46. SITE INVESTIGATION

The contractor acknowledges that the contractor has investigated and is satisfied as to the conditions affecting the work, including but not restricted to not restricted to those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads, and uncertainties of weather, river stages, tides, or similar physical conditions at the site, the conformation and conditions of the ground, the character of equipment and facilities needed preliminary to and during prosecution of the work. The contractor further acknowledges that it is satisfied as to the character, quality and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the State, as well as from information presented by the drawings and specifications made a part of this contract. Any failure by the contractor be acquainted with the available information will not relieve the contractor from responsibility for estimating properly the difficulty of cost of successfully performing the work. The State assumes no responsibility for any conclusions or interpretations made by the contractor on the basis of the information made available by the State.

47. PROTECTION OF EXISTING VEGETATION, STRUCTURES, UTILITIES, AND IMPROVEMENTS

a. The contractor will preserve and protect all existing vegetation such as trees, shrubs, and grass on or adjacent to the site of work which is not to be removed and which does not unreasonably interfere with the construction work. Care will be taken in removing trees authorized for removal to avoid damage to vegetation to remain in place. Any limbs or branches of trees broken during such operations or by the careless operation of equipment, or by workmen, shall be trimmed with a clean cut and painted with an approved tree pruning compound as directed by the Procurement and Contracting Officer.

b. The contractor will protect from damage all existing improvements or utilities at or near the site of the work, the location of which to be made known to him/her and will repair or restore any damage to such facilities resulting from failure to comply with the requirements of this contract or the failure to exercise reasonable care in the performance of the work. If the contractor fails or refuses to repair any such damage promptly, the Procurement and Contracting Officer may have the necessary work performed and charge the cost thereof to the contractor.

48. OPERATIONS AND STORAGE AREAS

a. All operations of the contractor (including storage of materials) upon State premises shall be confined to areas authorized or approved by the Procurement and Contracting Officer. The contractor shall hold and save the State, its officers, and agents free and harmless from liability of any nature occasioned by his operations.

b. Temporary building (storage sheds, shops, offices, etc.) may be erected by the contractor only with the approval of the Procurement and Contracting Officer and shall be bunt with labor and materials furnished by the contractor without expense to the State. Such temporary buildings and utilities shall remain the property of the contractor and shall be removed by the contractor at the contractor's expense upon the completion of work. With the written consent of the Procurement and Contracting Officer, such buildings and utilities may be abandoned and need not be removed.

c. The contractor shall, under regulations prescribed by the Procurement and Contracting Officer, use only established roadways or construct and use such temporary roadways as may be authorized by the Procurement and Contracting Officer. Where materials are transported in the prosecution of the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any Federal, State or local law or regulation. When it is necessary to cross curbing or sidewalks, the contractor shall provide protection against damage and any damaged roads, curbing, or sidewalks shall be repaired by or at the expense of the contractor.

49. MODIFICATION PROPOSALS-PRICE BREAKDOWN

The contractor, in connection with any proposal he/she makes for a contract modification, shall furnish a price breakdown, itemized as required by the Procurement and Contracting Officer. Unless otherwise directed, the breakdown shall be in sufficient detail to permit an analysis of all material, labor equipment, subcontract, and overhead cost, as well as profit, and shall cover all work involved in the modification, whether such work was deleted, added or changed. Any amount claimed for subcontracts shall be supported by a similar price breakdown. In addition, if the proposal includes a time extension, a justification shall also be furnished. The proposal, together with the price breakdown and time extension Justification, shall be furnished by the date specified by the Procurement and Contracting Officer.

50. CLEANING UP

The contractor shall at all times keep the construction area, including storage areas used by him, free from accumulations of waste material or rubbish and prior to completion of the work remove any rubbish from the premises and all tools, scaffolding, equipment, and materials not the property of the State. Upon

completion of the construction the contractor shall leave the work and premises in a clean, neat, and workmanlike condition satisfactory to the Procurement and Contracting Officer.

51. INSPECTIONS

The work will be conducted under the general direction of the Procurement and Contracting Officer and is subject to inspection by his appointed inspectors to ensure strict compliance with the terms of the contract. No inspector is authorized to change any provision of the specifications without written authorization of the Procurement and Contracting Officer, nor shall the presence or absence of an inspector relieve the contractor from any requirement of the contract.

52. RECYCLING CERTIFICATION

The Contractor shall certify in writing under penalty of perjury, the minimum, if not exact, percentage of recycled content, both post-consumer waste and secondary waste as defined in the Public Contract Code, Sections 12161 and 12200, in materials, goods, or supplies offered or products used in the performance of this Agreement, regardless of whether the product meets the required recycled product percentage as defined in the Public Contract Code, Sections 12161 and 12200. Contractor may certify that the product contains zero recycled content (PCC 10233, 10308.5, 10354).

53. CHILD SUPPORT COMPLIANCE ACT

For any contract in excess of $100,000.00, the contractor acknowledges in accordance with, that:

a. The contractor recognizes the importance of child and family support obligations and shall fully comply with all applicable state and federal laws relating to child and family support enforcement, including, but not limited to, disclosure of information and compliance with earnings assignment orders, as provided in Chapter 8 (commencing with Section 5200) of Part 5 of Division 9 of the Family Code; and

b. The contractor, to the best of its knowledge is fully complying with the earnings assignment orders of all employees and is providing the names of all new employees to the New Hire Registry maintained by the California Employment Development Department.

54. BIOBASED PRODUCT CERTIFICATION

As required by the Farm Security and Rural Investment Act of 2002 and the Energy Policy Act of 2005 (7 U.S.C.8102(c)(3)), the offeror certifies, by signing this offer, that biobased products (within categories of products listed by the United States Department of Agriculture in 7 CFR part 3201,subpart B) to be used or delivered in the performance of the contract, other than biobased products that are not purchased by the offeror as a direct result of this contract, will comply with the applicable specifications or other contractual requirements.

55. AFFIRMATIVE PROCUREMENT OF BIOBASED PRODUCTS UNDER SERVICE AND CONSTRUCTION CONTRACTS

(a) In the performance of this contract, the contractor shall make maximum use of biobased products that are United States Department of Agriculture (USDA)-designated items unless— (1) The product cannot be acquired (i) Competitively within a time frame providing for compliance with the contract performance schedule; (ii) Meeting contract performance requirements; or (iii) At a reasonable price. (2) The product is to be used in an application covered by a USDA categorical exemption (see 7 CFR 3201.3(e)). For example, all USDA-designated items are exempt from the preferred procurement requirement for the following: (i) Spacecraft system and launch support equipment. (ii) Military equipment, i.e., a product or system designed or procured for combat or combat-related missions. (b) Information about this

requirement and these products is available at http://www.biopreferred.gov. (c) In the performance of this contract, the Contractor shall— (1) Report to http://www.sam.gov, with a copy to the Procurement and Contracting Officer, on the product types and dollar value of any USDA-designated biobased products purchased by the Contractor during the previous Government fiscal year, between October 1 and September 30; and (2) Submit this report no later than— (i) October 31 of each year during contract performance and (ii) At the end of contract performance.

56. HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA

(a) "Hazardous material," as used in this clause, includes any material defined as hazardous under the latest version of Federal Standard No. 313 (including revisions adopted during the term of the contract).
(b) The offeror must list any hazardous material, as defined in paragraph (a) of this clause, to be delivered under this contract. The hazardous material shall be properly identified and include any applicable identification number, such as National Stock Number or Special Item Number. This information shall also be included on the Material Safety Data Sheet submitted under this contract.
(c) This list must be updated during performance of the contract whenever the Contractor determines that any other material to be delivered under this contract is hazardous. (d) The apparently successful offeror agrees to submit, for each item as required prior to award, a Material Safety Data Sheet, meeting the requirements of 29 CFR 1910.1200(g) and the latest version of Federal Standard No. 313, for all hazardous material identified in paragraph (b) of this clause. Data shall be submitted in accordance with Federal Standard No. 313, whether or not the apparently successful offeror is the actual manufacturer of these items. Failure to submit the Material Safety Data Sheet prior to award may result in the apparently successful offeror being considered non-responsible and ineligible for award. (e) If, after award, there is a change in the composition of the item(s) or a revision to Federal Standard No. 313, which renders incomplete or inaccurate the data submitted under paragraph (d) of this clause, the Contractor shall promptly notify the Procurement and Contracting Officer and resubmit the data. (f) Neither the requirements of this clause nor any act or failure to act by the Government shall relieve the Contractor of any responsibility or liability for the safety of Government, Contractor, or subcontractor personnel or property. (g) Nothing contained in this clause shall relieve the Contractor from complying with applicable Federal, State, and local laws, codes, ordinances, and regulations (including the obtaining of licenses and permits) in connection with hazardous material. (h) The Government's rights in data furnished under this contract with respect to hazardous material are as follows: (1) To use, duplicate and disclose any data to which this clause is applicable. The purposes of this right are to— (i) Apprise personnel of the hazards to which they may be exposed in using, handling, packaging, transporting, or disposing of hazardous materials; (ii) Obtain medical treatment for those affected by the material; and (iii) Have others use, duplicate, and disclose the data for the Government for these purposes. (2) To use, duplicate, and disclose data furnished under this clause, in accordance with paragraph (h)(1) of this clause, in precedence over any other clause of this contract providing for rights in data. (3) The Government is not precluded from using similar or identical data acquired from other sources.

57. RECOVERED MATERIAL CERTIFICATION

As required by the Resource Conservation and Recovery Act of 1976 (42 U.S.C. 6962(c)(3)(A)(i)), the offeror certifies, by signing this offer, that the percentage of recovered materials content for EPA-designated items to be delivered or used in the performance of the contract will be at least the amount required by the applicable contract specifications or other contractual requirements.

58. POLLUTION PREVENTION AND RIGHT-TO-KNOW INFORMATION

a. Definitions. As used in this clause— "Toxic chemical" means a chemical or chemical category listed in 40 CFR 372.65.

b. Federal facilities are required to comply with the provisions of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11001-11050), and the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13101-13109).

c. The Contractor shall provide all information needed by the Federal facility to comply with the following:

   i. The emergency planning reporting requirements of Section 302 of EPCRA.

   ii. The emergency notice requirements of Section 304 of EPCRA.

   iii. The list of Material Safety Data Sheets, required by Section 311 of EPCRA.

   iv. The emergency and hazardous chemical inventory forms of Section 312 of EPCRA.

   v. The toxic chemical release inventory of Section 313 of EPCRA, which includes the reduction and recycling information required by Section 6607 of PPA.

   vi. The toxic chemical and hazardous substance release and use reduction goals of section 2(e) of Executive Order 13423 and of Executive Order 13514.

59. ESTIMATE OF PERCENTAGE OF RECOVERED MATERIAL CONTENT FOR EPA-ESIGNATED ITEMS

"Postconsumer material" means a material or finished product that has served its intended use and has been discarded for disposal or recovery, having completed its life as a consumer item. Postconsumer material is a part of the broader category of "recovered material." "Recovered material" means waste materials and by-products recovered or diverted from solid waste, but the term does not include those materials and by-products generated from, and commonly reused within, an original manufacturing process. (b) The Contractor, on completion of this contract, shall— (1) Estimate the percentage of the total recovered material content for EPA-designated item(s) delivered and/or used in contract performance, including, if applicable, the percentage of post-consumer material and (2) Submit this estimate to the Project Manager.

60. WASTE REDUCTION PROGRAM

"Recycling" means the series of activities, including collection, separation, and processing, by which products or other materials are recovered from the solid waste stream for use in the form of raw materials in the manufacture of products other than fuel for producing heat or power by combustion. "Waste prevention" means any change in the design, manufacturing, purchase, or use of materials or products (including packaging) to reduce their amount or toxicity before they are discarded. Waste prevention also refers to the reuse of products or materials. "Waste reduction" means preventing or decreasing the amount of waste being generated through waste prevention, recycling, or purchasing recycled and environmentally preferable products. (b) Consistent with the requirements of section 3(e) of Executive Order 13423, the Contractor shall establish a program to promote cost-effective waste reduction in all operations and facilities covered by this contract. The Contractor's programs shall comply with applicable Federal, State, and local requirements, specifically including Section 6002 of the Resource Conservation and Recovery Act (42 U.S.C. 6962, et seq.) and implementing regulations (40 CFR Part 247).

61. OZONE-DEPLETING SUBSTANCES

"Ozone-depleting substance," as used in this clause, means any substance the Environmental Protection Agency designates in 40 CFR Part 82 as— (1) Class I, including, but not limited to, chlorofluorocarbons, halons, carbon tetrachloride, and methyl chloroform; or (2) Class II, including, but not limited to,

hydrochlorofluorocarbons. (b) The Contractor shall label products which contain or are manufactured with ozone-depleting substances in the manner and to the extent required by 42 U.S.C. 7671j (b), (c), and (d) and 40 CFR Part 82, Subpart E, as follows:

WARNING:
Contains (or manufactured with, if applicable) *_____, a substance(s) which harm(s) public health and environment by destroying ozone in the upper atmosphere. * The Contractor shall insert the name of the substance(s).

62. REFRIGERATION EQUIPMENT AND AIR CONDITIONERS

The Contractor shall comply with the applicable requirements of Sections 608 and 609 of the Clean Air Act (42 U.S.C. 7671g and 7671h) as each or both apply to this contract.

63. ENERGY EFFICIENCY IN ENERGY-CONSUMING PRODUCTS

As used in this clause— “Energy-efficient product”— (1) Means a product that— (i) Meets Department of Energy and Environmental Protection Agency criteria for use of the Energy Star trademark label; or (ii) Is in the upper 25 percent of efficiency for all similar products as designated by the Department of Energy’s Federal Energy Management Program. (2) The term “product” does not include any energy consuming product or system designed or procured for combat or combat-related missions (42 U.S.C. 8259b). (b) The Contractor shall ensure that energy-consuming products are energy efficient products (i.e., ENERGY STAR® products or FEMP-designated products) at the time of contract award, for products that are— (1) Delivered; (2) Acquired by the Contractor for use in performing services at a Federally-controlled facility; (3) Furnished by the Contractor for use by the Government; or (4) Specified in the design of a building or work, or incorporated during its construction, renovation, or maintenance. (c) The requirements of paragraph (b) apply to the Contractor (including any subcontractor) unless— (1) The energy-consuming product is not listed in the ENERGY STAR® Program or FEMP; or (2) Otherwise approved in writing by the Procurement and Contracting Officer. (d) Information about these products is available for— (1) ENERGY STAR® at http://www.energystar.gov/products; and (2) FEMP at http://www1.eere.energy.gov/femp/procurement/eep_requirements.html.

64. IEEE 1680 STANDARD FOR THE ENVIRONMENTAL ASSESSMENTAL ASSESSMENT OF PERSONAL COMPUTER PRODUCTS

“Computer monitor” means a video display unit used with a computer. “Desktop computer” means a computer designed for use on a desk or table. “Notebook computer” means a portable-style or lap top style computer system. “Personal computer product” means a notebook computer, a desktop computer, or a computer monitor, and any peripheral equipment that is integral to the operation of such items. For example, the desktop computer together with the keyboard, the mouse, and the power cord would be a personal computer product. Printers, copiers, and fax machines are not included in peripheral equipment, as used in this definition. (b) Under this contract, the Contractor shall deliver, furnish for Government use, or furnish for contractor use at a Government-owned facility, only personal computer products that at the time of submission of proposals were EPEAT Bronze registered or higher. Bronze is the first level discussed in Clause 1.4 of the IEEE 1680 Standard for the Environmental Assessment of Personal Computer Products. (c) For information about the standard, see www.epeat.net.

65. AFFIRMATIVE PROCUREMENT OF EPA-DESIGNATED ITEMS IN SERVICE AND CONSTRUCTION CONTRACTS

(a) In the performance of this contract, the Contractor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired; (1) Competitively within a timeframe providing for compliance with the contract performance schedule; (2) Meeting contract performance requirements; or (3) At a reasonable price. (b) Information about this

requirement is available at EPA's Comprehensive Procurement Guidelines web site http://www.epa.gov/cpg/. The list of EPA-designated items is available at http://www.epa.gov/cpg/products.htm.

66. COMPLIANCE WITH ENVIRONMENTAL MANAGEMENT SYSTEMS

a. The Contractor's work under this contract shall conform with all operational controls identified in the applicable agency or facility Environmental Management Systems and provide monitoring and measurement information necessary for the Government to address environmental performance relative to the goals of the Environmental Management Systems.

b. Bidders must comply with the Buy Clean California Act (BCCA) (Public Contract Code Sections 3500-3505), which states the Department of General Services (DGS), in consultation with the California Air Resources Board (CARB), is required to establish and publish the maximum acceptable Global Warming Potential (GWP) limit for four eligible materials. The BCCA targets carbon emissions associated with the production of structural steel (hot-rolled sections, hollow structural sections, and plate), concrete reinforcing steel, flat glass, and mineral wool board insulation. When used in public works projects, these eligible materials must have a GWP that does not exceed the limit set by DGS.

c. Contractor agrees to recognize the mandatory standards and policies relating to BCCA and will provide GWP limit compliance of eligible materials using Environmental Products Declarations (EPDs). Maximum acceptable GWP limits were established on January 1, 2022 and can be found in the GWP Limits section Buy Clean California Act.

67. SUSPENSION AND DISBARMENT

By entering in this contract your firm and its principals certifies that it has not been suspended or disbarred from any Federal contracts and does not appear on the Excluded Parties List System (EPLS). In addition, your company certifies that all your organization's subcontractors and its principals have not been suspended or disbarred from any Federal contracts and does not appear on the Excluded Parties List System (EPLS).

68. EXPATRIATE CORPORATIONS

Contractor hereby declares that it is not an expatriate corporation or subsidiary of an expatriate corporation within the meaning of PCC Section 10286 and 10286.1 and is eligible to contract with the State.

69. EXECUTIVE ORDER N-6-22 – RUSSIA SANCTIONS

On March 4, 2022, Governor Gavin Newsom issued Executive Order N-6-22 (the EO) regarding Economic Sanctions against Russia and Russian entities and individuals. "Economic Sanctions" refers to sanctions imposed by the U.S. government in response to Russia's actions in Ukraine, as well as any sanctions imposed under state law. The EO directs state agencies to terminate contracts with, and to refrain from entering any new contracts with, individuals or entities that are determined to be a target of Economic Sanctions. Accordingly, should the State determine Contractor is a target of Economic Sanctions or is conducting prohibited transactions with sanctioned individuals or entities, that shall be grounds for termination of this agreement. The State shall provide Contractor advance written notice of such termination, allowing Contractor at least 30 calendar days to provide a written response. Termination shall be at the sole discretion of the State.

END OF EXHIBIT D

EXHIBIT E
(Special Contract Provisions)

1. Prior to any performance by the Contractor, evidence of insurance must be returned to the California Military Department with the signed contracts. Refer to Exhibit F, for further information regarding State of California insurance requirements.

2. Contractor acknowledges the contract will be signed and returned within 10 business days. No contract will be binding upon the State until the Contractor receives a fully executed contract that is signed and approved by the Military Department.

3. Contractor shall contact the Project Manager (PM) to schedule the job start meeting. The period of performance start date will be the job start meeting date in which the Contractor and the PM shall conduct within 7 days after receipt of the fully executed contract and issuance of the Notice to Proceed.

4. When required, the Contractor shall furnish the California Military Department with a payment bond in the full amount of the agreement, executed by a California-admitted surety (CCP § 995.311.) insurer utilizing the bond form provided by the State. Form can be downloaded here: https://www.documents.dgs.ca.gov/dgs/fmc/pdf/std807.pdf.

   Payment Bond can be emailed to: PWC@cmd.ca.gov
   Subject Line = 130940 | Payment Bond

5. When required, the Contractor shall furnish the California Military Department with a performance bond in the full amount of the agreement, executed by a California-admitted surety (CCP § 995.311.) insurer utilizing a bond form provided by the surety.

   Performance Bond can be emailed to: PWC@cmd.ca.gov
   Subject Line = 130940 | Performance Bond

   a. Bonds must identify the owner as:
      California Military Department
      10601 Bear Hollow Drive
      Rancho Cordova, California 95670-6350

6. Contractor shall provide the California Military Department with all material submittals specified in the Technical Specifications of this contract within ten (10) working days after the job start meeting date. Thirty-five (35) days will be allowed for submission of data substantiating a request for substitution of an “equal” item.

CONTRACTOR QUALIFICATIONS

The Contractor is licensed by the California Contractors State License Board to perform this type of work. The Contractor possesses the A - General Engineering Contractor license. Subcontractor(s) may not be added or substituted without the California Military Department Procurement and Contracting Officer (PCO) approval.

END OF EXHIBIT E

EXHIBIT F
(Insurance Liability Section)

Basic Insurance Requirement:

1. General Provisions Applying to All Policies

   a. Coverage term – Coverage needs to be in force for the complete term of the contract. If insurance expires during the term of the contract, a new certificate must be received by the State at least ten (10) days prior to the expiration of this insurance. Any new insurance must still comply with the original terms of the contract.

   b. Policy Cancellation of Termination and Notice of Non-Renewal – Contractor shall provide to the State within five (5) business days following receipt by contractor a copy of any cancellation or non-renewal of insurance required by this contract. In the event the contractor fails to keep in effect at all times the specified insurance coverage, the State may, in addition to any other remedies it may have, terminate this contract upon the occurrence of such event, subject to the provisions of this Contract.

   c. Deductible – Contractor is responsible for any deductible or self-insured retention contained within their insurance program.

   d. Primary Clause – Any required insurance contained in the Contract shall be primary, and not excess or contributory to any other insurance carried by the State.

   e. Insurance Carrier Required Rating – All insurance companies must carry a rating acceptable to the Office of Risk and Insurance Management. If the contractor is self-insured for a portion or all of its insurance, review of financial information including a letter of credit may be required.

   f. Endorsements – Any required endorsement must be physically attached to all requested certificates of insurance and not substituted by referring to such coverage on the certificate of insurance.

   g. Inadequate Insurance – Inadequate of lack of insurance does not negate the contractor's obligations under the Contract.

2. Insurance Requirements

   a. Commercial General Liability – Contractor shall maintain general liability on an occurrence form with limits not less than $1,000,000 per occurrence and $2,000,000 aggregate for bodily injury and property damage liability. The policy must include coverage for liabilities arising out of premises operations, independent contractors, products/completed operations, personal & advertising injury, and liability assumed under an insured contract. This insurance shall apply separately to each insured against whom claim is made or suit is brought subject to the Contractor's limit of liability. The policy must include:

      Military Department, State of California, its officers, agents, and employees are included as additional insured, but only with respect to work performed under this contract.

      This endorsement must be supplied under form acceptable to the Office of Risk and Insurance Management.

In the case of Contractor's utilization of subcontractors to complete the contracted scope of work, contractors shall include all subcontractors as insureds under Contractor's insurance or supply evidence of insurance to the State equal to policies, coverage and limits required of Contractor.

b. Automobile Liability - Contractor shall maintain motor vehicle liability with limits not less than $1,000,000 combined single limit per accident.

The same additional insured designation and endorsement required for general liability is to be provided for this coverage.

c. Workers' Compensation and Employers' Liability – Contractor shall maintain statutory workers' compensation and employers' liability for all its employees who will be engaged in the performance of the contract. Employers' liability limits of $1,000,000 are required.

When is performed on State owned or controlled property the workers' compensation policy shall contain a waiver of subrogation in favor of the State. The waiver of subrogation endorsement shall be provided.

3. Terms of Policy (breakdown in accordance with the above requirements):

a. Minimum limit of coverage of the policy shall be:

(1) Vehicle Liability (BI & PD): $1,000,000 per occurrence
(2) Public Liability: $1,000,000 per occurrence / $2,000,000 Aggregate
(3) Workers Compensation: Statutory

b. State shall not be responsible for premiums or assessments on the policy.

c. The Military Department, The State of California, its officers, agents, and employees are included as additional insured, but only with respect to work performed under this contract.

d. The Certificate Holder section of the COI shall include the following language:

California Military Department
10601 Bear Hollow Drive
Rancho Cordova, California 95670-6350
Reference: Agreement Number 130940

NOTE: THE ENDORSEMENT SHEET MUST INCLUDE THE LANGUAGE AS WRITTEN IN PARAGRAPH c. ABOVE.

Certificate of Insurance can be emailed to: PWC@cmd.ca.gov
Subject Line = 130940 | Insurance Certificate

The above certifications must be provided to the Military Department upon request of the Military Department's Procurement and Contracting Officer and emailed to the address above.

END OF EXHIBIT F

CALIFORNIA MILITARY DEPARTMENT
CA Facilities Engineering

CAMP SAN LUIS OBISPO
Road Paving - 1300 Area
JULY 2026

Camp San Luis Obispo
1300 Area
San Luis Obispo, California 93405

SECTION 00 01 10

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APPENDIX I – SUBMITTALS

Submittal List of Required Submittals
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END OF SECTION

SECTION 01 11 00

SUMMARY OF THE WORK

PART 1 GENERAL

1 SCOPE

1.1 Contract shall furnish all labor and materials to accomplish the scope indicated in these plans and specifications.

1.2 **Base Bid Work** – All work shown on Civil and Arch drawings to include

- Swale
- Curbs
- Asphalt work
- Concrete boundaries
- Slabs and adjacent grading
- Mud band
- And all below grade work to accommodate the above
- Leveling and grading back to adjacent to provide a finished system

1.3 **Alternat Bid Work** – All work shown on Landscape drawings to include

- Benches, tables
- Gravel walk surfaces
- Mulching
- Soil netting
- Planting
- Sprinkler systems
- Bioswale depression areas
- And all below grade work to accommodate the above

1.4 Any materials that are suitable for recycling shall be recycled**.**

1.5 Accomplish all work in accordance with California Building Codes (2025 Editions).

1.6 Perform the above-mentioned work at the Camp San Luis Obispo Highway 1, San Luis Obispo, California, 93405.

2 CONTRACT MANAGER

3 Wherever in these specifications the abbreviation CM is referenced, it shall be the same as if the term Contract Manager is referenced.

4 ENGINEER/CONSTRUCTION INSPECTOR

4.3 Wherever the specifications direct the Contractor to the ENGINEER/INSPECTOR OF RECORD (IOR) for appropriate determination, the Contractor will direct his inquiries to the State Military Department, 10601 Bear Hollow Drive, Rancho Cordova, California 95670, ATTN: Chief of Engineering. Phone: (916) 854-3546.

5 CONTRACTOR'S RESPONSIBILITY

5.3 Nothing contained in these specifications shall relieve the contractor from the responsibility of visiting the site, accurately measuring the work or otherwise ensuring that the quantities used in preparing his bid are the actual quantities of the work to be accomplished under the contract. By submitting a bid, the contractor confirms that he has visited the aforementioned site and verifies that the quantities used in preparing his bid are the actual quantities of the work to be accomplished under the contract.

5.4 The Contractor shall maintain a competent foreman, English speaking, to continuously supervise the work, with authority to discard unsuitable materials and remove unsatisfactory workmen from the project.

6 VEHICLE MOVEMENT

6.1 The following applies to all vehicles, except emergency vehicles responding to an emergency:

6.2 Vehicles shall observe posted speed limits on post at all times. Vehicles operated when in close proximity to military vehicles or buildings shall not exceed 5 MPH maximum.

6.3 Vehicles will not be backed without a ground guide.

6.4 All vehicles which do not require the engine to be running for contract purposes will have the ignition turned off and the parking brake set and the vehicle's transmission placed in park.

7 CONTRACTOR’S STORAGE AREA AND PERSONNEL

7.1 The CM will designate an area that the contractor may use as a storage area. The contractor shall contact the CM for information regarding parking areas to be used for the contractors’ equipment and by contractor personnel and any restrictions that will be placed on contractor personnel while on the job site.

8 MATERIAL SUBMITTALS

8.1 The contractor shall submit to the Contract Manager for approval, one (1) copy in writing, of a complete list of material submittals and equipment to accomplish the work specified.

8.2 Submittals shall comply with Section 01 33 00 of these specifications. Transmit submittals (from Submittal List) on Submittal Log (the list and a blank log is provided after Section 01 33 00).

8.3 Contract Manager must receive submittals for Specification identified materials (no substitutions permitted) within ten (10) working days after receiving the "Proposed Contract" for signature.

8.4 Receipt of Submittals that substitute an "or equal" are required within fifteen (15) days after date of Contract Agreement.

8.5 Do not start work until the Contract Manager approves all project submittals, issues special instructions, and a "Notice of Award" is received from the Contract Manager.

9 APPROVAL OF PROCEDURES

9.1 The manufacturer's recommended installation procedures and these specifications, will serve as a basis for inspection and acceptance or rejection of actual installation procedures used on the work.

9.2 Project Drawings are valid for construction only when stamped, signed and approved for construction by the Architect/Engineer(s) of Record.

9.3 Project Specifications are valid for construction when:

9.4 The cover sheet is dated and signed by the Architect of record

9.5 ALL included Sections bear dates on or before that shown on the signed cover sheet.

10 ORDINANCES AND REGULATIONS

10.1 All work shall be accomplished in accordance with all local, State and Federal regulations. Permits and fees shall be the responsibility of the contractor at no additional cost to the Government.

11 WORKING HOURS

11.1 The work site will be available for contractor's activities from 8:00 a.m. until 4:30 p.m. Monday through Friday. The site will not be available for contractor's activities on weekends and State or Federal holidays.

11.2 The Contractor shall receive written approval from the Project Manager before implementing any form of compressed or alternative work schedule.

11.3 Contractor shall schedule operations so as not to conflict with airfield operations.

12 SCHEDULING AND INSPECTION

12.1 Within fifteen (15) calendar days after receipt of Notice to Proceed, and before commencing work, the contractor shall submit in writing to the Project Manager for approval, the complete scope of work and the procedures and sequence required to complete the work.

12.2 The contractor shall work directly with the CM and IOR on work scheduling and inspection procedures prior to starting any work.

13 AS-BUILT DRAWINGS

13.1 The contractor shall provide one (2) full and accurate hardcopy sets of as-built drawings per Specification Sections 01 33 00 and 01 70 00, for the work accomplished by all trades for this contract marked up in a neat and understandable manner, submitted to the CM upon completion of the work and prior to issuance of a Certificate of Completion.

PART 2 PRODUCTS

14 MATERIALS

14.1 All materials for use under this project shall meet or exceed the standards of quality hereinafter set forth and per Section 01 60 00.

PART 3 EXECUTION

15 QUALITY CONTROL

15.1 To ensure proper project quality control and required record keeping, contractor shall comply with Section 01 45 00.10 20.

16 CONTRACT CLOSEOUT

16.1 Contract closeout requires contractor compliance with Section 01 70 00.

END OF SECTION

SECTION 01 26 13

CHANGES IN THE WORK

PART 1 - GENERAL

1.1 SUMMARY

A. Changes in the Plans and Specifications requested in writing by the Contractor, which do not materially affect the Work, and which are not detrimental to the Work or to the interests of the Agency, may be granted by the Contract Manager (CM). Nothing herein shall be construed as granting a right to the Contractor to demand acceptance of such changes.

B. The CMD may change the Plans and Specifications, character of the work, or quantity of work provided the total arithmetic dollar value of all such changes, both additive and deductive, does not exceed 25 percent of the contract price. Should it become necessary to exceed this limitation, the change shall be by written Supplemental Agreement between the Contractor and the CMD, unless both parties agree to proceed with the change-by-change order.

C. Change Orders shall be in writing and the state the dollar value of the change or establish the method of payment, any adjustment in the Contract time of completion, and when negotiated prices are involved, shall provide for the Contractor's signature indicating acceptance.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 CHANGE ORDERS

A. No cost change orders:
   1. Contract Documents are complementary; therefore, before starting each portion of Work, carefully study and compare various Drawings, Specifications and any other Contract Documents, coordination drawings, shop drawings, prior correspondence or documentation relative to that portion of Work, as well as information furnished by CMD.
   2. Contractor and Subcontractors shall evaluate and take field measurements of any existing conditions related to that portion of Work and shall observe any conditions at site affecting Work.
   3. Contractor and subcontractors acknowledge that all documents pertaining to Work has been examined, have examined character of site and any existing conditions, and are satisfied with nature of Work, and all other matters which can in any way affect Work.
   4. In event of inconsistency between portions of Contract Documents or within Contract Documents; provide better quality or greater quantity of Work, and comply with more stringent requirement, either or both in accordance with Architect's interpretation.
   5. Any errors, inconsistencies or omissions discovered in Contract Documents shall be reported promptly to Architect as a properly prepared and timely RFI.

6. Contractor and Subcontractors are not required to ascertain Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, and rules and regulations, unless they bear upon construction means, methods, techniques or safety and health precautions, but any nonconformity discovered by or made known shall be reported promptly as a RFI.
7. If Contractor or Subcontractor fail to give such notice and knowingly proceeds with Work affected by errors or omissions in Contract Documents, Contractor shall correct any such errors, inconsistencies, or omissions at no additional cost.

B. Contractor's and Subcontractor's Responsibilities:
1. When interpretation, clarification or explanation of portion of Construction Documents is needed by Contractor, Subcontractor, Vendor or Supplier, the request shall be processed through Contractor:
   a. Review request for completeness, quality, proper referencing to drawing or specification section and reason submitted.
   b. If request is not acceptable it shall be sent back to submitter with comments regarding reason for being returned.
   c. Make every attempt to validate, resolve or respond to RFI by thoroughly researching and reviewing Contract Documents and field conditions.
   d. Respond to RFI accordingly if review of RFI discloses a response or is related to coordination of construction or other issue not related to Contract Documents.
   e. If unable to respond to request, it shall be restated in clear, concise, correct, complete and easily understood manner, and rewritten if necessary, additional information included if necessary, and only then submitted to Architect for response.
2. Request for interpretation, clarification or explanation of Contract Documents shall be submitted to CMD in writing:
   a. List specific Contract Documents reviewed when seeking information being requested.
   b. Reference all applicable Contract Drawings by sheet number, section, detail, room number, door number, etc., Specifications by section and paragraph number, and reference any other relevant documents.
   c. The field titled "Regarding" on attached RFI form must be clear for future reference in reports or correspondence.
   d. Clearly state request and provide Contract Document references and any additional information needed so request can be fully understood, including sketches, photos or other reference material.
   e. Fully assess issues, suggest any reasonable solutions and include various factors, including potential costs, schedule impacts, if any, and recommendations which will aid in determining a solution or response. If a reasonable solution cannot be suggested, a statement to that effect should be so stated.
   f. Indicate reason request is being submitted.
   g. Any critical RFI's requiring a rapid response shall clearly indicate such with an explanation as to why RFI is critical.
   h. Priority for responses shall be indicated when multiple RFI's are submitted within short period of time.
3. Copies of responses to RFI's shall be distributed to all parties affected.
4. A response to RFI shall not be considered a notice to proceed with a change that may revise the Contract Sum or Contract Time, unless authorized by CMD in writing.
5. If response to RFI is determined incomplete, it shall be resubmitted with reason response is unacceptable and any necessary additional information within five (5) days of time of receipt of response to RFI.

6. If determined or believed that additional cost or time is involved because of clarifications, interpretations or instructions issued by Architect in response to a RFI, resubmit RFI within five (5) days of receipt of response with reason and alternate solution or suggestion for performing work at no additional cost. If no other solution is possible or desirable, submit Claim in accordance with the Contract Documents with in twenty-one (21) days of receipt of response to the RFI.

C. RFI Submittal Format:
   1. Request for information shall be submitted to Architect on RFI form provided at end of this section, or form provided by Architect in electronic text file format, or in similar format acceptable to Architect:
      a. RFI's shall be assigned unique numbers in sequential order (1, 2, 3, 4, etc.).
      b. A resubmitted RFI or a previously answered RFI requiring revising or further clarification shall be submitted using original RFI number proceeded by ".1" to indicate revision one of RFI (i.e.: RFI No. 34.1 for revision 1 to RFI No. 34).
      c. RFI form shall be electronically filled out and emailed to Architect's designated representative in text file format. Attachments shall be in electronic text or PDF file format. Photo attachments may be in JPG format.

D. Architect's Response to Request for Information (RFI):
   1. Clarifications, interpretations and decisions of Architect in response to RFI will be consistent with intent of and reasonably inferable from Contract Documents, and will be in writing, and if determined to be necessary by Architect, will be provided in form of drawings and other attachments or both.
   2. When making such interpretations and initial decisions, Architect will endeavor to secure faithful performance by both CMD and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions so rendered in good faith.
   3. Architect's decisions on matters related to aesthetic effects will be final if consistent with intent expressed in Contract Documents.
   4. Architect will not undertake to settle differences between Contractor, Subcontractors, trades suppliers, fabricator or manufacturer, or act as arbiter as to which Subcontractor, trade, supplier or manufacturer is to furnish or install various items indicated or required.
   5. Architect shall provide responses to RFI's with reasonable promptness, but will endeavor to respond within twenty-one (21) days from date of receipt:
      a. If multiple RFI's are submitted on same day or within a five (5) day period, review time may be extended by mutual agreement of parties
      b. Architect will provide a written response to RFI if Architect believes response only involves an interpretation, clarification, supplemental information or orders a minor change in Work not involving an adjustment in Contract Sum or extension of Contract Time, and is not inconsistent with intent of Contract Documents, and shall be binding.
      c. If Architect believes response may result in a change to Contract Sum or Contract Time, response will indicate that a change document will be issued for the response, and appropriate change document will be issued indicating changes to Contract Documents.
      d. Architect will provide any additional or supplemental drawings, specifications or other information as Architect may deem necessary to facilitate response.
   6. Architect may return RFI without response for following reasons:
      a. Unclear.
      b. Incomplete.
      c. Detailed information not provided.
      d. Is related to construction means, methods or techniques.
      e. Is related to health or safety measures.
      f. Is due to Contractor's lack of adequate coordination

.

g. Is considered a “Substitution Request.”
h. Is due to non-conformance.
i. Response is required by another party.

E. If requested information is available from careful study and comparison of Contract Documents, field conditions, other CMD-provided information, coordination drawings, or prior Project correspondence or documentation, Architect may invoice CMD as a change in services for costs involved in Architect’s review, analysis, responding and processing of such RFI:
   1. Contractor shall reimburse CMD for such costs.

END OF SECTION

SECTION 01 30 00

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

A. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

1.	29 CFR 1910	Safety and Health Regulation in General Industry
2.	29 CFR 1926	Safety and Health Regulations for Construction

1.2 SUBMITTALS

Government approval is required for submittals. Refer to section 01 33 00 Submittal Procedures for instruction.

1.3 PROGRESS AND COMPLETION PICTURES

Photographically document site conditions prior to start of construction operations. Provide monthly, and within one month of the completion of work, digital photographs, 1600x1200x24 bit true color 300 minimum resolution in [JPEG] file format showing the sequence and progress of work. Take a minimum of 2 digital photographs each week throughout the entire project from a minimum of two views from points located by the Contracting Officer. Submit with the monthly invoice one set of digital photographs on a thumb drive cumulative of all photos to date or as directed by the Project Manager.

1.4 MINIMUM INSURANCE REQUIREMENTS

Provide the minimum insurance coverage required by the contract, during the entire period of performance under this contract. Provide other insurance coverage as required by California state law.

1.5 FIRST TIER CONTRACTOR REQUIREMENTS FOR ASBESTOS CONTAINING MATERIALS (Not Applicable to this Contract)

Accomplish all contract requirements of Section 02 82 00 Asbestos Remediation, assigned to the Private Qualified Person, Designated Competent Person, directly with a first-tier subcontractor.

1.6 SUPERVISION

1.6.1 Minimum Communication Requirements

Have at least one qualified superintendent, or competent alternate, capable of reading, writing, and conversing fluently in the English language, on the jobsite at all times during the performance of contract work. In addition, if a Quality Control (QC) representative is required on the contract, then that individual must also have fluent English communication skills.

1.6.2 Superintendent Qualifications

The project superintendent must have a minimum of 5 years' experience in construction with at least 5 of those years as a superintendent on projects similar in size and complexity. The individual must be familiar with the requirements of OSHA 29 CFR 1910. The individual must be capable of interpreting a critical path schedule and construction drawings. The qualification requirements for the alternate superintendent are the same as for the project superintendent. The Contracting Officer may request proof of the superintendent's qualifications at any point in the project if the performance of the superintendent is in question.

For routine projects where the superintendent is permitted to also serve as the Quality Control (QC) Manager as established in Section 01 45 00.10 20 Quality Control, the superintendent must have qualifications in accordance with that section.

1.6.2.1 Duties

The project superintendent is primarily responsible for managing and coordinating day-to-day production and schedule adherence on the project. Project superintendent shall attend project meetings and quality control meetings. The superintendent or qualified alternative must be on-site at all times during the performance of this contract until the work is completed and accepted.

1.6.3.1 Project Manager Qualifications

The Project Manager must have a minimum of 5 years' experience as a Project Manager or Superintendent on projects of similar size and complexity.

1.6.4 Non-Compliance Actions

The Project Superintendent is subject to removal by the Contract Manager for non-compliance with requirements specified in the contract and for failure to manage the project to ensure timely completion. Furthermore, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken.

No part of the time lost due to such stop orders is acceptable as the subject of claim for extension of time for excess costs or damages by the Contractor.

1.7 MEETINGS

1.7.1 PRECONSTRUCTION MEETING

A. After award of the contract but prior to commencement of any work at the site. The CM will schedule and preside over meetings at the Project Site prior to Contractor occupancy.

B. Attendance Required: CM, Architect/Engineer, Contractor, major Subcontractors, and Inspector of Record.

C. The meeting will be chaired by the CM and minutes taken by the contractor.

D. Location, time, and date will be determined by the CM.

E. The subjects to be reviewed include, but are not limited to:
   1. Introduction.
   2. Construction Coordination.
   3. Correspondence.
   4. Submittals.
   5. Permits.
   6. Dust Control.
   7. Schedule.
   8. Survey Control.
   9. Contractor's Representative.
   10. Testing and Inspection.
   11. Contractor Reporting Requirements.
   12. Changes and Clarifications.
   13. Clean-up.
   14. As-Built Documents.
   15. Prevailing Wage Requirements.
   16. Environmental Protection, Plan and Procedures.
   17. Temporary Facilities Construction.
   18. Notice of Labor Disputes.
   19. Progress Payments.
   20. Site Regulations.
   21. Security.
   22. Operation and Maintenance Data.
   23. Training Requirements.
   24. General Discussion.

F. Contractor Representative: Record minutes and distribute copies to participants within two days after meeting, with one copy each to Architect/Engineer, and those affected by decisions made.

1.7.2 WEEKLY CONTRACTOR MEETINGS

A. Once a week during the Contract period, the Contractor shall meet at the Work Site with the CM.

B. Time and location of the meeting will be determined during the Preconstruction Conference.

C. The Contractor will serve as chairman and take minutes of meetings.

D. Topics for discussion will include schedule, requests for information, disputed items, Preliminary Change Order (PCO) and Change Order (CO) status, Quality control, submittals, exception notices, and other topics as required.

1.7.3 PREINSTALLATION CONFERENCES

A. Prime Contractor shall convene a preconstruction conference for items of Work contained in each Division of the Specifications, each trade within the Division, and each subcontractor within the Division.

   1. Convene a preconstruction conference prior to commencing the Work of the Section, trade, or subcontractor.

2. Require attendance of each subcontractor and each trade directly affecting or affected by the Work within the Division.
3. Convene additional conferences when required by the individual Section.
4. Prepare an agenda, preside over the conference, and record minutes, and distribute copies within two days after the conference to participants, with two copies to the Project Manager.
5. Review conditions of installation, coordination, preparation, approved submittals, Contract Documents, and means and methods planned to be used to perform the Work.

ii. Within 15 days after Notice to Proceed, submit a proposed list of preconstruction conferences, and items of Work to be covered, for approval by the Project Manager.

1.7.4 CONTRACT CLOSEOUT MEETING

A. Schedule Project closeout meeting with sufficient time to prepare for requesting Substantial Completion. Preside over meeting and be responsible for minutes.

B. Attendance Required: Contractor, CM, Inspector of Record and Architect/Engineer, and others appropriate to agenda.

C. Notify CM/PM five days in advance of meeting date.

D. Minimum Agenda:
1. Start-up of facilities and systems.
2. Operations and maintenance manuals.
3. Testing, adjusting, and balancing.
4. System demonstration and observation.
5. Operation and maintenance instructions for Owner's personnel.
6. Contractor's inspection of Work.
7. Contractor's preparation of an initial "punch list."
8. Procedure to request Architect/Engineer inspection to determine date of Substantial Completion.
9. Completion time for correcting deficiencies.
10. Inspections by authorities having jurisdiction.
11. Certificate of Occupancy and transfer of insurance responsibilities.
12. Partial release of retainage.
13. Final cleaning.
14. Preparation for final inspection.
15. Closeout Submittals:
    a. Project record documents.
    b. Operating and maintenance documents.
    c. Operating and maintenance materials.
    d. Affidavits.
16. Final Application for Payment.
17. Contractor's demobilization of Site.
18. Maintenance.

1.14 ELECTRONIC MAIL (E-MAIL) ADDRESS

Establish and maintain electronic mail (e-mail) capability along with the capability to open various electronic attachments such as text files, pdf files, and other similar formats. Within 10 days after contract award, provide the CM a single (only one) e-mail address for electronic communications from the CM related to this contract including, but not limited to contract documents, invoice information, request for proposals, and other correspondence. The Contracting Officer may also use email to notify the Contractor of base access conditions when emergency conditions warrant, such as hurricanes or terrorist threats. Multiple email addresses are not allowed.

It is the Contractor's responsibility to make timely distribution of all Project Manager initiated e-mail with its own organization including field office(s). Promptly notify the Contracting Officer, in writing, of any changes to this email address.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.1 ALTERATION PROCEDURES

A. Employ skilled and experienced installer to perform alteration and renovation Work.

B. Remove unsuitable material not marked for salvage, including rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.

C. Remove debris and abandoned items from area and from concealed spaces.

D. Prepare surface and remove surface finishes to permit installation of new Work and finishes.

E. Close openings in exterior surfaces to protect existing Work from weather and extremes of temperature and humidity.

F. Where new Work abuts or aligns with existing Work, provide smooth and even transition. Patch Work to match existing adjacent Work in texture and appearance.

G. Patch or replace portions of existing surfaces that are damaged, lifted, discolored, or showing other imperfections.

End of Section

SECTION 01 30 10 15

CMD Amended November 2025

COLLABORATION SOFTWARE

1. SUMMARY
    a. Contractor shall utilize web-based construction project management collaboration software commonly known as Procore (www.procore.com) to submit, track, distribute and fully collaborate on project documentation and action items. Wherein this specification references Procore it shall mean the California Military Department (CMD) Procore account.
    b. The intent of utilizing a web-based construction management application is to reduce cost and schedule risk, improve quality and safety, and maintain a healthy team dynamic by improving information flow, reducing non-productive activities, reducing rework, and decreasing turnaround times.
2. SOFTWARE USAGE (including but not limited to)
    a. Daily Log
        i. Using the Daily log tool within Procore, Contractor shall provide a separate daily log entry for the Superintendent, Site Safety and Health Officer and Quality Control team (as defined elsewhere in this contract). Should contractor already have an established process for documenting Daily work activities, Safety and QCM, the CMD may, at its sole discretion, permit the use of some or all of the contractors' reports provided they are uploaded at the end of each day into Procore Daily log tool as directed by the Department.
        ii. The contractor shall upload pictures daily when work is performed. A reasonable number of pictures shall be taken to illustrate the work of the project but in any event no less than 10 photos daily, if work is interior and exterior there shall be 10 of each area of work. Photos shall be made available to the entire project team, loaded directly into the Procore platform, using the “Photos” tool and provided relevant naming convention to permit search features at a later date. These uploads shall be in addition to those required in Section 01 30 00 (if addressed) and elsewhere in the contract.
    b. Directory
        i. The contractor shall input and update (as required) the Procore project directory to include all key project team members. As directed by the CMD, subcontractors may not be required to participate within the Procore project. Should CMD require participation of subcontractors using Procore, participation will be at no additional cost or expense.
    c. Deficiency Tracking
        i. The contractor shall respond promptly to deficiencies and observations identified in PROCORE and do so in accordance with the terms and conditions of this contract. This is in addition to other deficiency requirements of this contract.

d. Documents

   i. Contractor will, as directed by the Department, utilize the Procore “Documents” storage location for miscellaneous project documents. The contractor shall not upload documents unless directed by the Department. Documents loaded shall have a naming convention of title/subject to permit search functions of the Procore system.

   ii. The contractor shall use proper version control and check out files, without compromising access to all previous revisions.

e. Drawings

   i. Project Drawings will be in the Drawings tool of Procore. All drawing revisions shall be made in Procore and it shall be the contractors' sole responsibility for contract adherence. The contractor shall, as directed by the Department, maintain the contractually required “as built” drawings in the Procore.

f. Invoicing

   i. If requested by the Department, the Contractor shall utilize Procore Invoicing tool for invoice submission. Invoicing shall be submitted as further defined in this contract using AIA forms uploaded as attachments to each submission.

g. Inspections

   i. Contractor shall utilize the Procore platform as directed by CMD for all project inspection requests. The inspection process shall be as defined elsewhere in the contract documents.

h. Meetings

   i. Contractor shall utilize Procore Meetings tool to create, edit, host, and post all meeting minutes. Prior Meeting minutes shall remain accessible through the duration of the project. At the sole discretion of the department, the contractor may be permitted to utilize existing meeting practices if they meet the intent of the government, in which case contractor shall ensure a record copy of any such meeting is posted in Procore within 24 hours of the event or as directed by the department.

   ii. Contractor will record and distribute meeting minutes and action items via the Meetings tool within the Procore software.

i. Mobile Accessibility

   i. Contractor shall provide at least one mobile (Apple or Android) tablet or computer (phone is not acceptable) with the Procore App installed for the use of Contractor’s team for the duration of the project. The contractor is responsible for ensuring a reliable internet connection for the device.

j. Photos

   i. The contractor shall utilize Procore Photos tool or other tools as directed to upload and view photos from web and mobile.

   ii. Contractor shall utilize Procore to markup or comment on photos to clarify the intent of RFI’s etc.

k. Punchlist

i. All punch list items will be managed through the Procore software.

ii. Contractor shall utilize Procore to create and manage punch list items utilizing mobile products and link them to specific locations on the drawings.

iii. Punchlist items will be created by the Contractor while walking with the CMD and applicable consultants.

iv. Contractor shall utilize Procore to distribute punch list items and to mark them as resolved with photographic proof of resolution as required.

v. Unless otherwise agreed in writing, Punchlist Items may not be closed if a representative from the CMD or applicable consultant acting on behalf of CMD is not present.

l. Requests for Information (RFIs)

i. Contractor shall utilize the RFI tool within Procore to create and process RFIs with assignees, due dates and attachments.

ii. The contractor shall fully complete the RFI tool request form for each RFI, posting the RFI to the drawing(s) and link all relevant specifications, photos, etc. in the Procore RFI tool whenever submitting RFI's to the CMD. Failure to do so will result in immediate rejection and be deemed a review by the CMD as defined elsewhere in the contract documents.

iii. If project includes design, drawings will be provided to the CMD in accordance with the following requirements:

https://support.procore.com/faq/how-can-i-improve-the-accuracy-of- ocr-on-my-drawings

m. Schedule

i. The contractor shall provide native files as required by Procore and as defined elsewhere in the contract documents. Procore accepts typical scheduling software such as Microsoft Project, Primavera P3, or Primavera P6.

n. Specifications

i. Project Specifications will be uploaded into Procore. Any project revisions will be made in Procore, and it shall be the contractors' sole responsibility to stay abreast of any changes including contract modifications.

o. Submittals

i. The contractor shall maintain the submittal register in Procore of all submittals as directed by the CMD.

ii. The contactor shall submit all submittals through the Procore "Submittals" tool utilizing the multi-step approval workflows predefined by the CMD and in accordance with the terms provided elsewhere in the contract documents.

iii. Contractor shall fill out the submittals completely. A failure to do so will result in automatic rejections and be deemed a "review" as provided elsewhere in the contract.

3. TECHNOLOGY
    a. Contractor shall have PDF and the Microsoft suite software as they are a requirement of Procore. Attachments to RFIs, Submittals, Meetings, etc. should be uploaded in PDF as required by Procore.

4. TRAINING AND SUPPORT
    a. The contractor shall designate a minimum of one primary and one backup staff person to administer the contractors' Procore responsibilities of this project. Those personnel will be trained as defined below and shall not rely on the CMD staff for training.
    b. The Contractor shall ensure adequate training of all staff utilizing the Procore software. Selected staff must complete all the required training necessary to fully function in the system and on this project. Training is offered in the form of self-paced learning videos as well as interactive webinars. Training is free and can be found at:

        https://education.procore.com/page/procore-certification-general-contractor-client

    c. The contractor shall host a kickoff meeting with the CMD and applicable team members at the beginning of the project to discuss how the software will be used, routing & naming protocols, etc. Project Subcontractors should not be part of the Procore platform unless otherwise directed by the Department.

5. PROCEDURES
    a. RFIs and Submittals
        i. The Contractor will be responsible for submitting all RFIs and Submittals through the Procore software tools and assigning them to the appropriate parties using predetermined workflows. All data fields shall be filled out completely and routed as defined in the project kickoff/Job Start meeting.
        ii. All project team members including Architects / Engineers / Consultants etc. are responsible for posting all responses to these items via the Procore software, including uploading all relevant attachments.
        iii. The Contractor will, as directed by CMD, distribute responses to all affected subcontractors and confirm agreement with the response by "close and distribute" action on the item.

b. Construction Documentation

i. The Contractor will construct pursuant to Drawings, Specifications and Documents in the software and ensure that the current version of all applicable construction documentation is available to the entire team within Procore software.

ii. The Contractor will ensure that all RFIs which modify the current drawings are posted/linked to the drawings and available in the Procore software immediately upon response from the department.

6. COST

a. The Contractor's bid proposal shall be inclusive of full utilization of the Procore software. The program is hosted by the CMD and no adjustment to the contract will be made for utilization.

END OF SECTION

SECTION 01 32 16.00 20

SMALL PROJECT CONSTRUCTION PROGRESS SCHEDULES

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for all submittals. Submit the following in accordance with Section 01 33 00 Submittal Procedures:

A. Preconstruction Submittals

B. Baseline Construction Schedule

C. Monthly Updates

1.2 PRE-CONSTRUCTION SCHEDULE REQUIREMENT

Prior to the start of work, prepare and submit to the Contract Manager a Baseline Design Schedule and Baseline Construction Schedule. The approval of a Baseline Construction Schedule is a condition precedent to:

a. The Contractor starting demolition work or construction stage(s) of the contract.

b. Processing Contractor's invoice(s) for construction activities/items of work.

c. Review of any schedule updates.

Submittal of the Baseline Design and Construction Schedule, and subsequent schedule updates, is understood to be the Contractor's certification that the submitted schedule meets the requirements of the Contract Documents, represents the Contractor's plan on how the work will be accomplished, and accurately reflects the work that has been accomplished and how it was sequenced (as-built logic).

1.3 SCHEDULE FORMAT

1.3.1 Project Schedule (NAS)

Use the critical path method (CPM) to schedule and control project activities. Prepare and maintain project schedules using Microsoft 365. The scheduling software that will be utilized by the Government on this project is Microsoft Project 2025 by Microsoft, Inc. Notwithstanding any other provision in the contract, schedules submitted for this project must be prepared using Microsoft Project. Submission of data from another software system where data conversion techniques or software is used to import into Microsoft Projects scheduling software is not acceptable and will be cause for rejection of the submitted schedule. Importing data into the scheduling program using data conversion techniques or third-party software is cause for rejection of the submitted schedule.

Within 15 calendar days after approval of the Initial Schedule or approval of the final design for a design build project, submit to the Contract Manager a final project schedule.

1.3.1.1 Activity Requirements

a. At a minimum, identify the following in the schedule:

(1) Design and Construction time for major systems and components

(2) Each activity assigned with its appropriate Responsibility Code

(3) Each activity assigned with its appropriate Phase and Area Codes

(4) Major submittals and submittal processing time

(5) Major equipment lead time

b. Build the Schedule as follows:

(1) Show design periods, submittals, Government review periods, material/equipment delivery, utility outages, on-site construction, inspection, testing, and closeout activities. Government and Contractor on-site work activities must be driven by calendars that reflect Saturdays, Sundays and all Federal Holidays as non-work days for 5-day work week calendars. 6-day work week calendars must reflect Sundays and all Federal Holidays as non-work days. 7-day work week calendars must reflect all Federal Holidays as non-work days unless otherwise agreed to by the Contract Manager. Total work hours/day for all defined calendars is set to 8 unless otherwise agreed upon.]

(2) With the exception of the Contract Award and End Contract milestone activities, use of open-ended activities is not allowed; each activity must have predecessor and successor ties. No activity must have open start or open finish (dangling) logic. Minimize redundant logic ties. Once an activity exists on the schedule it must not be deleted or renamed to change the scope of the activity and must not be removed from the schedule logic without approval from the Contract Manager.

While an activity cannot be deleted, where said activity is no longer applicable to the schedule but must remain within the logic stream for historical record, it can be changed to a milestone. Document any such change in the milestone's "Notebook," including a date and explanation for the change. The ID number for a deleted activity must not be re-used for another activity.

(3) Assign each activity its appropriate Responsibility Code and Area Code, indicating location and responsibility to accomplish the work indicated by the activity, Phase Code, and Work Location Code. Include anticipated tasks to be assigned Government responsibility.

(4) Date/time constraints or lags, other than those required by the contract, are not allowed unless approved by the Contract Manager. Include as the last activity in the contract schedule, a milestone activity named "Contract Completion Date".

(5) Include the following Contract Milestones:

(a) Include as the first activity on the schedule a start milestone titled "Contract Award", which must have a Mandatory Start constraint equal to the Contract Award Date.

(b) Include Interim or Phased Completion Milestones required by the Contract or as approved by the Contract Manager.

(c) Include Facility Turnover Planning Meeting Milestones.

(d) Include an unconstrained finish milestone on the schedule titled "Substantial Completion". Substantial Completion is defined as the point in time the Government would consider the project ready for beneficial occupancy wherein by mutual agreement of the Government and Contractor. Government use of the facility is allowed while construction access continues in order to complete remaining items (e.g. punch list and other close out submittals).

(e) Include an unconstrained finish milestone on the schedule titled "Projected Completion". Projected Completion is defined as the point in time the Government would consider the project complete. This milestone must have the Contract Completion Date (CCD) milestone as its only successor.

(f) Include as the last activity on the schedule a finish milestone titled "Contract Completion (CCD)" with constraint type "Must Finish No Later Than". Calculation of schedule updates must be such that if the finish of the "Projected Completion" milestone falls after the contract completion date, then negative float will be calculated on the longest path and if the finish of the "Projected Completion" milestone falls before the contract completion date, the float calculation must reflect positive float on the longest path. This milestone must be set to 5:00 pm.

(6) Provide lead time for major equipment.

1.3.1.2 Anticipated Weather Lost Work Days

Use the National Oceanic and Atmospheric Administration's (NOAA) Summary of Monthly Normals report to obtain the historical average number of days each month with precipitation, using a nominal 30-year, greater than 2.5 mm 0.10 inch precipitation amount parameter, as indicated on the Station Report for the NOAA location closest to the project site as the basis for establishing a "Weather Calendar" showing the number of anticipated non-workdays for each month due to adverse weather, in addition to Saturdays, Sundays and all Federal Holidays as non-work days.

Use the following schedule of anticipated monthly non-work days due to adverse weather as the basis for establishing a "Weather Calendar" showing the number of anticipated non-workdays for each month due to adverse weather, in addition to Saturdays, Sundays and all Federal and State Holidays as non-work days.

MONTHLY ANTICIPATED ADVERSE WEATHER DELAYS											
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
[2][_]	[2][_]	[2][_]	[2][_]	[2][_]	[2][_]	[2][_]	[2][_]	[2][_]	[2][_]	[2][_]	[2][_]

Assign the Weather Calendar to any activity that could be impacted by adverse weather. The Contract Manager will issue a modification in accordance with the contract clauses, giving the Contractor a time extension for the difference of days between the anticipated and actual adverse weather delay if the number of actual adverse weather delay days exceeds the number of days anticipated for the month in which the delay occurs and the adverse weather delayed activities are critical to contract completion.

A lost workday due to weather conditions is defined as a day in which the Contractor cannot work at least 50 percent of the day on the impacted activity.

1.3.1.3 Activity Identification

a. Identify Government, Construction Quality Management (CQM), Construction activities planned for the project and other activities that could impact project completion if delayed.

b. Identify administrative type activity/milestones including pre-construction submittal and permit requirements prior to demolition or construction stage.

c. Create separate activities for each Phase, Area, Floor Level, and Location the activity is occurring.

d. Do not use construction category activity to represent non-work type reference (Such as, Serial Letter or Request for Information) in NAS.

e. Place non-work reference within P6 activity details notebook. Activity categories included in the schedule are specified below.

1.3.1.4 Responsibility Code

Assign each activity its appropriate Responsibility Code indicating responsibility to accomplish the work indicated by the activity, Phase Code and Work Location Code.

1.3.1.5 Microsoft 365 Settings and Parameters

Use the following MS Project 2025 settings and parameters in preparing the Baseline Schedule:

a. The Network must have a minimum of 30 construction activities.

b. No on-site construction activity may have durations in excess of 20 working days.

c. Critical is defined as having zero days of Total Slack. Within the Baseline Schedule no more than 20 percent of the activities must be critical.
d. Logic: include the following setting: File, Options, Schedule tab - Split in-progress tasks - must be selected.

e. Status Date gridline is displayed in the Gantt Chart view.

f. Task Type is set to Fixed Work for "boots-on-the-ground" construction activities.

g. Task Type is set to Fixed Duration for design activities, submittals, Government reviews, procurement, material/equipment delivery, and utility outages.

h. "Effort Driven" is turned ON for Fixed Duration tasks.

i. Time Periods established for the project are set to 8 Hrs/Day, 40 Hrs/Week and 20 days/month.

j. Week starts on Monday must be selected.

k. Default start time is set to 8am (0800).

l. Default end time is set to 5pm (1700).

1.3.1.7 Cost Loading Microsoft Project 2025 Schedules

Assign material, labor and equipment costs to their respective Construction Activities. Assign material and equipment costs, for which payment will be requested in advance of installation, to their respective procurement activity (i.e. the material/equipment on-site activity). Evenly disperse overhead and profit to each activity over the duration of the project. Cost loading must total to 100 percent of the value of the contract.

1.3.1.7.1 Software Settings

a. Resource Sheet

(1) Resource Name: Enter each code and resource for the project
(2) Type: Set to "Material"
(3) Material Label: Enter units of measurement for each resource
(4) Std. Rate: Enter unit cost for each resource
(5) Accrue at: Set to "Prorated"

b. Assigning Resources to Each Activity

(1) Select each activity in Gantt Chart
(2) Assign resources, Resource Tab
(3) Select each resource and enter the quantity of the units; then, assign the resource(s) to the activity

c. Baseline for Earned Value Calculation, File Tab, Options, Advanced, Default task Earned Value method: Set to "Physical % Complete" or as directed by the Contract Manager.

1.3.1.7.2 Tabular Reports

1.3.1.7.2.1 Tracking Gantt Schedule with Cost Table

Submit a Tracking Gantt Schedule with each schedule update showing activity baseline cost, cost percent complete, and Budgeted Cost of Work Performed (BCWP), as directed by the Contract Manager.

1.3.1.7.2.2 Earned Value Over Time Report

a. With each schedule submission, submit Earned Value Over Time Report S-Curves indicating Planned Value to the contract completion date based on projected early and late activity finish dates and Earned Value.

b. Revise Earned Value Over Time Report S-Curves when the contract is modified, or as directed by the Contract Manager.

1.3.2 Bar Chart Schedule

The Bar Chart must, as a minimum, show work activities, submittals, Government review periods, material/equipment delivery, utility outages, on-site construction, inspection, testing, and closeout activities. The Bar Chart must be time scaled and generated using an electronic spreadsheet program.

1.3.3 Schedule Submittals and Procedures

Submit Schedules and updates in hard copy and on electronic media that is acceptable to the Contract Manager. Submit an electronic back-up of the project schedule in an import format compatible with the Government's scheduling program.

1.4 SCHEDULE MONTHLY UPDATES

Update the Design and Construction Schedule at monthly intervals or when the schedule has been revised. Keep the updated schedule current, reflecting actual activity progress and plan for completing the remaining work. Submit copies of purchase orders and confirmation of delivery dates as directed by the Contract Manager.

a. Narrative Report: Identify and justify the following:

(1) Progress made in each area of the project.

(2) Longest Path: Include printed copy on 279 by 432 mm 11 by 17-inch paper, landscape setting.

(3) Date/time constraint(s), other than those required by the contract.

(4) Listing of changes made between the previous schedule and current updated schedule including added or removed activities, original and remaining durations for activities that have not started, logic (sequence, constraint, lag/lead), milestones, planned sequence of operations, longest path, calendars or calendar assignments, and cost loading.

(5) Any decrease in previously reported activity Earned Amount.

(6) Pending items and status thereof, including permits, changes orders, and time extensions.

(7) Status of Contract Completion Date and interim milestones.

(8) Current and anticipated delays (describe cause of delay and corrective actions(s) and mitigation measures to minimize).

(9) Description of current and future schedule problem areas.

For each entry in the narrative report, cite the respective Activity ID and Activity Name, the date and reason for the change, and description of the change.

1.5 CONTRACT MODIFICATION

Submit a Time Impact Analysis (TIA) with each cost and time proposal for a proposed change. TIA must illustrate the influence of each change or delay on the Contract Completion Date or milestones. No time extensions will be granted nor delay damages paid unless a delay occurs which consumes all available Project Float and extends the Projected Finish beyond the Contract Completion Date.

a. Each TIA must be in both narrative and schedule form. The narrative must define the scope and conditions of the change; provide start and finish dates of impact, successor and predecessor activity to impact period, responsible party, describe how it originated, and how it impacts the schedule. The schedule submission must consist of three native files:

(1) Fragnet used to define the scope of the changed condition

(2) Most recent accepted schedule update as of the time of the proposal or claim submission that has been updated to show all activity progress as of the time of the impact start date.

(3) The impacted schedule that has the fragnet inserted in the updated schedule and the schedule "run" so that the new completion date is determined.

b. For claimed as-built project delay, the inserted fragnet TIA method must be modified to account for as-built events known to occur after the data date of schedule update used.

c. TIAs must include any mitigation and must determine the apportionment of the overall delay assignable to each individual delay. Apportionment must provide identification of delay type and classification of delay by compensable and non-compensable events. The associated narrative must clearly describe analysis methodology used, and the findings in a chronological listing beginning with the earliest delay event.

(1) Identify and classify types of delays as follows:

(a) Force majeure delay (e.g. weather delay): Any delay event caused by something or someone other than the Government (including its agents) or the Contractor, or the risk of which has not been assigned solely to the Government or the Contractor. If the force majeure delay is on the critical path, in absence of other types of concurrent delays, the Contractor is granted an extension of contract time, classified as a non-compensable event.

(b) A Contractor-delay: Any delay event caused by the Contractor, or the risk of which has been assigned solely to the Contractor. If the contractor-delay is on the critical path, in absence of other types of concurrent delays,

(c) Contractor is not granted extension of contract time and classified as a non-compensable event. Where absent other types of delays, and having impact to project completion, provide a Corrective Action Plan, identifying plan to mitigate delay, to the Contract Manager a Government-delay: Any delay event caused by the Government, or the risk of which has been assigned solely to the Government. If the Government-delay is on the longest path, in absence of other types of concurrent delays, the Contractor is granted an extension of contract time and classified as a compensable event.

(2) Use functional theory to analyze concurrent delays, where: Separate delay issues delay project completion, do not necessarily occur at same time, rather occur within same monthly schedule update period at minimum, or within same as-built period under review. If a combination of functionally concurrent delay types occurs, it is considered Concurrent Delay, which is defined in the following combinations:

(a) Government-delay concurrent with Contractor-delay: Excusable time extension, classified non-compensable event.

(b) Government-delay concurrent with force majeure delay: Excusable time extension, classified non-compensable event.

(c) Contractor-delay concurrent with force majeure delay: Excusable time extension, classified non-compensable event.

(3) A pacing delay, reacting to another delay (parent delay) equally or more critical than paced activity, must be identified prior to pacing. Contract Manager will notify Contractor prior to pacing. Contractor must notify Contract Manager prior to pacing. Notification must include identification of parent delay issue, estimated parent delay time period, paced activity(s) identity, and pacing reason(s). Pacing Concurrency is defined as follows:

(a) Government-delay concurrent with Contractor-pacing: Excusable time extension, classified compensable event.

(b) Contractor-delay concurrent with Government-pacing: Inexcusable time extension, classified non-compensable event.

1.6 3-WEEK LOOK AHEAD SCHEDULE

Prepare and issue a 3-Week Look Ahead schedule to provide a more detailed day-to-day plan of upcoming work identified on the Construction Schedule. Key the work plans to activity numbers when a NAS is required and update each week to show the planned work for the current and following two-week period. Additionally, include upcoming outages, closures, preparatory meetings, and initial meetings. Identify critical path activities on the Three-Week Look Ahead Schedule. The detail work plans are to be bar chart type schedules, maintained separately from the Construction Schedule on an electronic spreadsheet program and printed on 216 by 279 mm 8-1/2 by 11-inch sheets as directed by the Contract Manager. Activities must not exceed 5 working days in duration and have sufficient level of detail to assign crews, tools and equipment required to complete the work. Deliver three hard copies and one electronic file of the 3-Week Look Ahead Schedule to the Contract Manager no later than 8 a.m. each Monday, and review during the weekly CQC Coordination or Production Meeting.

1.7 CORRESPONDENCE AND TEST REPORTS:

Correspondence (e.g., letters, Requests for Information (RFIs), e-mails, meeting minute items, Production and QC Daily Reports, material delivery tickets, photographs) must reference Schedule Activities that are being addressed.Test reports (e.g., concrete, soil compaction, weld, pressure) must reference Schedule Activities that are being addressed.

1.8 ADDITIONAL SCHEDULING REQUIREMENTS

Any references to additional scheduling requirements, including systems to be inspected, tested and commissioned, that are located throughout the remainder of the Contract Documents, are subject to all requirements of this section.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

END OF SECTION

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

1.1.1 Submittal Information

The Contract Manager may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Each submittal is to be complete and in sufficient detail to allow ready determination of compliance with contract requirements.

Units of weights and measures used on all submittals are to be the same as those used in the contract drawings.

1.1.2 Project Type

The Contractor's Quality Control (CQC) System Manager are to check and approve all items before submittal and stamp, sign, and date indicating action taken. Proposed deviations from the contract requirements are to be clearly identified. Include within submittals items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals.

The Contractor and the Designer of Record (DOR), if applicable, are to check and approve all items before submittal and stamp, sign, and date indicating action taken. Proposed deviations from the contract requirements are to be clearly identified. Include within submittals items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals.

1.1.3 Submission of Submittals

Schedule and provide submittals requiring Government approval before acquiring the material or equipment covered thereby. Pick up and dispose of samples not incorporated into the work in accordance with manufacturer's Safety Data Sheets (SDS) and in compliance with existing laws and regulations.

1.2 DEFINITIONS

1.2.1 Submittal Descriptions (SD)

SD-01 Preconstruction Submittals

Submittals that are required prior to or commencing with the start of work on site. Submittals that are required prior to or at the start of construction (work) or the next major phase of the construction on a multiphase contract.

Preconstruction Submittals include schedules and a tabular list of locations, features, and other pertinent information regarding products, materials, equipment, or components to be used in the work.

Certificates of Insurance

Surety Bonds

List of Proposed Subcontractors

Submittal Register

Schedule of Values Report

SD-02 Shop Drawings

Drawings, diagrams and schedules specifically prepared to illustrate some portion of the work.

Diagrams and instructions from a manufacturer or fabricator for use in producing the product and as aids to the Contractor for integrating the product or system into the project.

Drawings prepared by or for the Contractor to show how multiple systems and interdisciplinary work will be coordinated.

SD-03 Product Data

Catalog cuts, illustrations, schedules, diagrams, performance charts, instructions and brochures illustrating size, physical appearance and other characteristics of materials, systems or equipment for some portion of the work.

Samples of warranty language when the contract requires extended product warranties.

SD-04 Samples

Fabricated or unfabricated physical examples of materials, equipment or workmanship that illustrate functional and aesthetic characteristics of a material or product and establish standards by which the work can be judged.

Color samples from the manufacturer's standard line (or custom color samples if specified) to be used in selecting or approving colors for the project.

Field samples and mock-ups constructed on the project site establish standards ensuring work can be judged. Includes assemblies or portions of assemblies that are to be incorporated into the project and those that will be removed at conclusion of the work.

SD-06 Test Reports

Report signed by authorized official of testing laboratory that a material, product or system identical to the material,

product or system to be provided has been tested in accord with specified requirements. Unless specified in another section, testing must have been within three years of date of contract award for the project.

Report that includes findings of a test required to be performed on an actual portion of the work or prototype prepared for the project before shipment to job site.

Report that includes finding of a test made at the job site or on sample taken from the job site, on portion of work during or after installation.

Investigation reports Daily logs and checklists

Final acceptance test and operational test procedure

SD-07 Certificates

Statements printed on the manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that the product, system, or material meets specification requirements. Must be dated after award of project contract and clearly name the project.

Document required of Contractor, or of a manufacturer, supplier, installer or Subcontractor through Contractor. The document purpose is to further promote the orderly progression of a portion of the work by documenting procedures, acceptability of methods, or personnel qualifications.

Confined space entry permits

Text of posted operating instructions SD-08

Manufacturer's Instructions

Preprinted material describing installation of a product, system or material, including special notices and (SDS) concerning impedances, hazards and safety precautions.

SD-08 Manufacturer's Field Reports

Documentation of the testing and verification actions taken by manufacturer's representative at the job site, in the vicinity of the job site, or on a sample taken from the job site, on a portion of the work, during or after installation, to confirm compliance with manufacturer's standards or instructions. The documentation must be signed by an authorized official of a testing laboratory or agency and state the test results; and indicate whether the material, product, or system has passed or failed the test.
Factory test reports.

SD-9 Operation and Maintenance Data

Data provided by the manufacturer, or the system provider, including manufacturer's help and product line documentation, necessary to maintain and install equipment, for operating and maintenance use by facility personnel.

Data required by operating and maintenance personnel for the safe and efficient operation, maintenance and repair of the item.

Data incorporated in an operations and maintenance manual or control system.

SD-10 Closeout Submittals

Documentation to record compliance with technical or administrative requirements or to establish an administrative mechanism.

Special requirements necessary to properly close out a construction contract. For example, Record Drawings and as-built drawings. Also, submittal requirements necessary to properly close out a major phase of construction on a multi-phase contract.

1.2.2 Approving Authority

Office or designated person authorized to approve the submittal.

1.2.3 Work

As used in this section, on-site and off-site construction required by contract documents, including labor necessary to produce submittals, construction, materials, products, equipment, and systems incorporated or to be incorporated in such construction. In exception, excludes work to produce SD-01 submittals.

1.3 SUBMITTAL CLASSIFICATION

1.3.1 Government Approved (G)

Government approval is required for extensions of design, critical materials, variations, equipment whose compatibility with the entire system must be checked, and other items as designated by the Government.

Government approval is required for any variations from the Solicitation or the Accepted Proposal and for other items as designated by the Government.

1.4 FORWARDING SUBMITTALS REQUIRING GOVERNMENT APPROVAL

1.4.1 O&M Data

Submit data specified for a given item within 30 calendar days after the item is delivered to the contract site. In the event the Contractor fails to deliver O&M data within the time limits specified, the Contract Manager may withhold from progress payments 50 percent of the price of the items to which such O&M data apply.

1.6 PREPARATION

1.6.1 Transmittal Form

Transmit each submittal, except sample installations and sample panels to the office of the approving authority using the transmittal form prescribed by the Contract Manager. Include all information prescribed by the transmittal form and required in paragraph Identifying Submittals. Use the submittal transmittal forms to record actions regarding samples.

Use the transmittal form for submitting both Government-approved and information-only submittals. Submit in accordance with the instructions on the reverse side of the form. These forms will be furnished to the Contractor. Properly complete the form by filling out all the heading blank spaces and identifying each item submitted. Exercise special care to ensure proper listing of the specification paragraph and sheet number of the contract drawings pertinent to the data submitted for each item.

1.6.2 Identifying Submittals

The Contractor's [Quality Control Manager] [approving authority] must prepare, review and stamp submittals, including those provided by a subcontractor, before submittal to the Government.

Identify submittals, except sample installations and sample panels, with the following information permanently adhered to or noted on each separate component of each submittal and noted on transmittal form. Mark each copy of each submittal identically, with the following:

a. Project title and location

b. Construction contract number

c. Dates of the drawings and revisions

d. Name, address, and telephone number of Subcontractor, supplier, manufacturer, and any other Subcontractor associated with the submittal.

e. Section number of the specification by which submittal is required

f. Submittal description (SD) number of each component of submittal

g. For a resubmission, add alphabetic suffix on submittal description, for example, submittal 18 would become 18A, to indicate resubmission

h. Product identification and location in project.

1.6.3 Submittal Format

1.6.3.1 Format for SD-02 Shop Drawings

Provide shop drawings not less than 8 1/2 by 11 inches nor more than 30 by 42 inches, except for full-size patterns or templates.
Prepare drawings to accurate size, with scale indicated, unless another form is required. Ensure drawings are suitable for reproduction and of a quality to produce clear, distinct lines and letters, with dark lines on a white background.

a. Include the nameplate data, size, and capacity on drawings. Also include applicable federal, military, industry, and technical society publication references.

b. Dimension drawings, except diagrams and schematic drawings. Prepare drawings demonstrating interface with other trades to scale. Use the same unit of measure for shop drawings as indicated on the contract drawings. Identify materials and products for work shown.

Present shop drawings sized 8 1/2 by 11 inches as part of the bound volume for submittals. Present larger drawings in sets. Submit an electronic copy of drawings in PDF format.

1.6.3.2.1 Drawing Identification

Include on each drawing the drawing title, number, date, and revision numbers and dates, in addition to information required in paragraph IDENTIFYING SUBMITTALS.

Number drawings in a logical sequence. Each drawing is to bear the number of the submittal in a uniform location next to the title block. Place the Government contract number in the margin, immediately below the title block, for each drawing.

Reserve a blank space on the right-hand side of each sheet for the Government disposition stamp.

1.6.3.3 Format of SD-03 Product Data

Present product data submittals for each section as a complete, bound volume. Include a table of contents, listing the page and catalog item numbers for product data.

Indicate, by prominent notation, each product that is being submitted; indicate the specification section number and paragraph number to which it pertains.

1.6.3.3.1 Product Information

Supplement product data with material prepared for the project to satisfy the submittal requirements where product data does not exist. Identify this material as developed specifically for the project, with information and format as required for submission of SD-07 Certificates.

Provide product data in metric dimensions. Where product data are included in preprinted catalogs with English units only, submit metric dimensions on separate sheet.

Provide product data in units used in the Contract documents. Where product data are included in preprinted catalogs with another unit, submit the dimensions in contract document units, on a separate sheet.

1.6.3.3.2 Standards

Where equipment or materials are specified to conform to industry or technical-society reference standards of such organizations as the American National Standards Institute (ANSI), ASTM International (ASTM),

National Electrical Manufacturer's Association (NEMA), Underwriters Laboratories (UL), or Association of Edison Illuminating Companies (AEIC), submit proof of such compliance. The label or listing by the specified organization will be acceptable evidence of compliance.

In lieu of the label or listing, submit a certificate from an independent testing organization, competent to perform testing, and approved by the Contract Manager. State on the certificate that the item has been tested in accordance with the specified organization's test methods and that the item complies with the specified organization's reference standard.

1.6.3.3.3 Data Submission

Collect required data submittals for each specific material, product, unit of work, or system into a single submittal that is marked for choices, options, and portions applicable to the submittal. Mark each copy of the product data identically. Partial submittals will [not] be accepted for expedition of the construction effort.

Submit the manufacturer's instructions before installation.

1.6.3.4 Format of SD-04 Samples

1.6.3.4.1 Sample Characteristics

Furnish samples in the following sizes, unless otherwise specified or unless the manufacturer has prepackaged samples of approximately the same size as specified:

a. Sample of Equipment or Device: Full size.

b. Sample of Materials Less Than 2 by 3 inches: Built up to 8 1/2 by 11 inches.

c. Sample of Materials Exceeding 8 1/2 by 11 inches: Cut down to 8 1/2 by 11 inches and adequate to indicate color, texture, and material variations.

d. Sample of Linear Devices or Materials: 10 inch length or length to be supplied, if less than 10 inches. Examples of linear devices or materials are conduit and handrails.

e. Sample Volume of Nonsolid Materials: Pint. Examples of nonsolid materials are sand and paint.

f. Color Selection Samples: 2 by 4 inches. Where samples are specified for selection of color, finish, pattern, or texture, submit the full set of available choices for the material or product specified. Sizes and quantities of samples are to represent their respective standard unit.

g. Sample Panel: 4 by 4 feet.

h. Sample Installation: 100 square feet.

1.6.3.4.2 Sample Incorporation

Reusable Samples: Incorporate returned samples into work only if so specified or indicated. Incorporated samples are to be in undamaged condition at the time of use.

Recording of Sample Installation: Note and preserve the notation of any area constituting a sample installation but remove the notation at the final clean-up of the project.

1.6.3.4.3 Comparison Sample

Samples Showing Range of Variation: Where variations in color, finish, pattern, or texture are unavoidable due to nature of the materials, submit sets of samples of not less than three units showing extremes and middle of range. Mark each unit to describe its relation to the range of the variation. When color, texture, or pattern is specified by naming a particular manufacturer and style, include one sample of that manufacturer and style, for comparison.

1.6.3.5 Format of SD-05 Design Data

Provide design data and certificates on 8 1/2 by 11-inch paper.Provide a bound volume for submittals containing numerous pages.

1.6.3.6 Format of SD-06 Test Reports

Provide reports on 8 1/2 by 11-inch paper in a complete bound volume.

By prominent notation, indicate each report in the submittal. Indicate the specification number and paragraph number to which each report pertains.

1.6.3.7 Format of SD-07 Certificates

Provide design data and certificates on 210 by 297 mm 8 1/2 by 11 inch paper. Provide a bound volume for submittals containing numerous pages.

1.6.3.8 Format of SD-08 Manufacturer's Instructions

Present manufacturer's instructions submittals for each section as a complete, bound volume. Include the manufacturer's name, trade name, place of manufacture, and catalog model or number on product data. Also include applicable federal, military, industry, and technical-society publication references. If supplemental information is needed to clarify the manufacturer's data, submit it as specified for SD-07 Certificates.

Submit the manufacturer's instructions before installation.

1.6.3.8.1 Standards

Where equipment or materials are specified to conform to industry or technical-society reference standards of such organizations as the American National Standards Institute (ANSI), ASTM International (ASTM), National Electrical Manufacturer's Association (NEMA), Underwriters Laboratories (UL), or Association of Edison Illuminating Companies (AEIC), submit proof of such compliance. The label or listing by the specified organization will be acceptable evidence of compliance. In lieu of the label or listing, submit a certificate from an independent testing organization, competent to perform testing, and approved by the Contract Manager. State on the certificate that the item has been tested in accordance with the specified organization's test methods and that the item complies with the specified organization's reference standard.

1.6.3.9 Format of SD-09 Manufacturer's Field Reports

Provide reports on 210 by 297 mm 8 1/2 by 11-inch paper in a complete bound volume.

By prominent notation, indicate each report in the submittal. Indicate the specification number and paragraph number to which each report pertains.

1.6.3.10 Format of SD-10 Operation and Maintenance Data (O&M)

Comply with the requirements specified in Section 01 78 23 OPERATION AND MAINTENANCE DATA for O&M Data format.

1.6.3.11 Format of SD-11 Closeout Submittals

When the submittal includes a document that is to be used in the project or is to become part of the project record, other than as a submittal, do not apply the Contractor's approval stamp to the document itself, but to a separate sheet accompanying the document.

Provide data in the unit of measure used in the contract documents.

Provide all dimensions in administrative submittals in metric. Where data are included in preprinted material with English units only, submit metric dimensions on separate sheet.

1.6.4 Source Drawings for Shop Drawings

1.6.4.1 Source Drawings

The entire set of source drawing files (DWG) will not be provided to the Contractor. Request the specific Drawing Number for the preparation of shop drawings. Only those drawings requested to prepare shop drawings will be provided. These drawings are provided only after award.

1.6.4.2 Terms and Conditions

Data contained on these electronic files must not be used for any purpose other than as a convenience in the preparation of construction data for the referenced project. Any other use or reuse is at the sole risk of the Contractor and without liability or legal exposure to the Government. The Contractor must make no claim and waives to the fullest extent permitted by law any claim or cause of action of any nature against the Government, its agents, or its sub consultants that may arise out of or in connection with the use of these electronic files. The Contractor must, to the fullest extent permitted by law, indemnify and hold the Government harmless against all damages, liabilities, or costs, including reasonable attorney's fees and defense costs, arising out of or resulting from the use of these electronic files.

These electronic source drawing files are not construction documents. Differences may exist between the source drawing files and the corresponding construction documents. The Government makes no representation regarding the accuracy or completeness of the electronic source drawing files, nor does it make representation to the compatibility of these files with the Contractor hardware or software. The Contractor is responsible for determining if any conflict exists. In the event that a conflict arises between the signed and sealed construction documents prepared by the Government and the furnished source drawing files, the signed and sealed construction documents govern.

Use of these source drawing files does not relieve the Contractor of the duty to fully comply with the contract documents, including and without limitation the need to check, confirm and coordinate the work of all contractors for the project. If the Contractor uses, duplicates or modifies these electronic source drawing files for use in producing construction data related to this contract, remove all previous indication of ownership (seals, logos, signatures, initials and dates).

1.6.5 Electronic File Format

Provide submittals in electronic format, with the exception of material samples required for Samples items. In addition to the electronic submittal, provide 2 hard copies of the submittals.

Compile the submittal file as a single, complete document, to include the Transmittal Form described within. Name the electronic submittal file specifically according to its contents and coordinate the file naming convention with the Contract Manager. Electronic files must be of sufficient quality so that all information is legible. Use PDF as the electronic format, unless otherwise specified or directed by the Contract Manager. Generate PDF files from original documents with bookmarks so that the text included in the PDF file is searchable and can be copied. If documents are scanned, optical character resolution (OCR) routines are required. Index and bookmark files exceeding 30 pages to allow efficient navigation of the file. When required, the electronic file must include a valid electronic signature or a scan of a signature.

E-mail electronic submittal documents smaller than 10MB to an e-mail address as directed by the Contract Manager. Provide electronic documents over 10 MB on an optical disc or through an electronic file sharing system such as the AMRDEC SAFE Web Application located at the following website: https://safe.amrdec.army.mil/safe/.

1.7 QUANTITY OF SUBMITTALS

1.7.1 Number of SD-01 Shop Drawing Copies

Submit 3 copies of submittals of shop drawings requiring review and approval by a QC organization. Submit 3 copies of shop drawings requiring review and approval by the Contract Manager.

1.7.2 Number of SD-02 Product Data Copies

Submit in compliance with quantity requirements specified for shop drawings.

1.7.3 Number of SD-03 Test Report Copies

Submit in compliance with quantity and quality requirements specified for shop drawings, other than field test results that will be submitted with QC reports.

1.7.4 Number of SD-04 Certificate Copies

Submit in compliance with quantity requirements specified for shop drawings.

1.7.5 Number of SD-05 Manufacturer's Instructions Copies

Submit in compliance with quantity requirements specified for shop drawings.

1.7.6 Number of SD-06 Manufacturer's Field Report Copies

Submit in compliance with quantity and quality requirements specified for shop drawings other than field test results that will be submitted with QC reports.

1.7.7 Number of SD-10 Operation and Maintenance Data Copies

Submit 3 copies of O&M data to the Contract Manager for review and approval.

1.7.8 Number of SD-11 Closeout Submittals Copies

Unless otherwise specified, submit two sets of administrative submittals.

1.8 PROJECT SUBMITTAL REGISTER

A sample Project Submittal Register showing items of equipment and materials for when submittals are required by the specifications is provided as "Appendix A - Submittal Register."

1.8.1 Submittal Management

Prepare and maintain a submittal register, as the work progresses. Use an electronic submittal register program furnished by the Government. Do not change data that is output in columns (c), (d), (e), and (f) as delivered by Government; retain data that is output in columns (a), (g), (h), and as approved. As an attachment, provide a submittal register showing items of equipment and materials for which submittals are required by the specifications. This list may not be all-inclusive, and additional submittals may be required. Maintain a submittal register for the project in accordance with Section 01 45 00.15 10.

Thereafter, the Contractor is to track all submittals by maintaining a complete list, including completion of all data columns and all dates on which submittals are received by and returned by the Government.

1.10 VARIATIONS

Variations from contract requirements require Contract Manager approval pursuant to contract, specifications and drawings for Construction and will be considered where advantageous to the Government.

1.10.1 Considering Variations

Discussion of variations with the Contract Manager before submission will help ensure that functional and quality requirements are met and minimize rejections and resubmittals. When contemplating a variation that results in lower cost, consider submission of the variation as a Value Engineering Change Proposal (VECP).

Specifically point out variations from contract requirements in transmittal letters. Failure to point out variations may cause the Government to require rejection and removal of such work at no additional cost to the Government.

1.10.2 Proposing Variations

When proposing variation, deliver a written request to the Contract Manager, with documentation of the nature and features of the variation and why the variation is desirable and beneficial to Government. Include the DOR's written analysis and approval. If lower cost is a benefit, also include an estimate of the cost savings. In addition to documentation required for variation, include the submittals required for the item.
Clearly mark the proposed variation in all documentation.

1.10.3 Warranting that Variations are Compatible

When delivering a variation for approval, the Contractor warrants that this contract has been reviewed to establish that the variation, if incorporated, will be compatible with other elements of work.

1.10.4 Review Schedule Extension

In addition to the normal submittal review period, a period of 14 working days will be allowed for the Government to consider submittals with variations.

Schedule and submit concurrently product data and shop drawings covering component items forming a system or items that are interrelated. Submit pertinent certifications at the same time. No delay damages or time extensions will be allowed for time lost in late submittals.

a. Coordinate scheduling, sequencing, preparing, and processing of submittals with performance of work so that work will not be delayed by submittal processing. The Contractor is responsible for additional time required for Government reviews resulting from required resubmittals. The review period for each resubmittal is the same as for the initial submittal.

b. Submittals required by the contract documents are listed on the submittal register. If a submittal is listed in the submittal register but does not pertain to the contract work, the Contractor is to include the submittal in the register and annotate it "N/A" with a brief explanation. Approval by the Contract Manager does not relieve the Contractor of supplying submittals required by the contract documents but that have been omitted from the register or marked "N/A."

c. Resubmit the submittal register and annotate it monthly with actual submission and approval dates. When all items on the register have been fully approved, no further resubmittal is required. Contract Manager review will be completed within 14 working days after the date of submission.

1.11.1 Reviewing, Certifying, and Approving Authority

The QC Manager is responsible for reviewing all submittals and certifying that they are in compliance with contract requirements. The approving authority on submittals is the QC Manager unless otherwise specified. At each "Submittal" paragraph in individual specification sections, a notation "G" following a submittal item indicates that the Contract Manager is the approving authority for that submittal item. Provide an additional copy of the submittal to the Government Approving authority

1.12 GOVERNMENT APPROVING AUTHORITY

When the approving authority is the Contract Manager, the Government will:

a. Note the date on which the submittal was received from the QC manager.

b. Review submittals for approval within the scheduling period specified and only for conformance with project design concepts and compliance with contract documents.

c. Identify returned submittals with one of the actions defined in paragraph REVIEW NOTATIONS and with comments and markings appropriate for the action indicated.

Upon completion of review of submittals requiring Government approval, stamp and date submittals.1 copy of the submittal will be retained by the Contract Manager and 1 copy of the submittal will be returned to the Contractor.

1.12.1 Review Notations

Submittals will be returned to the Contractor with the following notations:

a. Submittals marked "approved" or "accepted" authorize proceeding with the work covered.

b. Submittals marked "approved as noted" or "approved, except as noted, resubmittal not required," authorize proceeding with the work covered provided that the Contractor takes no exception to the corrections.

c. Submittals marked "not approved," "disapproved," or "revise and resubmit" indicate incomplete submittal or noncompliance with the contract requirements or design concept. Resubmit with appropriate changes. Do not proceed with work for this item until the resubmittal is approved.

d. Submittals marked "not reviewed" indicate that the submittal has been previously reviewed and approved, is not required, does not have evidence of being reviewed and approved by Contractor, or is not complete. A submittal marked "not reviewed" will be returned with an explanation of the reason it is not reviewed. Resubmit submittals returned for lack of review by Contractor or for being incomplete, with appropriate action, coordination, or change.

e. Submittals marked "receipt acknowledged" indicate that submittals have been received by the Government. This applies only to "information-only submittals" as previously defined.

1.13 DISAPPROVED SUBMITTALS

Make corrections required by the Contract Manager. If the Contractor considers any correction or notation on the returned submittals to constitute a change to the contract drawings or specifications, give notice to the Contract Manager as required in the contract.

The Contractor is responsible for the dimensions and design of connection details and the construction of work. Failure to point out variations may cause the Government to require rejection and removal of such work at the Contractor's expense.

If changes are necessary to submittals, make such revisions and resubmit in accordance with the procedures above. No item of work requiring a submittal change is to be accomplished until the changed submittals are approved.

1.14 APPROVED SUBMITTALS

The Contract Manager's approval of submittals is not to be construed as a complete check, and indicates only that the general method of construction, materials, detailing, and other information are satisfactory. The design, general method of construction, materials, detailing, and other information appear to meet the Solicitation and Accepted Proposal.

Approval or acceptance by the Government for a submittal does not relieve the Contractor of the responsibility for meeting the contract requirements or for any error that may exist, because under the Quality Control (QC) requirements of this contract, the Contractor is responsible for ensuring information contained within each submittal accurately conforms with the requirements of the contract documents.

After submittals have been approved or accepted by the Contract Manager, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

1.15 APPROVED SAMPLES

Approval of a sample is only for the characteristics or use named in such approval and is not be construed to change or modify any contract requirements. Before submitting samples, provide assurance that the materials or equipment will be available in quantities required in the project. No change or substitution will be permitted after a sample has been approved.

Match the approved samples for materials and equipment incorporated in the work. If requested, approved samples, including those that may be damaged in testing, will be returned to the Contractor, at its expense, upon completion of the contract. Unapproved samples will also be returned to the Contractor at its expense, if so requested.

Failure of any materials to pass the specified tests will be sufficient cause for refusal to consider, under this contract, any further samples of the same brand or make as that material.

The Government reserves the right to disapprove any material or equipment that has previously proved unsatisfactory in service.

Samples of various materials or equipment delivered on the site or in place may be taken by the Contract Manager for testing. Samples failing to meet contract requirements will automatically void previous approvals. Replace such materials or equipment to meet contract requirements.

1.16 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained. No payment for materials incorporated in the work will be made unless all required DOR approvals or required Government approvals have been obtained.

No payment will be made for any materials incorporated into the work for any conformance review submittals or information-only submittals found to contain errors or deviations from the Solicitation or Accepted Proposal.

1.17 STAMPS

Certify the submittal data as follows: "I certify that the above submitted items had been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise stated.

_____NAME OF CONTRACTOR __

SIGNATURE OF CONTRACTOR

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01 35 29

SAFETY AND OCCUPATIONAL HEALTH REQUIREMENTS

PART 1 – GENERAL PRODUCTS

1.1 REFERENCES

A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

B. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

1.	ANSI Z359.1	(2016) Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components

C. ASME INTERNATIONAL (ASME)

1.	ASME B30.5	(2018) Mobile and Locomotive Cranes
2.	ASME B30.22	(2016) Articulating Boom Cranes

D. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

1.	29 CFR 1910	Safety and Health Regulation in General Industry
2.	29 CFR 1910.94	Ventilation
3.	29 CFR 1910.120	Hazardous Waste Operations and Emergency Response
4.	29 CFR 1910.146	Permit-required Confined Spaces
5.	29 CFR 1915	Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment
6.	29 CFR 1926	Safety and Health Regulations for Construction
7.	29 CFR 1926.65	Hazardous Waste Operations and Emergency Response

8. 29 CFR 1926.500 Fall Protection

E. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

1. NFPA 10 (2018) Portable Fire Extinguishers

2. NFPA 70 (2017) National Electrical Code

3. NFPA 241 (2018) Safeguarding Construction, Alteration, and Demolition Operations

1.2 SUBMITTALS

A. Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 013300 SUBMITTAL PROCEDURES:

1. SD-01 Preconstruction Submittals
   a. Accident Prevention Plan (APP); G
   b. Activity Hazard Analysis (AHA); G
   c. Crane Critical Lift Plan; G

2. SD-06 Test Reports
   a. Reports
   b. Submit reports as their incidence occurs, in accordance with the requirements of the paragraph entitled, "Reports."
   c. Accident Reports
   d. Monthly Exposure Reports
   e. Regulatory Citations and Violations
   f. Crane Reports
   g. Certificate of Compliance (Crane)

1.3 DEFINITIONS

A. High Visibility Accident. Any mishap which may generate publicity and/or high visibility.

B. Low-slope roof. A roof having a slope less than or equal to 4 in 12 (vertical to horizontal).

C. Medical Treatment. Treatment administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first aid treatment even through provided by physician or registered personnel.

D. Multi-Employer Work Site (MEWS). A multi-employer work site, as defined by OSHA, is one in which many employers occupy the same site. The Government considers the Prime Contractor to be the "controlling authority" for all work site safety and health of the subcontractors.

E. Operating Envelope. The area surrounding any crane. Inside this "envelope" is the crane, the operator, riggers, rigging gear between the hook and the load, the load and the crane's supporting structure (ground, rail, etc.).

F. Recordable Injuries or Illnesses. Any work-related injury or illness that results in:

1. Death, regardless of the time between the injury and death, or the length of the illness.
2. Days away from work.
3. Restricted work.
4. Transfer to another job.
5. Medical treatment beyond first aid.
6. Loss of consciousness; or
7. A significant injury or illness diagnosed by a physician or other licensed health care professional, even if it did not result in (1) through (6) above.

G. Site Safety and Health Officer (SSHO). The superintendent or other qualified or competent person who is responsible for the on-site safety and health required for the project. The Contractor quality control (QC) person can be the SSHO on this project.

H. Steep roof. A roof having a slope greater than 4 in 12 (vertical to horizontal).

I. Weight Handling Equipment (WHE) Accident. A WHE accident occurs when any one or more of the six elements in the operating envelope fails to perform correctly during operation, including operation during maintenance or testing resulting in personnel injury or death; material or equipment damage; dropped load; derailment; two-blocking; overload; and collision, including unplanned contact between the load, crane, and/or other objects. A dropped load, derailment, two-blocking, overload and collision are considered accidents even though no material damage or injury occurs. A component failure (e.g., motor burnout, gear tooth failure, bearing failure) is not considered an accident solely due to material or equipment damage unless the component failure results in damage to other components (e.g., dropped boom, dropped load, roll over, etc.).

1.4 REGULATORY REQUIREMENTS

A. In addition to the detailed requirements included in the provisions of this contract, work performed shall comply with OHSA 29 CFR 1910, and the following federal, state, and local ordinances, criteria, rules and regulations. Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting work. Where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements shall apply.

1.5 DRUG PREVENTION PROGRAM

A. Conduct a proactive drug and alcohol use prevention program for all workers, prime and subcontractor, on the site. Ensure that no employee uses illegal drugs or consumes alcohol during work hours. Ensure there are no employees under the influence of drugs or alcohol during work hours. After accidents, collect blood, urine, or saliva specimens and test the injured and involved employees for the influence of drugs and alcohol. A copy of the test shall be made available to the Contract Manager upon request.

1.6 SITE QUALIFICATIONS, DUTIES AND MEETINGS

A. Personnel Qualifications

1. Site Safety and Health Officer (SSHO): Site Safety and Health Officer (SSHO) shall be provided at the work site at all times to perform safety and occupational health management, surveillance, inspections, and safety enforcement for the Contractor. The SSHO shall meet the following requirements:
   a. Level 2:
      1) A minimum of 3 years safety work on similar project.
      2) 30-hour OSHA construction safety class or equivalent within last 3 years.
      3) Competent person training as needed.

B. Personnel Duties

1. Site Safety and Health Officer (SSHO)/Superintendent
   a. Conduct daily safety and health inspections and maintain a written log which includes area/operation inspected, date of inspection, identified hazards, recommended corrective actions, estimated and actual dates of corrections. Safety inspection logs shall be attached to the Contractors' daily production report.

b. Conduct mishap investigations and complete required reports. Maintain the OSHA Form 300 and Daily Production reports for prime and sub- contractors.
c. Maintain applicable safety reference material on the job site.
d. Attend the pre-construction conference, pre-work meetings including preparatory inspection meeting, and periodic in-progress meetings.
e. Implement and enforce accepted APPS and AHAs.
f. Maintain a safety and health deficiency tracking system that monitors outstanding deficiencies until resolution. A list of unresolved safety and health deficiencies shall be posted on the safety bulletin board.
g. Ensure sub-contractor compliance with safety and health requirements.

2. Failure to perform the above duties will result in dismissal of the superintendent and/or SSHO, and a project work stoppage. The project work stoppage will remain in effect pending approval of a suitable replacement.

C. Meetings

1. Preconstruction Conference

a. The Contractor will be informed, in writing, of the date of the preconstruction conference. The purpose of the preconstruction conference is for the Contractor and the Contract Manager's representatives to become acquainted and explain the functions and operating procedures of their respective organizations and to reach mutual understanding relative to the administration of the overall project's APP before the initiation of work.
b. Contractor representatives who have a responsibility or significant role in accident prevention on the project shall attend the preconstruction conference. This includes the project superintendent, site safety and health officer, quality control supervisor, or any other assigned safety and health professionals who participated in the development of the APP (including the AHAs and special plans, program and procedures associated with it).
c. The Contractor shall discuss the details of the submitted APP to include incorporated plans, programs, procedures and a listing of anticipated activity hazard analyses (AHAs) that will be developed and implemented during the performance of the contract. This list of proposed AHAs will be reviewed at the conference and an agreement will be reached between the Contractor and the Contract Manager's representative as to which phases will require an analysis. In addition, a schedule for the preparation, submittal, review, and acceptance of AHAs shall be established to preclude project delays.
d. Deficiencies in the submitted APP will be brought to the attention of the Contractor at the preconstruction conference, and the Contractor shall revise the plan to correct deficiencies and re-submit it for acceptance. Work shall not begin until there is an accepted APP.

2. Weekly Safety Meetings: Conduct weekly safety meetings at the project site for all employees. The Contract Manager will be informed of the meeting in advance and be allowed attendance. Minutes showing contract title, signatures of attendees and a list of topics discussed shall be attached to the Contractors' daily production report.
3. Work Phase Meetings: The appropriate AHA shall be reviewed and attendance documented by the Contractor at the preparatory, initial, and follow-up phases of quality control inspection. The analysis should be used during daily inspections to ensure the implementation and effectiveness of safety and health controls.

1.7 TRAINING

A. New Employee Indoctrination: New employees (prime and sub-contractor) will be informed of specific site hazards before they begin work. Documentation of this orientation shall be kept on file at the project site.

B. Periodic Training: Provide Safety and Health Training in accordance with USACE EM 385-1-1 and the accepted APP. Ensure all required training has been accomplished for all onsite employees.

C. Training on Activity Hazard Analysis (AHA): Prior to beginning a new phase, training will be provided to all affected employees to include a review of the AHA to be implemented.

1.8 ACCIDENT PREVENTION PLAN (APP)

A. The Contractor shall use a qualified person to prepare the written site-specific APP. Prepare the APP in accordance with the format and requirements of 29 CFR 1910 and as supplemented herein.

Appendix A, "Minimum Basic Outline for Preparation of Accident Prevention Plan". Where a paragraph or subparagraph element is not applicable to the work to be performed indicate "Not Applicable" next to the heading. Specific requirements for some of the APP elements are described below at paragraph 1.8.1. The APP shall be job-specific and shall address any unusual or unique aspects of the project or activity for which it is written. The APP shall interface with the Contractor's overall safety and health program. Any portions of the Contractor's overall safety and health program referenced in the APP shall be included in the applicable APP element and made site- specific. The Government considers the Prime Contractor to be the "controlling authority" for all work site safety and health of the subcontractors. Contractors are responsible for informing their subcontractors of the safety provisions under the terms of the contract and the penalties for noncompliance, coordinating the work to prevent one craft from interfering with or creating hazardous working conditions for other crafts, and inspecting subcontractor operations to ensure that accident prevention responsibilities are being carried out.

The APP shall be signed by the person and firm (senior person) preparing the APP, the Contractor, the on-site superintendent, the designated site safety and health officer and any designated CSP and/or CIH.

B. Submit the APP to the Contract Manager 15 calendar days prior to the date of the preconstruction conference for acceptance. Work cannot proceed without an accepted APP. The Contract Manager reviews and comments on the Contractor's submitted APP and accepts it when it meets the requirements of the contract provisions.

C. Once accepted by the Contract Manager, the APP and attachments will be enforced as part of the contract. Disregarding the provisions of this contract or the accepted APP will be cause for stopping of work, at the discretion of the Contract Manager, until the matter has been rectified.

D. Once work begins, changes to the accepted APP shall be made with the knowledge and concurrence of the Contract Manager, project superintendent, SSHO and quality control manager. Should any unforeseen hazard become evident during the performance of work, the project superintendent shall inform the Contract Manager both verbally and in writing, for resolution as soon as possible. In the interim, all necessary action shall be taken by the Contractor to restore and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public, and the environment.

E. Copies of the accepted plan will be maintained at the Contract Manager office and at the job site. The APP shall be continuously reviewed and amended, as necessary, throughout the life of the contract. Unusual or high-hazard activities not identified in the original APP shall be incorporated in the plan as they are discovered.

1.9 ACTIVITY HAZARD ANALYSIS (AHA)

A. The Activity Hazard Analysis (AHA) format shall be in accordance with USACE EM 385-1-1. Submit the AHA for review at least 15 calendar days prior to the start of each phase. Format subsequent AHA as amendments to the APP. An AHA will be developed by the Contractor for every operation involving a type of work presenting hazards not experienced in previous project operations or where a new work crew or subcontractor is to perform work.
The analysis must identify and evaluate hazards and outline the proposed methods and techniques for the safe completion of each phase of work. At a minimum, define activity being performed, sequence of work, specific safety and health hazards anticipated, control measures (to include personal protective equipment) to eliminate or reduce each hazard to acceptable levels, equipment to be used, inspection requirements, training requirements for all involved, and the competent person in charge of that phase of work. For work with fall hazards, including fall hazards associated with scaffold erection and removal, identify the appropriate fall arrest systems. For work with materials handling

equipment, address safeguarding measures related to materials handling equipment. For work requiring excavations, include requirements for safeguarding excavations. An activity requiring an AHA shall not proceed until the AHA has been accepted by the Contract Manager's representative and a meeting has been conducted by the Contractor to discuss its contents with everyone engaged in the activity, including on-site Government representatives. The Contractor shall document meeting attendance at the preparatory, initial, and follow-up phases of quality control inspection. The AHA shall be continuously reviewed and, when appropriate, modified to address changing site conditions or operations. The analysis should be used during daily inspections to ensure the implementation and effectiveness of the activity's safety and health controls.

B. The AHA list will be reviewed periodically (at least monthly) at the Contractor supervisory safety meeting and updated as necessary when procedures, scheduling, or hazards change.

C. Activity hazard analyses shall be updated as necessary to provide an effective response to changing work conditions and activities. The on-site superintendent, site safety and health officer and competent persons used to develop the AHAs, including updates, shall sign and date the AHAs before they are implemented.

1.10 DISPLAY OF SAFETY INFORMATION

A. Within 15 calendar days after commencement of work, erect a safety bulletin board at the job site. The following information shall be displayed on the safety bulletin board in clear view of the on-site construction personnel, maintained current, and protected against the elements and unauthorized removal:

1. Map denoting the route to the nearest emergency care facility.
2. Emergency phone numbers.
3. Copy of the most up-to-date APP.
4. AHA(s).
5. OSHA 300A Form.
6. OSHA Safety and Health Protection-On-The-Job Poster.

1.11 SITE SAFETY REFERENCE MATERIALS

A. Maintain safety-related references applicable to the project, including those listed in the article "References." Maintain applicable equipment manufacturer's manuals.

1.12 EMERGENCY MEDICAL TREATMENT

A. Contractors will arrange for their own emergency medical treatment. Government has no responsibility to provide emergency medical treatment.

1.13 REPORTS

A. Accident Reports: For recordable injuries and illnesses, and property damage accidents resulting in at least $2,000 in damages, the Prime Contractor shall conduct an accident investigation to establish the root cause(s) of the accident, complete the USACE

Accident Report Form 3394 and provide the report to the Contract Manager within 1 calendar day(s) of the accident. The Contract Manager will provide copies of any required or special forms.

B. Accident Notification: Notify the Contract Manager as soon as practical, but not later than four hours, after any accident meeting the definition of Recordable Injuries or Illnesses or High Visibility Accidents, property damage equal to or greater than $2,000, or any weight handling equipment accident involving an overturned crane, collapsed boom, or any other major damage to the crane or adjacent property. Information shall include contractor name; contract title; type of contract; name of activity, installation or location where accident occurred; date and time of accident; names of personnel injured; extent of property damage, if any; extent of injury, if known, and brief description of accident (to include type of construction equipment used, PPE used, etc.). Preserve the conditions and evidence on the accident site until the Government investigation team arrives on site and Government investigation is conducted.

C. Monthly Exposure Reports: Monthly exposure reporting to the Contract Manager is required to be attached to the monthly billing request. This report is a compilation of employee hours worked each month for all site workers, both prime and subcontractor. The Contract Manager will provide copies of any special forms.

D. Regulatory Citations and Violations: Contact the Contract Manager immediately of any OSHA or other regulatory agency inspection or visit and provide the Contract Manager with a copy of each citation, report, and contractor response. Correct violations and citations promptly and provide written corrective actions to the Contract Manager.

E. Certificate of Compliance: The Contractor shall provide a Certificate of Compliance for each crane entering into an activity under this contract (see Contract Manager for a blank certificate). Certificate shall state that the crane and rigging gear meet applicable OSHA regulations (with the Contractor citing which OSHA regulations are applicable, e.g., cranes used in construction, demolition, or maintenance shall comply with 29 CFR 1926 and Appendix H. Certify on the Certificate of Compliance that the crane operator(s) is qualified and trained in the operation of the crane to be used. The Contractor shall also certify that all of its crane operators working on the project have been trained in the proper use of all safety devices (e.g., anti-two block devices). These certifications shall be posted on the crane.

1.14 HOT WORK

A. The Contractor will provide at least two (2) twenty (20) pound 4A:20 BC rated extinguishers for normal "Hot Work". All extinguishers shall be current inspection tagged, approved safety pin and tamper resistant seal. It is also mandatory to have a designated FIRE WATCH for any "Hot Work" done.

1. Oil painting materials (paint, brushes, empty paint cans, etc.), and all flammable liquids shall be removed from the facility at quitting time. All painting materials and flammable liquids shall be stored outside in a suitable metal locker or box and will require re- submittal with non-hazardous materials.

2. Accumulation of trays, paper, shavings, sawdust, boxes and other packing materials shall be removed from the facility at the close of each workday and such material disposed of in the proper containers located away from the facility.
3. The storage of combustible supplies shall be a safe distance from structures.
4. Area outside the facility undergoing work shall be cleaned of trash, paper, or other discarded combustibles at the close of each workday.
5. All portable electric devices (saws, sanders, compressors, extension chord, lights, etc.) shall be disconnected at the close of each workday. When possible, the main electric switch in the facility shall be deactivated.
6. When starting work in the facility, Contractors shall require their personnel to familiarize themselves with the location of the nearest fire alarm boxes and place in memory the emergency phone number.

PART 2 - PRODUCTS

2.1 FALL PROTECTION ANCHORAGE

A. Fall protection anchorage, conforming to ANSI Z359.1, will be left in place and so identified for continued customer use.

2.2 CONFINED SPACE SIGNAGE

A. The Contractor shall provide permanent signs integral to or securely attached to access covers for new permit-required confined spaces. Signs wording: "DANGER-- PERMIT-REQUIRED CONFINED SPACE - DO NOT ENTER -" in bold letters a minimum of 25 mm(one inch) in height and constructed to be clearly legible with all paint removed

The signal word "DANGER" shall be red and readable from 1.52 m(5 feet).

PART 3 - EXECUTION

3.1 CONSTRUCTION AND/OR OTHER WORK

A. The Contractor shall comply with NFPA 241, the APP, the AHA, and other related submittals and activity fire and safety regulations.

B. Hazardous Material Use: Each hazardous material must receive approval prior to being brought onto the job site or prior to any other use in connection with this contract. Allow a minimum of 10 working days for processing of the request for use of a hazardous material. Any work or storage involving hazardous chemicals or materials must be done in a manner that will not expose Government or Contractor employees to any unsafe or unhealthful conditions. Adequate protective measures must be taken to prevent Government or Contractor employees from being exposed to any hazardous condition that could result from the work or storage. The Prime Contractor shall keep a complete inventory of hazardous materials brought onto the work-site. Approval by the Contract Manager of protective measures and storage area is required prior to the start of the work.

C. Hazardous Material Exclusions: Notwithstanding any other hazardous material used in this contract, radioactive materials or instruments capable of producing ionizing/non-ionizing radiation (with the exception of radioactive material and devices used in accordance with EM 385-1-1 such as nuclear density meters for compaction testing and laboratory equipment with radioactive sources) as well as materials which contain asbestos, mercury or polychlorinated biphenyls, di-isocynates, lead-based paint are prohibited. The Contract Manager, upon written request by the Contractor, may consider exceptions to the use of any of the above excluded materials.

D. Unforeseen Hazardous Material: The design should have identified materials such as PCB, lead paint, and friable and non-friable asbestos. If material, not indicated, that may be hazardous to human health upon disturbance during construction operations is encountered, stop that portion of work and notify the Contract Manager immediately. Within 14 calendar days the Government will determine if the material is hazardous. If the material is not hazardous or poses no danger, the Government will direct the Contractor to proceed without charge. If material is hazardous and handling of the material is necessary to accomplish the work, the Government will issue a modification.

3.2 PRE-OUTAGE COORDINATION MEETING

A. Contractors are required to apply for utility outages at least 15 days in advance. As a minimum, the request should include the location of the outage, utilities being affected, duration of outage and any necessary sketches. Special requirements for electrical outage requests are contained elsewhere in this specification section. Once approved, and prior to beginning work on the utility system requiring shut down, the Contractor shall attend a pre-outage coordination meeting with the Contract Manager to review the scope of work and the lock-out/tag-out procedures for worker protection. No work will be performed on energized electrical circuits unless proof is provided that no other means exist.

3.3 FALL HAZARD PROTECTION AND PREVENTION

A. The Contractor shall establish a fall protection and prevention program, for the protection of all employees exposed to fall hazards. The program shall include company policy, identify responsibilities, education, and training requirements, fall hazard identification, prevention and control measures, inspection, storage, care and maintenance of fall protection equipment and rescue and escape procedures.

B. Training: The Contractor shall institute a fall protection training program. As part of the Fall Hazard Protection and Prevention Program, the Contractor shall provide training for each employee who might be exposed to fall hazards.

C. Fall Protection Equipment: The Contractor shall enforce use of the fall protection equipment designated for each specific work activity in the Fall Protection and Prevention Plan and/or AHA at all times when an employee is on a surface 1.8 m (6 feet) or more above lower levels. Fall protection systems such as guardrails, personnel fall arrest system, safety nets, etc., are required when working within 1.8m (6 feet) of any leading edge. In addition to the required fall protection systems, safety skiff, personal floatation devices, life rings etc., are required when working above or next to water in accordance with USACE EM 385-1-1, paragraphs 05.I. and
05.J. Personal fall arrest systems are required when working from an articulating or extendible boom, swing stages, or suspended platform. In addition, personal fall arrest systems may be required when operating other equipment such as scissor lifts if the work platform is capable of being positioned outside the wheelbase. Fall protection must comply with 29 CFR 1926.500, Subpart M and USACE EM 385-1-1.

1. Personal Fall Arrest Equipment: Personal fall arrest equipment, systems, subsystems, and components shall meet ANSI Z359.1. Only a full-body harness with a shock- absorbing lanyard or self-retracting lanyard is an acceptable personal fall arrest device. Body belts may only be used as a positioning device system (for uses such as steel reinforcing assembly and in addition to an approved fall arrest system). Harnesses shall have a fall arrest attachment affixed to the body support

(usually a Dorsal D-ring) and specifically designated for attachment to the rest of the system. Only locking snap hooks and carabiners shall be used. Webbing, straps, and ropes shall be made of synthetic fiber. The maximum free fall distance when using fall arrest equipment shall not exceed
1.8 m (6 feet). The total fall distance shall always be taken into consideration when attaching a person to a fall arrest system.

D. Fall Protection for Roofing Work: Fall protection controls shall be implemented based on the type of roof being constructed and work being performed. The roof area to be accessed shall be evaluated for its structural integrity including weight-bearing capabilities for the projected loading.

1. Low Sloped Roofs:

a. For work within 1.8 m (6 feet) of an edge, on low-slope roofs, personnel shall be protected from falling by use of personal fall arrest systems, guardrails, or safety nets.

b. For work greater than 1.8 m (6 feet) from an edge, warning lines shall be erected and installed in accordance with 29 CFR 1926.500 and USACE EM 385-1-1.

E. Safety Nets: If safety nets are used as the selected fall protection system on the project, they shall be provided at unguarded workplaces, over water, machinery, dangerous operations and leading-edge work. Safety nets shall be tested immediately after installation with a drop test of
181.4 kg (400 pounds) and every six months thereafter.

F. Existing Anchorage: Existing anchorages, to be used for attachment of personal fall arrest equipment, shall be certified (or re-certified) by a qualified person in accordance with ANSI Z359.1.

G. Horizontal Lifelines: Horizontal lifelines shall be designed, installed, certified, and used under the supervision of a qualified person as part of a complete fall arrest system (29 CFR 1926.500).

3.4 SCAFFOLDING

A. Employees shall be provided with a safe means of access to the work area on the scaffold. Climbing of any scaffold braces or supports not specifically designed for access is prohibited. Access to scaffold platforms greater than 6 m (20 feet) in height shall be accessed by use of a scaffold stair system. Vertical ladders commonly provided by scaffold system manufacturers shall not be used for accessing scaffold platforms greater than 6 m (20 feet) in height. The use of an adequate gate is required. Contractor shall ensure that employees are qualified to perform scaffold erection and dismantling. Do not use scaffold without the capability of supporting at least four times the maximum intended load or without appropriate fall protection as delineated in the accepted fall protection and prevention plan. Stationary scaffolds must be attached to structural building components to safeguard against tipping forward or backward.

Special care shall be given to ensure scaffold systems are not overloaded. Side brackets used to extend scaffold platforms on self-supported scaffold systems for the storage of material is prohibited. The first tie-in shall be at the height equal to 4 times the width of the smallest dimension of the scaffold base. Work platforms shall be placed on mud sills. Scaffold or work platform erectors shall have fall protection during the erection and dismantling of scaffolding or work platforms that are more than six feet. Delineate fall protection requirements when working above six feet or above dangerous operations in the Fall Protection and Prevention (FP&P) Plan and Activity Hazard Analysis (AHA) for the phase of work.

3.5 EQUIPMENT

A. Material Handling Equipment

1. Material handling equipment such as forklifts shall not be modified with work platform attachments for supporting employees unless specifically delineated in the manufacturer's printed operating instructions.
2. The use of hooks on equipment for lifting of material must be in accordance with manufacturer's printed instructions.
3. Operators of forklifts or power industrial trucks shall be licensed in accordance with OSHA.

B. Weight Handling Equipment

1. Cranes must be equipped with:
    a. Load indicating devices (LIDs) and a boom angle or radius indicator,
    b. or load moment indicating devices (LMIs).
    c. Anti-two block prevention devices.
    d. Boom hoist hydraulic relief valve, disconnect, or shutoff (stops hoist when boom reaches a predetermined high angle).
    e. Boom length indicator (for telescoping booms).
    f. Device to prevent uncontrolled lowering of a telescoping hydraulic boom.
    g. Device to prevent uncontrolled retraction of a telescoping hydraulic boom.

2. The Contractor shall notify the Contract Manager 15 days in advance of any cranes entering the activity so that necessary quality assurance spot checks can be coordinated. Contractor's operator shall remain with the crane during the spot check.
3. The Contractor shall comply with the crane manufacturer's specifications and limitations for erection and operation of cranes and hoists used in support of the work. Erection shall be performed under the supervision of a designated person (as defined in ASME B30.5). All testing shall be performed in accordance with the manufacturer's recommended procedures.
4. The Contractor shall comply with ASME B30.5 for mobile and locomotive cranes, ASME B30.22 for articulating boom cranes and ASME B30.8 for floating cranes and floating derricks.

5. The presence of Government personnel does not relieve the Contractor of an obligation to comply with all applicable safety regulations. The Government will investigate all complaints of unsafe or unhealthful working conditions received in writing from contractor employees, federal civilian employees, or military personnel.
6. Each load shall be rigged/attached independently to the hook/master-link in such a fashion that the load cannot slide or otherwise become detached. Christmas- tree lifting (multiple rigged materials) is not allowed.
7. Under no circumstance shall a Contractor make a lift at or above 90% of the cranes rated capacity in any configuration.
8. When operating in the vicinity of overhead transmission lines, operators and riggers shall be alert to this special hazard and shall follow the requirements of USACE EM 385-1-1 section 11 and ASME B30.5 or ASME B30.22 as applicable.
9. Crane suspended personnel work platforms (baskets) shall not be used unless the Contractor proves that using any other access to the work location would provide a greater hazard to the workers or is impossible. Personnel shall not be lifted with a line hoist or friction crane.
10. A fire extinguisher having a minimum rating of 10BC and a minimum nominal capacity of 5lb of extinguishing agent shall be available at all operator stations or crane cabs. Portable fire extinguishers shall be inspected, maintained, and recharged as specified in NFPA 10, Standard for Portable Fire Extinguishers.
11. All employees shall be kept clear of loads about to be lifted and of suspended loads.
12. A weight handling equipment operator shall not leave his position at the controls while a load is suspended.
13. Only Contractor crane operators who have met the requirements of 29 CFR 1910.94, 29 CFR 1910.120, 29 CFR 1926.65, 29 CFR 1926.500, USACE EM 385-1-1, ASME B30.5, and ASME B30.22 and other local and state requirements shall be authorized to operate the crane.
14. The Contractor shall use cribbing when performing lifts on outriggers.
15. The crane hook/block must be positioned directly over the load. Side loading of the crane is prohibited.
16. A physical barricade must be positioned to prevent personnel from entering the counterweight swing (tail swing) area of the crane.
17. A substantial and durable rating chart containing legible letters and figures shall be provided with each crane and securely mounted onto the crane cab in a location allowing easy reading by the operator while seated in the control station.
18. Certification records which include the date of inspection, signature of the person performing the inspection, and the serial number or other identifier of the crane that was inspected shall always be available for review by Contract Manager personnel.
19. Written reports listing the load test procedures used along with any repairs or alterations performed on the crane shall be available for review by Contract Manager personnel.
20. The Contractor shall certify that all crane operators have been trained in proper use of all safety devices (e.g. anti-two block devices).

C. Equipment and Mechanized Equipment

1. Equipment shall be operated by designated qualified operators. Proof of qualifications shall be kept on the project site for review.
2. Manufacture specifications or owner's manual for the equipment shall be on site and reviewed for additional safety precautions or requirements that are sometimes not identified by OSHA or USACE EM 385-1-1. Such additional safety precautions or requirements shall be incorporated into the AHAs.
3. Equipment and mechanized equipment shall be inspected in accordance with the manufacturer's recommendations for safe operation by a competent person prior to being placed into use.
4. Daily checks or tests shall be conducted and documented on equipment and mechanized equipment by designated competent persons.

3.6 EXCAVATIONS

A. The competent person for excavations performed as a result of contract work shall be on-site when excavation work is being performed, and shall inspect, and document the excavations daily prior to entry by workers. The competent person must evaluate all hazards, including atmospheric, that may be associated with the work, and shall have the resources necessary to correct hazards promptly.

B. Utility Locations: All underground utilities in the work area must be positively identified by a private utility locating service. Any markings made during the utility investigation must be maintained throughout the contract.

C. Utility Location Verification: The Contractor must physically verify underground utility locations by hand digging using wood or fiberglass handled tools when any adjacent construction work is expected to come within three feet of the underground system. Digging within .061 m (2 feet) of a known utility must not be performed by means of mechanical equipment; hand digging shall be used. If construction is parallel to an existing utility the utility shall be exposed by hand digging every 30.5 m (100 feet) if parallel within 1.5 m (5 feet) of the excavation.

D. Shoring Systems: Trench and shoring systems must be identified in the accepted safety plan and AHA. Manufacture tabulated data and specifications or registered engineer tabulated data for shoring or benching systems shall be readily available on site for review. Job-made shoring or shielding shall have the registered professional engineer stamp, specifications, and tabulated data. Extreme care must be used when excavating near direct burial electric underground cables.

E. Trenching Machinery: Trenching machines with digging chain drives shall be operated only when the spotters/laborers are in plain view of the operator. Operator and spotters/laborers shall be provided training on the hazards of the digging chain drives with emphasis on the distance that needs to be maintained when the digging chain is operating.

Documentation of the training shall be kept on file at the project site.

3.7 ELECTRICAL

A. Conduct of Electrical Work: Underground electrical spaces must be certified safe for entry before entering to conduct work. Cables that will be cut must be positively identified and de- energized prior to performing each cut. Positive cable identification must be made prior to submitting any outage request for electrical systems. Arrangements are to be coordinated with the Contract Manager and Station Utilities for identification. The Contract Manager will not accept an outage request until the Contractor satisfactorily documents that the circuits have been clearly identified. Perform all high voltage cable cutting remotely using hydraulic cutting tool. When racking in or live switching of circuit breakers, no additional person other than the switch operator will be allowed in the space during the actual operation. Plan so that work near energized parts is minimized to the fullest extent possible. Use of electrical outages clear of any energized electrical sources is the preferred method. When working in energized substations, only qualified electrical workers shall be permitted to enter. When work requires Contractor to work near energized circuits as defined by the NFPA 70, high voltage personnel must use personal protective equipment that includes, as a minimum, electrical hard hat, safety shoes, insulating gloves with leather protective sleeves, fire retarding shirts, coveralls, face shields, and safety glasses. Insulating blankets, hearing protection, and switching suits may be required, depending on the specific job and as delineated in the Contractor's AHA.

B. Portable Extension Cords: Portable extension cords shall be sized in accordance with manufacturer ratings for the tool to be powered and protected from damage. All damaged extension cords shall be immediately removed from service. Portable extension cords shall meet the requirements of NFPA 70.

3.8 WORK IN CONFINED SPACES

A. The Contractor shall comply with the requirements in OSHA 29 CFR 1910.146. Any potential for a hazard in the confined space requires a permit system to be used.

1. Entry Procedures. Prohibit entry into a confined space by personnel for any purpose, including hot work, until the qualified person has conducted appropriate tests to ensure the confined or enclosed space is safe for the work intended and that all potential hazards are controlled or eliminated and documented. All hazards pertaining to the space shall be reviewed with each employee during review of the AHA.

2. Forced air ventilation is required for all confined space entry operations and the minimum air exchange requirements must be maintained to ensure exposure to any hazardous atmosphere is kept below its' action level.
3. Ensure the use of rescue and retrieval devices in confined spaces greater than 1.5 m (5 feet) in depth.
4. Sewer wet wells require continuous atmosphere monitoring with audible alarm for toxic gas detection.
5. Include training information for employees who will be involved as entrants and attendants for the work.
6. Daily Entry Permit. Post the permit in a conspicuous place close to the confined space entrance.

3.9 CRYSTALLINE SILICA

A. Grinding, abrasive blasting, and foundry operations of construction materials containing crystalline silica, shall comply with OSHA regulations, such as 29 CFR 1910.94. The Contractor shall develop and implement effective exposure control and elimination procedures to include dust control systems, engineering controls, and establishment of work area boundaries, as well as medical surveillance, training, air monitoring, and personal protective equipment.

3.10 HOUSEKEEPING

A. Clean-Up: All debris in work areas shall be cleaned up daily or more frequently if necessary. Construction debris may be temporarily located in an approved location; however garbage accumulation must be removed each day.

B. Dust control: In addition to the dust control measures required elsewhere in the contract documents, dry cutting of brick or masonry shall be prohibited. The Contract Manager, upon written request by the Contractor, may consider exceptions to this prohibition on a case-by-case basis. Wet cutting must address control of water runoff.

END OF SECTION

SECTION 01 35 43

ENVIRONMENTAL PROCEDURES

1. GENERAL

1.1. SUMMARY

1.1.1. Section Includes

1.1.1.1. Potential Pollutants.
1.1.1.2. Storm water pollution protection plans.
1.1.1.3. Spill prevention and control.
1.1.1.4. Temporary containment removal.
1.1.1.5. Non-storm water management.
1.1.1.6. Cultural Resources

1.1.2. Related Sections

1.1.2.1. Section 01 30 00 – Administrative Requirements.
1.1.2.2. Section 01 74 19 - Construction Waste Management and Disposal.
1.1.2.3. Other Sections: Equipment and materials that may contain potential site pollutants.

1.2. POTENTIAL POLLUTANTS

1.2.1. Identify potential pollutants that are used in the Work.

1.2.2. Certain potential pollutants are identified in Attachment A, immediately following this Section.

1.3. SUBMITTALS

1.3.1. Submit under provisions of Section 01 33 00.

1.3.2. Hazardous Material Clean Up and Solid Waste Management Data: List the employees trained in emergency spill cleanup procedures and indicate the training procedures for employees and subcontractors in spill prevention and cleanup and solid waste management.

1.3.3. Concrete Waste Management Data: Indicate concrete washout areas and the procedures to train employees and subcontractors in proper concrete waste management.

1.4. PRECONSTRUCTION CONFERENCE

1.4.1. In accordance with Section 01 30 00 Administrative Requirements.

1.4.2. Review delivery routes, storage areas, spill prevention and clean up procedures, and training procedures.

1.5. DELIVERY, STORAGE, AND HANDLING

1.5.1. Keep an accurate, current inventory of materials containing potential pollutants, delivered and stored onsite.

1.5.2. Use personnel trained in spill prevention and emergency spill clean up procedures to unload and store materials containing potential pollutants.

1.5.3. Store construction raw materials containing potential pollutants off the ground in designated areas in secondary containment structures or surrounded by earth berms away from storm drain inlets, waterways, and drainage paths. Store chemicals in their original labelled containers. Cover the materials with plastic tarps when not in use.

1.5.3.1. Store hazardous waste and materials in sealed containers; protect from vandalism. Place in areas that will be paved and surround the areas with earth berms.

1.5.3.2. Store reactive, ignitable, or flammable liquids in accordance with fire codes.

1.5.3.3. Store materials in a covered area during wet weather.

1.5.3.4. Small amounts of material may be secondarily contained in “bus boy” trays or concrete mixing trays.

1.5.4. Remove and dispose of residual materials and contaminated soil after construction is complete.

2. PRODUCTS - NOT USED

3. EXECUTION

3.1. STORM WATER POLLUTION PROTECTION PLAN (SWPPP)

3.1.1. It is incumbent upon the Contractor to prepare a Storm Water Pollution Protection Plan to implement for the project and comply with the National Pollutant Discharge Elimination System (NPDES) General Permit.

3.1.2. The Contractor and its subcontractors must perform all necessary pollution prevention work to comply with the SWPP and the Permits for any Work performed on the Project Site. Any person or group who violates any condition of the Permits may be subject to substantial penalties in accordance with State and Federal law. The Contractor is encouraged to advise each of its employees and subcontractors working on this Project of the requirements of the Permits and SWPPP. A copy of the Permits and SWPPP will be available for review during the bidding period and the Contract Manager’s site office during construction.

3.2. SPILL PREVENTION AND CONTROL

3.2.1. Use secondary containment devices such as drain pans or drop cloths at all areas when fueling, removing, or changing fluids.

3.2.2. Place a stockpile of spill cleanup materials where it will be readily accessible.

3.2.3. Use personnel trained in emergency spill clean-up procedures.

3.2.4. Clean up leaks and spills immediately, in accordance with waste management regulations.

3.2.5. Clean up spills on paved surfaces with minimal water usage. Clean small spills with cloths and larger spills with absorbent material. Immediately send used hazardous cleanup cloth material to a certified laundry or remove and dispose as hazardous waste, in accordance with waste management regulations.

3.2.6. Do not hose down or bury dry material spills.

3.3. TEMPORARY CONTAINMENT REMOVAL

3.3.1. Remove all temporary containment structures, devices and equipment when directed by Contract Manager. Clean and repair damage caused by installation and use of temporary work.

3.4. NON-STORM WATER MANAGEMENT

3.4.1. Minimize the use of water sprayed for dust control and irrigation, to avoid causing runoff and erosion.

3.4.2. Remove sediment from dewatering operations using sediment basins. Filter sediment from sediment basins with a sump pit and perforated standpipe, wrapped in filter fabric, or a floating suction hose.

3.5. DISCHARGE WATER, USED FOR FLUSHING AND DISINFECTION, INTO ONSITE DETENTION BASINS OR TEMPORARY EARTHEN BASINS. INADVERTENT DISCOVERY OF CULTURAL OR ARCHAEOLOGICAL OR HUMAN REMAINS

3.5.1. In accordance with Standard Operating Procedures (SOP) 4 and 11 of the CAARNG Integrated Cultural Resources Management Plan, workers/soldiers must monitor their ground disturbing activities (all activities that alter the existing state of the ground surface) for the unearthing of previously unknown items of archaeological, historic, or cultural interest (e.g. human remains, artifacts, fossils, etc.). If any such items are unearthed or exhumed, all ground disturbing activities must cease and the Environmental Office contacted immediately (Camp Roberts: 805-238-8332, Camp San Luis Obispo: 805-594-6537, all other sites 916-854-1474). No further ground disturbance must proceed without prior authorization from the Environmental Office that the CAARNG has complied with all regulatory requirements pertaining to the resources discovered. (National Historic Preservation Act (NHPA), Native American Graves Protection and Repatriation Act (NAGPRA), California Health and Safety Code Section 7050.5[b]).

3.5.2. If any such items are discovered at other CMD locations, all ground disturbing activities must cease. Notify the Facility Representative immediately. No further ground disturbance must proceed without prior authorization from the Facility Representative when it is determined that the CAARNG has complied with all regulatory requirements pertaining to the discovered resources.

END OF SECTION

SECTION 01 35 43 - ATTACHMENT A

PARTIAL LIST OF POTENTIAL POLLUTANTS

1.1 Contractor must identify the pollutants present during construction and take the necessary measures to restrict their entry into the natural drainage system, based on the National Pollutant Discharge Elimination System (NPDES) applicable laws, codes and regulations.

1.2 Potential pollutants that may be used at the site and that have the potential to enter the storm water drainage system are included in the list below. This is not intended to be a complete list of categories, products and pollutants.

1.3 CONSTRUCTION SITE POTENTIAL POLLUTANTS

CATEGORY	PRODUCT, ACTIVITY	POLLUTANTS
Adhesives	Adhesives, Glues Resins, Epoxy Synthetics Calks, Sealers, Putty, Sealing Agents Coal Tars (Naptha, Pitch)	Phenolics, Formaldehydes Phenolics, Formaldehydes Asbestos, Phenolics, Formaldehydes Benzene, Phenols, Naphthalene
Cleaners	Polishes, (Metal, Ceramic, Tile) Etching Agents Cleaners, Ammonia, Lye, Caustic Sodas Bleaching Agents Chromate Salts	Metals Metals Acidity/Alkalinity Acidity/Alkalinity Chromium
Plumbing	Solder (Lead, Tin), Flux (Zinc Chloride) Pipe Fitting (Cut Shavings) Galvanized Metals	Lead, Copper, Zinc, Tin Copper Zinc
Electrical	Wiring	Copper, Lead
Painting	Paint Thinner, Acetone, MEK, Stripper Paints, Lacquers, Varnish, Enamels Turpentine, Gum Spirit, Solvents Sanding, Stripping Paints (Pigments), Dyes	VOC's Metals, Phenolics, Mineral Spirits VOC's Metals Metals
Woods	Sawdust Particle Board Dusts Treated Woods	BOD Formaldehyde Copper, Creosote
Floors & Walls	Flashing Drywall Tile Cutting (Ceramic Dusts)	Copper, Aluminum Dusts Minerals
Remodeling & Demolition	Insulation Venting Systems	Asbestos Aluminum, Zinc

CATEGORY	PRODUCT, ACTIVITY	POLLUTANTS
Air Conditioning & Heating	Insulation Coolant Reservoirs	Asbestos Freon
Yard O&M	Vehicle and Machinery Maintenance Gasoline, Oils, Additives Marking Paints (Sprays) Grading, Earth Moving Portable Toilets Fire Hazard Control (Herbicides) Wash Waters	Oils and grease, Coolants Benzene & Derivatives, Oils & Grease Vinyl Chloride, Metals Erosion (Sediments) BOD, Disinfectants (Spills) Sodium Arsenite, Dinitro Rodenticides, Insecticides, Herbicides, Concrete, Oils, Greases
Landscaping & Earthmoving	Planting, Plant Maintenance Excavation, Tilling Solid Wastes (Trees, Shrubs) Exposing Natural Lime or Other Mineral Deposits Soils Additives Revegetation of Graded Areas	Pesticides, Herbicides, Nutrients Erosion (Sediments) BOD Acidity/Alkalinity, Metals Aluminum Sulfate, Sulfur Fertilizers
Materials Storage	Waste Storage (Used Oils, Solvents, Etc.) Hazardous Waste Containment Raw Material Piles	Spills, Leaks Spills, Leaks Dusts, Sediments

Note: VOC = Volatile Organic Compounds.

BOD = Biochemical Oxygen Demand due to the use of oxygen by decomposing materials.

END OF SECTION 01 35 43 - ATTACHMENT A

SECTION 01 41 00

REGULATORY REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes
1. Submittals.
2. Quality assurance.
3. Regulatory requirements.
4. Field quality control.

B. Related Sections
1. Section 01 33 00 – Submittal Requirements.

1.2 SUBMITTALS

A. Submit under provisions of Section 01 33 00.

B. Submit certification of inspection confirming approval by authority having jurisdiction when required by individual Section.

C. Submit the following directly to enforcing authorities when required by individual Section:

1. Product data.
2. Design data.
3. Test reports.
4. Certificates.
5. Manufacturer's Instructions.
6. Manufacturer's Field Reports.
7. Operation and Maintenance Data.
8. Guarantee.
9. Other items indicated.

1.3 QUALITY ASSURANCE

A. Perform work in accordance with specific standards indicated. Maintain one copy of each document on site.

1.4 REGULATORY REQUIREMENTS

A. Conform to applicable codes, except conform to more stringent requirements of the Drawings and Specifications.

B. Applicable codes include, but are not limited to:

1. The California Building Standards Code, also known as the California Code of Regulations (CCR), Title 24.

   a. CBC - 2025 California Building Code: California Code of Regulations (CCR), Title 24, Part 2. CBC was adopted in 2026, and is based on the 2024 International Building Code (IBC) with California Amendments.

   b. CMC - 2025 California Mechanical Code: California Code of Regulations (CCR), Title 24, Part 2. CBC was adopted in 2026, and is based on the 2024 International Building Code (IBC) with California Amendments.

   c. CPC - 2025 California Plumbing Code: California Code of Regulations (CCR), Title 24, Part 2. CBC was adopted in 2023, and is based on the 2024 International Building Code (IBC) with California Amendments.

   d. CEC - 2025 California Electrical Code: California Code of Regulations (CCR), Title 24, Part 3. CEC was adopted in 2026, and is based on 2024 National Electrical Code (NEC) with California Amendments.

   e. For copies of the California Building Standards Code or the California Amendments only, contact Building News Inc. (BNI) at (310) 202-7775, or International Code Council (ICC) at (800) 786-4452 or (888) 422-7233.

2. ANSI/ASHRAE/IES Standard Regulations 90.1 2016.

3. Unified Facilities Code 04 -010-01 DOD Minimum Antiterrorism Standards for Buildings December 12, 2018.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 FIELD QUALITY CONTROL

A. When required by the individual Section, arrange for enforcing authority to witness indicated Observations, Testing and Inspections.

END OF SECTION

REQUIREMENTS SECTION 01 45 00.10 20

CMD Amended September 2025

QUALITY CONTROL FOR MINOR CONSTRUCTION

PART 1 GENERAL

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PROCEDURES FOR INSPECTION

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SECTION 01 45 00

QUALITY CONTROL FOR MINOR CONSTRUCTION

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety -- Safety and Health Requirements Manual
ASTM D3740	(2012a) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Using Design and Construction
ASTM E329	(2018) Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection

1.2 SUBMITTALS

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

QC Plan; G-BO (Governments Building Official)

1.3 INFORMATION FOR THE CONTRACT MANAGER

Prior to commencing work on construction, the Contractor can obtain a single copy set of the current report forms from the Contract Manager. The report forms will consist of the Contractor Production Report, Contractor Production Report (Continuation Sheet), Contractor Quality Control (CQC) Report, CQC Report (Continuation Sheet), Preparatory Phase Checklist, Initial Phase Checklist, Rework Items List, and Testing Plan and Log.

Deliver the following to the Contract Manager:

a. CQC Report: Original and one copy, by 10:00 AM the next working day after each day that work is performed.

b. Contractor Production Report: Original and one copy by 10:00 AM the next working day after each day that work is performed.

c. Preparatory Phase Checklist: Original attached to the original CQC Report and one copy attached to each copy.

d. Initial Phase Checklist: Original attached to the original CQC Report and one copy attached to each copy.

e. Field Test Reports: One copy, within two working days after the test is performed, attached to the CQC Report.

f. QC Meeting Minutes: One copy, within two working days after the meeting; and

g. QC Certifications: As required by the paragraph entitled "QC Certifications."

1.4 QC PROGRAM REQUIREMENTS

Establish and maintain a QC program as described in this section. The QC program consists of a QC Manager, a QC plan, a Coordination and Mutual Understanding Meeting, QC meetings, three phases of control, submittal review and approval, testing, and QC certifications and documentation necessary to provide materials, equipment, workmanship, fabrication, construction and operations which comply with the requirements of this contract. The QC program must cover on-site and off-site work and must be keyed to the work sequence. No work or testing may be performed unless the QC Manager is on the work site.

1.4.1 Preliminary Work Authorized Prior to Acceptance

The only work that is authorized to proceed prior to the acceptance of the QC plan is mobilization of storage and office trailers, temporary utilities, and surveying. Written consent is provide by the Contract Manager to mobilize prior to acceptance.

1.4.2 Acceptance

Acceptance of the QC plan is required prior to the start of construction. The Contract Manager reserves the right to require changes in the QC plan and operations as necessary, including removal of personnel, to ensure the specified quality of work. The Contract Manager reserves the right to interview any member of the QC organization at any time in order to verify the submitted qualifications.

1.4.3 Notification of Changes

Notify the Contract Manager, in writing, of any proposed change, including changes in the QC organization personnel, a minimum of seven calendar days prior to a proposed change. Proposed changes must be subject to the acceptance by the Contract Manager.

1.5 QC ORGANIZATION

1.5.1 QC Manager

1.5.1.1 Duties

Provide a QC Manager at the work site to implement and manage the QC program.

The QC Manager shall be a stand-alone position and have no other duties.

Exception: Building Official (BO) may allow the QC Manager to share duties with the Superintendent or safety officer on projects with a contract value under one million dollars or on single trade, non-complex projects of any value. However, at no time will one person hold more than two duties. This option is at the discretion of the BO. Contractors may request this option during pre-bid RFI's for bidding purposes.

The QC Manager is required to attend the Coordination and Mutual Understanding Meeting, conduct the QC meetings, perform the three phases of control, perform submittal review and approval, ensure testing is performed and provide QC certifications and documentation required in this contract. The QC Manager is responsible for managing and coordinating the three phases of control and documentation performed by others.

1.5.1.2 Qualifications

An individual with a minimum of 5 years combined experience as a superintendent, inspector, QC Manager, project manager, or construction manager on similar size and type construction contracts which included the major trades that are part of this contract with the technical competency and ability to inspect the work of others. The individual must be familiar with the requirements of the EM 385-1-1 and have experience in the areas of hazard identification and safety compliance.

1.5.1.3 Construction Quality Management Training

In addition to the above experience and education requirements, the QC Manager must have completed the course Construction Quality Management for Contractors and will have a current certificate.

1.5.2 Alternate QC Manager Duties and Qualifications

Designate an alternate for the QC Manager to serve in the event of the designated QC Manager's absence. The period of absence may not exceed two weeks at one time, and not more than 30 workdays during a calendar year. The qualification requirements for the Alternate QC Manager must be the same as for the QC Manager.

1.6 QC PLAN

Submit a QC plan within 15 calendar days after receipt of Notice of Award.

1.6.1 Requirements

Provide, for acceptance by the Contract Manager, a QC plan submitted in a three-ring binder that covers both on-site and off-site work and includes the following with a table of contents listing the major sections identified with tabs.

I. QC ORGANIZATION: A chart showing the QC organizational structure and its relationship to the production side of the organization. The
QC Manager must report to an officer of the firm and not be subordinate to the Project Superintendent or the Project Manager. The QC Manager, Project Superintendent and Project Manager must work together effectively. Although the QC Manager is the primary individual responsible for quality control, all individuals will be held responsible for the quality of work on the job.

II. NAMES AND QUALIFICATIONS: In resume format, for each person in the QC organization. Include the CQM for Contractors course certification requiredby the paragraph entitled "Construction Quality Management Training".

III. DUTIES, RESPONSIBILITY AND AUTHORITY OF QC PERSONAL: Of each person in the QC organization.

IV. OUTSIDE ORGANIZATIONS: A listing of outside organizations such as architectural and consulting engineering firms that will be employed by the Contractor and a description of the services these firms will provide.

V. APPOINTMENT LETTERS: Letters signed by an officer of the firm appointing the QC Manager and Alternate QC Manager and stating that they are responsible for managing and implementing the QC program as described in this contract. Include in this letter the QC Manager's authority to direct the removal and replacement of non-conforming work.

VI. SUBMITTAL PROCEDURES AND INITIAL SUBMITTAL REGISTER: Procedures for reviewing, approving and managing submittals. Provide the name(s) of the person(s) in the QC organization authorized to review and certify submittals prior to approval.

VII. TESTING LABORATORY INFORMATION: Testing laboratory information required by the paragraphs "Accredited Laboratories" or "Testing Laboratory Requirements", as applicable.

VIII. TESTING PLAN AND LOG: A Testing Plan and Log that includes the tests required, referenced by the specification paragraph number requiring the test, the frequency, and the person responsible for each test.

IX. PROCEDURES TO COMPLETE REWORK ITEMS: Procedures to identify, record, track and complete rework items.

X. DOCUMENTATION PROCEDURES: Use Government formats.

XI. LIST OF DEFINABLE FEATURES: A Definable Feature of Work (DFOW) is a task, which is separate and distinct from other tasks, has the same control requirements and work crews. The list must be cross-referenced to the Contractor's Construction Schedule and the specification sections. For projects requiring a Progress Chart, the list of definable features of work must include but not be limited to all items of work on the schedule. For projects requiring a Network Analysis Schedule, the list of definable features of work must include but not be limited to all critical path activities.

XII. PROCEDURES FOR PERFORMING THREE PHASES OF CONTROL: For each DFOW provide Preparatory and Initial Phase Checklists. Each list must include a breakdown of quality checks that will be used when performing the quality control functions, inspections, and tests required by the contract documents. The preparatory and initial phases must be conducted with a view towards obtaining quality construction by planning ahead and identifying potential problems.

XIII. PERSONNEL MATRIX: Not Applicable.

XIV. PROCEDURES FOR COMPLETION INSPECTION: See the paragraph entitled "COMPLETION INSPECTIONS".

XV. TRAINING PROCEDURES AND TRAINING LOG: Not Applicable.

1.7 COORDINATION AND MUTUAL UNDERSTANDING MEETING

During the Pre-Construction conference meeting and prior to the start of construction, discuss the QC program required by this contract. The purpose of this meeting is to develop a mutual understanding of the QC details, including documentation, administration for on-site and off-site work, and the coordination of the Contractor's management, production and the QC personnel. At the meeting, the Contractor will be required to explain how three phases of control will be implemented for each DFOW. Contractor's personnel required to attend must include the QC Manager, project manager, and superintendent.

Minutes of the meeting will be prepared by the QC Manager and signed by both the Contractor and the Contract Manager. The Contractor must provide a copy of the signed minutes to all attendees. Repeat the coordination and mutual understanding meeting when a new QC Manager is appointed.

1.8 QC MEETINGS

After the start of construction, the QC Manager must conduct QC meetings once every week at the work site with the superintendent and the foreman responsible for the ongoing and upcoming work. The QC Manager must prepare the minutes of the meeting and provide a copy to the Contract Manager within two working days after the meeting. As a minimum, the following must be accomplished at each meeting:

a. Review the minutes of the previous meeting.

b. Review the schedule and the status of work and rework.

c. Review the status of submittals.

d. Review the work to be accomplished in the next two weeks and documentation required.

e. Resolve QC and production problems (RFIs, etc.);

f. Address items that may require revising the QC plan; and

g. Review Accident Prevention Plan (APP).

1.9 THREE PHASES OF CONTROL

The three phases of control must adequately cover both on-site and off-site work and must include the following for each DFOW.

1.9.1 Preparatory Phase

Notify the Contract Manager at least two work days in advance of each preparatory phase. Conduct the preparatory phase with the superintendent and the foreman responsible for the definable feature of work. Document the results of the preparatory phase actions in the daily CQC Report and in the QC checklist.Perform the following prior to beginning work on each definable feature of work:

a. Review each paragraph of the applicable specification sections.

b. Review the contract drawings.

c. Verify that appropriate shop drawings and submittals for materials and equipment have been submitted and approved. Verify receipt of approved factory test results, when required.

d. Review the testing plan and ensure that provisions have been made to provide the required QC testing.

e. Examine the work area to ensure that the required preliminary work has been completed.

f. Examine the required materials, equipment and sample work to ensure that they are on hand and conform to the approved shop drawings and submitted data.

g. Review the APP and appropriate Activity Hazard Analysis (AHA) to ensure that applicable safety requirements are met, and that required Safety Data Sheets (SDS) are submitted; and

h. Discuss specific controls used and the construction methods and the approach that will be used to provide quality construction by planning ahead and identifying potential problems for each DFOW.

1.9.2 Initial Phase

Notify the Contract Manager at least two work days in advance of each initial phase. Conduct the Initial Phase with the foreman responsible for that DFOW. Observe the initial segment of the work to ensure that it complies with contract requirements. Document the results of the Initial Phase in the daily CQC Report and in the QC checklist. Perform the following for each DFOW:

a. Establish the quality of workmanship required.

b. Resolve conflicts.

c. Ensure that testing is performed by the approved laboratory; and

d. Check work procedures for compliance with the APP and the appropriate AHA to ensure that applicable safety requirements are met.

1.9.3 Follow-Up Phase

Perform the following for on-going work daily, or more frequently as necessary, until the completion of each DFOW and document in the daily CQC Report and in the QC checklist:

a. Ensure the work is in compliance with contract requirements.

b. Maintain the quality of workmanship required.

c. Ensure that testing is performed by the approved laboratory.

d. Ensure that rework items are being corrected; and

e. Assure manufacturers representatives have performed necessary inspections, if required.

1.9.4 Additional Preparatory and Initial Phases

Additional preparatory and initial phases must be conducted on the same DFOW if the quality of on-going work is unacceptable, if there are changes in the applicable QC organization, if there are changes in the on-site production supervision or work crew, if work on a DFOW is resumed after substantial period of inactivity, or if other problems develop.

1.9.5 Notification of Three Phases of Control for Off-Site Work

Notify the Contract Manager at least two weeks prior to the start of the preparatory and initial phases.

1.10 SUBMITTAL REVIEW AND APPROVAL

Procedures for submission, review, and approval of submittals are described in Section 01 33 00 SUBMITTAL PROCEDURES.

1.11 TESTING

Except as stated otherwise in the specification sections, perform sampling and testing required under this contract.

1.11.1 Accreditation Requirements

Construction materials testing laboratories must be accredited by a laboratory accreditation authority and will be required to submit a copy of the Certificate of Accreditation and Scope of Accreditation. The laboratory's scope of accreditation must include the appropriate ASTM standards (i.e.; E 329, C 1077, D 3666, D 3740, E 543) listed in the technical sections of the specifications. Laboratories engaged in Hazardous Materials Testing must meet the requirements of OSHA and EPA. The policy applies to the specific laboratory performing the actual testing, not just the "Corporate Office."

1.11.2 Laboratory Accreditation Authorities

Laboratory Accreditation Authorities include the National Voluntary Laboratory Accreditation Program (NVLAP) administered by the National Institute of Standards and Technology, the American Association of State Highway and Transportation Officials (AASHTO), International Accreditation Services, Inc. (IAS), U. S. Army Corps of Engineers Materials Testing Center (MTC), the American Association for Laboratory Accreditation (A2LA), the Washington Association of Building Officials (WABO) (Approval authority for WABO is limited to projects within Washington State), and the Washington Area Council of Engineering Laboratories (WACEL) (Approval authority by WACEL is limited to projects within the NAVFAC WASH and Public Works Center Washington geographical area).

1.11.3 Capability Check

The Contract Manager retains the right to check laboratory equipment in the proposed laboratory and the laboratory technician's testing procedures, techniques, and other items pertinent to testing, for compliance with the standards set forth in this contract.

1.11.4 Test Results

Cite applicable Contract requirements, tests or analytical procedures used. Provide actual results and include a statement that the item tested or analyzed conforms or fails to conform to specified requirements. If the item fails to conform, notify the Contract Manager immediately. Conspicuously stamp the cover sheet for each report in large red letters "CONFORMS" or "DOES NOT CONFORM" to the specification requirements, whichever is applicable. Test results must be signed by a testing laboratory representative authorized to sign certified test reports. Furnish the signed reports, certifications, and other documentation to the Contract Manager.

1.12 QC CERTIFICATIONS

1.12.1 Contractor Quality Control Report Certification

Each CQC Report must contain the following statement: "On behalf of the Contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report."

1.12.2 Invoice Certification

Furnish a certificate to the Contract Manager with each payment request signed by the QC Manager, attesting that as-built drawings are current and attesting that the work for which payment is requested, including stored material, is in compliance with contract requirements.

1.12.3 Completion Certification

Upon completion of work under this contract, the QC Manager must furnish a certificate to the Contract Manager attesting that "the work has been completed, inspected, tested and is in compliance with the contract."

1.13 COMPLETION INSPECTIONS

1.13.1 Punch-Out Inspection

Near the completion of all work or any increment thereof established by a completion time stated in the Contract clause "Commencement, Prosecution, and Completion of Work," or stated elsewhere in the specifications, the QC Manager must conduct an inspection of the work and develop a punch list of items which do not conform to the approved drawings and specifications. Include in the punch list any remaining items of the "Rework Items List", which were not corrected prior to the Punch-Out inspection. The punch list must include the estimated date by which the deficiencies will be corrected. A copy of the punch list must be provided to the Contract Manager. The QC Manager or staff must make follow-on inspections to ascertain that all deficiencies have been corrected. Once this is accomplished, the Contractor must notify the Government that the facility is ready for the Government "Pre-Final Inspection".

1.13.2 Pre-Final Inspection

The Government and QC manager will perform this inspection to verify that the facility is complete and ready to be occupied. A Government pre-final punch list may be developed as a result of this inspection. The QC Manager must ensure that all items on this list are corrected prior to notifying the Government that a "Final" inspection with the customer can be scheduled. Any items noted on the "Pre-Final" inspection must be corrected in a timely manner and must be accomplished before the contract completion date for the work or any particular increment thereof if the project is divided into increments by separate completion dates.

1.13.3 Final Acceptance Inspection

The QC Manager, the superintendent, and other Contractor management personnel and the Contract Manager will be in attendance at this inspection. Additional Government personnel may be in attendance.

The final acceptance inspection will be formally scheduled by the Contract Manager based upon results of the "Pre-Final Inspection". Notice must be given to the Contract Manager at least 14 days prior to the final inspection. The notice must state that all specific items previously identified to the Contractor as being unacceptable will be complete by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for the Contract Manager to bill the Contractor for the Government's additional inspection cost in accordance with the contract clause "Inspection of Construction".

1.14 DOCUMENTATION

Maintain current and complete records of on-site and off-site QC program operations and activities. The forms identified under the paragraph "INFORMATION FOR THE CONTRACT MANAGER" must be used. Reports are required for each day work is performed. Account for each calendar day throughout the life of the contract. Every space on the forms must be filled in. Use N/A if nothing can be reported in one of the spaces. The superintendent and the QC Manager must prepare and sign the Contractor Production and CQC Reports, respectively. The reporting of work must be identified by terminology consistent with the construction schedule. In the "remarks" section in this report will contain pertinent information including directions received, problems encountered during construction, work progress and delays, conflicts or errors in the drawings or specifications, field changes, safety hazards encountered, instructions given and corrective actions taken, delays encountered and a record of visitors to the work site. For each remark given, identify the Schedule Activity No. that is associated with the remark.

1.14.1 Quality Control Validation

Establish and maintain the following in a series of three ring binders. Binders must be divided and tabbed as shown below. These binders must be readily available to the Government's Quality Assurance Team during all business hours.

a. All completed Preparatory and Initial Phase Checklists, arranged by specification section.

b. All milestone inspections, arranged by Activity/Event Number.

c. A current up-to-date copy of the Testing and Plan Log with supporting field test reports, arranged by specification section.

d. Copies of all contract modifications, arranged in numerical order. Also include documentation that modified work was accomplished.

e. A current up-to-date copy of the Rework Items List.

f. Maintain up-to-date copies of all punch lists issued by the QC Staff on the Contractor and Sub-Contractors and all punch lists issued by the Government.

1.14.2 As-Built Drawings

The QC Manager is required to review the as-built drawings, required by Section 01 78 00 CLOSEOUT SUBMITTALS, are kept current on a daily basis and marked to show deviations, which have been made from the Contract drawings.

Ensure each deviation has been identified with the appropriate modifying documentation, e.g. PC number, modification number, RFI number, etc. The QC Manager must initial each deviation or revision. Upon completion of work, the QC Manager must submit a certificate attesting to the accuracy of the as-built drawings prior to submission to the Contract Manager.

1.15 NOTIFICATION ON NON-COMPLIANCE

The Contract Manager will notify the Contractor of any detected non-compliance with the foregoing requirements. The Contractor must take immediate corrective action. If the contractor fails or refuses to correct the non-compliant work, the Contract Manager will issue a noncompliance notice. Such notice, when delivered to the Contractor at the work site, must be deemed sufficient for the purpose of notification.

If the Contractor fails or refuses to comply promptly, the Contract Manager may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor must make no part of the time lost due to such stop orders the subject of claim for extension of time, for excess costs, or damages.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

COMPLETION INSPECTIONS

PROCEDURES FOR INSPECTION

3.1 All Inspections including Special Inspections will be requested by the contractors QC manager to the governments Inspector of Record (IOR)/QA. Inform the IOR no less then 48 hours prior to the time inspection is requested via the system of record used to manage the project (Procore, Bim360, Email etc). QC shall perform quality control inspection prior to requesting inspection from the government. The following documents shall accompany all inspection requests to be valid.

a. Map and location of the work that is to be inspected
b. Preparatory Phase Checklist
c. Initial Phase Checklist
d. Pictures of the work (a reasonable amount to illustrate the work)
e. Specification sections for the work being inspected
f. A written and signed inspection request on company letterhead from the QC stating "the work has been completed, was inspected and is in compliance with the contract documents"

END OF SECTION

Company Letterhead

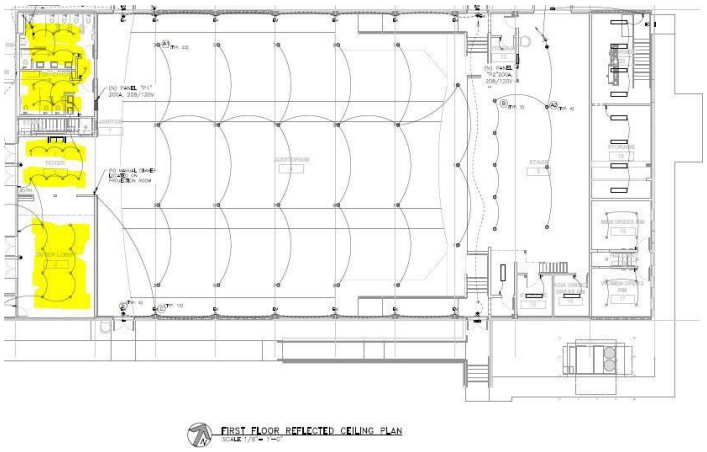
From: QC Name

Date: (Todays Date)

TO: CA Mil Dept.- IOR Name

Request inspection on: Date / Time

Details: Request government inspection of the rough electrical lighting located in the front lobby, restrooms, and outer lobby. Work to be inspected is highlighted on the map below.



Below are photographs of the work to be inspected

Photo 1	Photo 2	Photo 3

Specification section attached gcm

Preparatory Phase checklist attached gcm

Initial Phase checklist attached gcm

Electrical Subcontractor verifies work is ready for inspection _____ *Signature* _____

"QC Verification statement:" The work has been completed, was inspected and is in compliance with the contract documents _____ *Signature* _____

PREPARATORY PHASE CHECKLIST

(CONTINUED ON SECOND PAGE)

CONTRACT NO	DEFINABLE FEATURE OF WORK	SPEC SECTION	DATE
		SCHEDULE ACT NO.	INDEX #

PERSONNEL PRESENT

GOVERNMENT REP NOTIFIED ____ HOURS IN ADVANCE: ☐ YES ☐ NO

NAME	POSITION	COMPANY/GOVERNMENT

SUBMITTALS

☐ ☐

REVIEW SUBMITTALS AND/OR SUBMITTAL REGISTER. HAVE ALL SUBMITTALS BEEN APPROVED? YES NO

IF NO, WHAT ITEMS HAVE NOT BEEN SUBMITTED?

MATERIAL STORAGE

☐ ☐

ARE ALL MATERIALS ON HAND? YES NO

IF NO, WHAT ITEMS ARE MISSING?

CHECK APPROVED SUBMITTALS AGAINST DELIVERED MATERIAL. (THIS SHOULD BE DONE AS MATERIAL ARRIVES.)

COMMENTS:

SPECIFICATIONS

☐ ☐

ARE MATERIALS STORED PROPERLY? YES NO

IF NO, WHAT ACTION IS TAKEN?

REVIEW EACH PARAGRAPH OF SPECIFICATIONS.

DISCUSS PROCEDURE FOR ACCOMPLISHING THE WORK.

CLARIFY ANY DIFFERENCES.

PRELIMINARY WORK & PERMITS

ENSURE PRELIMINARY WORK IS CORRECT AND PERMITS ARE ON FILE.

IF NOT, WHAT ACTION IS TAKEN?

TESTING

IDENTIFY TEST TO BE PERFORMED, FREQUENCY, AND BY WHOM.

WHEN REQUIRED?

WHERE REQUIRED?

REVIEW TESTING PLAN.

HAS TEST FACILITIES BEEN APPROVED?

SAFETY

ACTIVITY HAZARD ANALYSIS APPROVED? YES ☐ NO ☐

REVIEW APPLICABLE PORTION OF EM 385-1-1.

MEETING COMMENTS

COMMENTS DURING MEETING.

OTHER ITEMS OR REMARKS

OTHER ITEMS OR REMARKS:

QC MANAGER DATE

INITIAL PHASE CHECKLIST

		SPEC SECTION	DATE
CONTRACT NO	DEFINABLE FEATURE OF WORK	SCHEDULE ACT NO.	INDEX #

PERSONNEL PRESENT

GOVERNMENT REP NOTIFIED ____ HOURS IN ADVANCE: YES ☐ NO ☐

NAME	POSITION	COMPANY/GOVERNMENT

PROCEDURE COMPLIANCE

IDENTIFIY FULL COMPLIANCE WITH PROCEDURES IDENTIFIED AT PREPARATORY. COORDINATE PLANS, SPECIFICATIONS, AND SUBMITTALS.

COMMENTS: _____

PRELIMINARY WORK

ENSURE PRELIMINARY WORK IS COMPLETE AND CORRECT. IF NOT, WHAT ACTION IS TAKEN?

WORKMANSHIP

ESTABLISH LEVEL OF WORKMANSHIP.

WHERE IS WORK LOCATED? _____

IS SAMPLE PANEL REQUIRED? YES ☐ NO ☐

WILL THE INIITAL WORK BE CONSIDERED AS A SAMPLE? YES ☐ NO ☐

(IF YES, MAINTAIN IN PRESENT CONDITION AS LONG AS POSSIBLE AND DESCRIBE LOCATION OF SAMPLE) _____

RESOLUTION

RESOLVE ANY DIFFERENCES.

COMMENTS: _____

CHECK SAFETY

REVIEW JOB CONDITIONS USING EM 385-1-1 AND JOB HAZARD ANALYSIS

COMMENTS: _____

OTHER

OTHER ITEMS OR REMARKS

_____ _____

QC MANAGER DATE

CONTRACTOR QUALITY CONTROL REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE

REPORT NO

PHASE | CONTRACT NO | CONTRACT TITLE

PREPARATORY

WAS PREPARATORY PHASE WORK PREFORMED TODAY? YES ☐ NO ☐

IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.

Schedule Activity No.	Definable Feature of Work	Index #

INITIAL

WAS INITIAL PHASE WORK PREFORMED TODAY? YES ☐ NO ☐

IF YES, FILL OUT AND ATTACH SUPPLEMENTAL INITIAL PHASE CHECKLIST.

Schedule Activity No.	Definable Feature of Work	Index #

FOLLOW-UP

WORK COMPLIES WITH CONTRACT AS APPROVED DURING INITIAL PHASE? YES ☐ NO ☐

WORK COMPLIES WITH SAFETY REQUIREMENTS? YES ☐ NO ☐

Schedule Activity No.	Description of Work, Testing Performed & By Whom, Definable Feature of Work, Specification Section, Location and List of Personnel Present

REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)

Schedule Activity No.	Description

REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)

Schedule Activity No.	Description

REMARKS (Also Explain Any Follow-Up Phase Checklist Item From Above That Was Answered "NO"), Manuf. Rep On-Site, etc.

Schedule Activity No.	Description

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

AUTHORIZED QC MANAGER AT SITE DATE

DATE

REWORK ITEMS LIST

Contract No. and Title: Enter Contract # and Title Here

Contractor: Enter Contractor's Company Name Here

NUMBER	DATE IDENTIFIED	DESCRIPTION	CONTRACT REQUIREMENT (Spec. Section and Par. No., Drawing No. and Detail No., etc.)	ACTION TAKEN BY QC MANAGER	RESOLUTION	DATE COMPLETED

TESTING PLAN AND LOG

CONTRACT NUMBER Enter Contract # Here			PROJECT TITLE AND LOCATION Enter Contract Title and Location Here							CONTRACTOR Enter Contractor's Company Name Here	
SPECIFICATION SECTION AND PARAGRAPH NUMBER	ITEM OF WORK	TEST REQUIRED	ACCREDITED/ APPROVED LAB		SAMPLED BY	TESTED BY	LOCATION OF TEST		DATE COMPLETED	DATE FORWARDED TO CONTR. OFF.	REMARKS
			YES	NO			ON SITE	OFF SITE			

RESPONSIBILITIES/AUTHORITY OF THE QC MANAGER

1. Appointing letter to the QC manager shall detail his/her authority and responsibility to act for the contractor and outline his/her duties, responsibilities and authority. He/she shall have no job-related responsibilities other than QC unless specifically permitted in the specification.

2. He/she shall be on the site at all times during progress of the work, with complete authority to take any action necessary to ensure conformance with the contract requirements. In the event of his/her absence, approved backup shall be on the site.

3. Authority to immediately stop any segment of work which does not comply with the contract plans and specifications and direct the removal and replacement of any defective work.

4. Conduct daily inspection of work performed for compliance with plans and specifications.

5. Certify daily that all materials and equipment delivered/installed in the work comply with contract plans and specifications. Certify daily that all work performed on the construction site and off the construction site conforms to plans and specifications. Report any deficiencies and remedial action planned and taken.

6. Supervise and coordinate the inspection and tests made by the members of the Quality Control Organization, including subcontractors.

7. Assure QC staff is adequate to meet its responsibilities.

8. Maintain a copy of the Building Official approved QC Plan on file at the jobsite complete with up-to-date approved revisions/filled-in log of submittals. Maintain at the jobsite an up-to-date QC Submittal Register (provided in the specification) showing the status of all submittals required by the contract.

9. Maintain at the jobsite a testing plan showing status of all tests required by the contracts. Ensure that all tests required are performed and report the results of same. Indicate whether test results show the item tested conforms to contract requirements or not.

10. Authority to remove any individual from the site who fails to perform his/her work in a skillful and workmanlike manner or his/her work does not comply with the contract plans and specifications.

11. QC manager does not have authority to deviate from plans and specifications without prior approval, in writing, from the ROICC.

12. Ensure that the contractor's Quality Control Organization is adequately staffed with qualified personnel to perform all the detailed inspections and testing specified in the plans and specifications.

13. Maintain at the jobsite the up-to-date QC Rework Items List.

SECTION 01 50 00

TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN WATER WORKS ASSOCIATION (AWWA)

AWWA C511	(2017) Reduced-Pressure Principal Backflow Prevention Assembly

FOUNDATION FOR CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH (FCCCHR)

FCCCHR List	(continuously updated) List of Approved Backflow Prevention Assemblies
FCCCHR Manual	(10th Edition) Manual of Cross-Connection Control

OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION (OSHA)

29 CFR 1910	Safety and Health Regulation in General Industry
29 CFR 1926	Safety and Health Regulations for Construction

1.2 SUBMITTALS

Government approval is required for all submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. Submit the following in accordance with Section 01 33 00 Submittal Procedures:

1.3 CONSTRUCTION SITE PLAN

Prior to the start of work, submit a site plan showing the locations and dimensions of temporary facilities (including layouts and details, equipment and material storage area (onsite and offsite), and access and haul routes, avenues of ingress/egress to the fenced area and details of the fence installation.

Identify any areas which may have to be graveled to prevent the tracking of mud. Indicate if the use of a supplemental or other staging area is desired. Show locations of safety and construction fences, site trailers, construction entrances, trash dumpsters, temporary sanitary facilities, and worker parking areas.

PART 2 PRODUCTS

2.1 TEMPORARY SIGNAGE

2.1.1 Warning Signs

Post temporary signs, tags, and labels to give workers and the public adequate warning and caution of construction hazards according to 29 CFR 1910. Attach signs to the perimeter fencing every 150 feet warning the public of the presence of construction hazards. Signs must require unauthorized persons to keep out of the construction site. Correct the data required by safety signs daily.

2.2 TEMPORARY TRAFFIC CONTROL

2.2.1 Barricades

Erect and maintain temporary barricades to limit public access to hazardous areas. Whenever safe public access to paved areas such as roads, parking areas or sidewalks is prevented by construction activities or as otherwise necessary to ensure the safety of both pedestrian and vehicular traffic barricades will be required. Securely place barricades clearly visible with adequate illumination to provide sufficient visual warning of the hazard during both day and night.

2.2.2 Polyethylene Mesh Safety Fencing

Temporary safety fencing must be a high visibility orange colored, high density polyethylene grid, a minimum of 48 inches high and maximum mesh size of 2 inches. Fencing must extend from the grade to a minimum of 48 inches above the grade and be tightly secured to T-posts spaced as necessary to maintain a rigid and taut fence. Fencing must remain rigid and taut with a minimum of 200 pounds of force exerted on it from any direction with less than 4 inches of deflection.

2.2.3 Chain Link Panel Fencing

Temporary panel fencing must be galvanized steel chain link panels [6] [8] feet high. Multiple fencing panels may be linked together at the bases to form long spans as needed. Each panel base must be weighted down using sandbags or other suitable materials in order for the fencing to withstand anticipated winds while remaining upright. Fencing must remain rigid and taut with a minimum of 200 pounds of force exerted on it from any direction with less than 4 inches of deflection.

2.2.4 Post-Driven Chain Link Fencing

Temporary post-driven fencing must be galvanized chain link fencing 6 feet high supported by a tightly secured to galvanized steel posts driven below grade. Fence posts must be located on minimum 10-foot centers. Posts may be set in various surfaces such as sand, soil, asphalt or concrete as necessary.

Chain link fencing must remain rigid and taut with a minimum of 200 pounds of force exerted on it from any direction with less than 4 inches of deflection.

Fencing and posts must be completely removed at the completion of construction and any surfaces disturbed or damaged must be restored to its original condition. Underground utilities must be located and identified prior to setting fence posts. Fence must be equipped with a lockable gate. Gate must remain locked when construction personnel are not present.

3.1 EMPLOYEE PARKING

Construction contract employees will park privately owned vehicles in an area designated by the Contract Manager. This area will be within reasonable walking distance of the construction site. Employee parking must not interfere with existing and established parking requirements of the government installation.

3.2 TEMPORARY BULLETIN BOARD

Locate the bulletin board at the project site in a conspicuous place easily accessible to all employees, as approved by the Contract Manager.

3.3 AVAILABILITY AND USE OF UTILITY SERVICES

3.3.1 Temporary Utilities

Provide temporary utilities required for construction. Materials may be new or used, must be adequate for the required usage, not create unsafe conditions, and not violate applicable codes and standards. Coordinate with Contract Manager to see in the Facility has available power.

3.3.11 Water

Make connections to existing facilities to provide water for construction purposes. Water used maybe be furnished by the Government coordinating with The Contract Manager.

3.3.12 Sanitation

a. Provide and maintain within the construction area minimum field-type sanitary facilities approved by the Contract Manager and periodically empty wastes into a municipal, district, or station sanitary sewage system, or remove waste to a commercial facility. Obtain approval from the system owner prior to discharge into any municipal, district, or commercial sanitary sewer system. Any penalties or fines associated with improper discharge will be the responsibility of the Contractor. Coordinate with the Contract Manager and follow station regulations and procedures when discharging into the station sanitary sewer system. Maintain these conveniences at all times. Include provisions for pest control and elimination of odors. Government toilet facilities will not be available to Contractor's personnel.

b. Provide toilet/sanitation and temporary sewer facilities in accordance with Occupational Safety and Health Administration standard 1926.51. Ventilate the units to control odors and fumes and empty and clean them at least once a week or more often if required by the Contract Manager. Provide self-closing doors. The exterior of the unit shall match the base standard color. Locate the facility behind the construction fence or out of the public view.

3.3.13 Telephone

Make arrangements and pay all costs for telephone facilities desired.

3.4 TRAFFIC PROVISIONS

3.4.1 Maintenance of Traffic

a. Conduct operations in a manner that will not interfere in any way with traffic on site except with written permission of the Contract.

b. Conduct work so as to minimize obstruction of traffic.
c. Provide, erect, and maintain, at contractor’s expense, lights, barriers, signals, passageways, detours, and other items, that may be required by the Life Safety Signage, overhead protection authority having jurisdiction.

3.5 CONTRACTOR'S TEMPORARY FACILITIES

3.5.1 Safety Systems

Protect the integrity of any installed safety systems or personnel safety devices. Obtain prior approval from Contract Manager if entrance into systems serving safety devices is required. If it is temporarily necessary to remove or disable personnel safety devices in order to accomplish contract requirements, provide alternative means of protection prior to removing or disabling any permanently installed safety devices or equipment and obtain approval from the Contract Manager.

3.5.2 Administrative Field Offices

Provide and maintain administrative field office facilities within the construction area at the designated site. Government office and warehouse facilities will [not] be available to the Contractor's personnel.

3.5.3 Storage Area

Construct a temporary 6-foot-high chain link fence around trailers and materials. Fence posts may be driven, in lieu of concrete bases, where soil conditions permit. Do not place or store trailers, materials, or equipment outside the fenced area unless such trailers, materials, or equipment are assigned a separate and distinct storage area by the Contract Manager away from the vicinity of the construction site but within the installation boundaries. Trailers, equipment, or materials must not be open to public view with the exception of those items which are in support of ongoing work on any given day.

Do not stockpile materials outside the fence in preparation for the next day's work. Park mobile equipment, such as tractors, wheeled lifting equipment, cranes, trucks, and like equipment within the fenced area at the end of each work day.

3.5.4 Supplemental Storage Area

Upon request, and pending availability, the Contract Manager will designate another or supplemental area for the use and storage of trailers, equipment, and materials. This area may not be in close proximity of the construction site but will be within the installation boundaries.

The area will be maintained in an clean and orderly fashion and secured if needed to protect supplies and equipment. Utilities will not be provided to this area by the Government.

3.5.5 Appearance of Trailers

Trailers which are rusted, have peeling paint or are otherwise in need of repair will not be allowed on Installation property. Trailers must present a clean and neat exterior appearance and be in a state of good repair.

3.5.6 Trailers or Storage Buildings

Trailers or storage buildings will be permitted, where space is available, subject to the approval of the Contract Manager. The trailers or buildings shall be in good condition, free from visible damage, rust and deterioration, and meet all applicable safety requirements. Trailers shall be roadworthy and comply with all appropriate state and local vehicle requirements. Failure to maintain storage trailers or buildings to these standards may result in the removal of non-complying units at the Contractor's expense. A sign not smaller than 600 by 600 mm 24 by 24 inches shall be conspicuously placed on the trailer depicting the company name, business phone number, and emergency phone number. Trailers must be anchored to resist high winds and must meet applicable state of local standards for anchoring mobile trailers. Coordinate anchoring with EM 385-1-1 Section 04.

3.5.7 Maintenance of Storage Area

a. Keep fencing in a state of good repair and proper alignment. Grassed or unpaved areas, which are not established roadways, and will be traversed with construction equipment or other vehicles, will be covered with a layer of gravel as necessary to prevent rutting and the tracking of mud onto paved or established roadways, should the Contractor elect to traverse them with construction equipment or other vehicles. Mow and maintain grass located within the boundaries of the construction site for the duration of the project. Grass and vegetation along fences, buildings, under trailers, and in areas not accessible to mowers will be edged or trimmed neatly.

b. Cut grass (or annual weeds) within the construction and storage sites to a maximum 4-inch height at least once a week during the growing season, whether or not area is visible to the public to assist in rodent control. Trim the grass around fences at time of grass cutting. Maintain grass or weeds on stockpiled earth as described above.

3.5.8 Security Provisions

Provide adequate outside security lighting at the temporary facilities. The Contractor will be responsible for the security of its own equipment.

3.5.11 Storage Size and Location

The open site available for storage must be confined to the indicated operations area within 1,000 feet of the operations area or as indicated.

3.5.13 Weather Protection of Temporary Facilities and Stored Materials

Take necessary precautions to ensure that roof openings and other critical openings in the building are monitored carefully. Take immediate actions required to seal off such openings when rain or other detrimental weather is imminent, and at the end of each workday.

Ensure that the openings are completely sealed off to protect materials and equipment in the building from damage.

3.5.13.1 Building and Site Storm Protection

When a warning of gale force winds is issued, take precautions to minimize danger to persons, and protect the work and nearby Government property. Precautions must include, but are not limited to, closing openings; removing loose materials, tools and equipment from exposed locations; and removing or securing scaffolding and other temporary work. Close openings in the work when storms of lesser intensity pose a threat to the work or any nearby Government property.

3.6 PLANT COMMUNICATIONS

Whenever the individual elements of the plant are located so that operation by normal voice between these elements is not satisfactory, install a satisfactory means of communication, such as telephone or other suitable devices and make available for use by Government personnel.

3.7 TEMPORARY PROJECT SAFETY FENCING

As soon as practicable, but not later than 15 days after the date established for commencement of work, furnish and erect temporary project safety fencing at the work site. Maintain the safety fencing during the life of the contract and, upon completion and acceptance of the work, remove from the work site.

3.8 DUMPSTERS

Equip dumpsters with a secure cover and paint the standard installation color. Keep dumpster closed, except when being loaded with trash and debris. Locate dumpsters behind the construction fence or out of the public view. Empty site dumpsters at least once a week, or as needed to keep the site free of debris and trash. If necessary, provide 55-gallon trash containers painted the darker installation color to collect debris in the construction site area. For large demolitions, large dumpsters without lids are acceptable, but must not have debris higher than the sides before emptying.

3.9 CLEANUP

Remove construction debris, waste materials, packaging material and the like from the work site daily. Any dirt or mud which is tracked onto paved or surfaced roadways must be cleaned away. Store any salvageable materials resulting from demolition activities within the fenced area described above or at the supplemental storage area. Neatly stack stored materials not in trailers, whether new or salvaged.

3.10 RESTORATION OF STORAGE AREA

Upon completion of the project remove the bulletin board, signs, barricades, haul roads, and any other temporary products from the site. After removing the trailers, materials, and equipment from within the fenced area, remove the fence. Restore areas used during the performance of the contract to the original or better condition. Remove gravel used to traverse grassed areas and restore the area to its original condition, including top soil and seeding as necessary.

END OF SECTION

SECTION 01 55 00

FINAL FACILITY CLEANING

1. PART 1 GENERAL

1.1. SUMMARY

1.1.1. Section Includes: Contract closeout requirements including:
1.1.1.1. Final cleaning.

1.2. FINAL CLEANING

1.2.1. Perform final cleaning prior to inspections for final acceptance.

1.2.2. Use cleaning materials which are recommended by manufacturers of surfaces to be cleaned.

1.2.3. Prevent scratching or otherwise damaging surfaces being cleaned.

1.2.4. Broom clean exterior paved surfaces and rake clean other surfaces of site work.
1.2.4.1. Armory yards and grounds to clean be kept clean and weeds abated.

1.2.5. Clean grease, mastic, adhesives, dust, dirt, stains, fingerprints, paint, blemishes, sealants, plaster, concrete, and other foreign materials from sight-exposed surfaces, and fixtures and equipment.

1.2.6. Remove non-permanent protection and labels.

1.3. WASTE DISPOSAL

1.3.1. Arrange for and dispose of surplus materials, waste products, and debris off-site.
1.3.1.1. Prior to making disposal on private property, obtain written permission from Facility Representative of such property.

1.3.2. Do not create unsightly or unsanitary nuisances during disposal operations.

1.3.3. Maintain disposal site in safe condition and good appearance.

1.3.4. Complete leveling and cleanup prior to final acceptance of the Work.

1.4. TOUCH-UP AND REPAIR

1.4.1. Touch-up or repair finished surfaces on equipment, fixtures, and installations that have been damaged prior to inspection for final acceptance.

END OF SECTION

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 GENERAL

.1 SECTION INCLUDES

A. Products.

B. Transportation and handling.

C. Storage and protection.

D. Product options.

E. Substitutions.

.2 RELATED SECTIONS

A. Document - Instructions to Bidders: Product options and substitution procedures.

B. Section 01 11 00 - Summary.

C. Section 01 33 00 - Submittals.

D. Section 01 65 00 – Product Delivery Requirements for Substitution Provisions.

.3 PRODUCTS

A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work. Products do not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components required for reuse.

B. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.

C. Provide interchangeable components of the same manufacturer for similar components or details.

D. All products shall comply with the Buy America Act. Federal Acquisition Regulation Title 48 Section 52-225-11.

E. All products and materials shall be delivered to job-site in new, dry, unopened containers, clearly showing catalog number, product description, where and by whom manufactured, in quantities sufficient to ensure continuous work.

.4 TRANSPORTATION AND HANDLING

A. Transport and handle products in accordance with the manufacturer’s instructions.

B. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

.5 STORAGE AND PROTECTION

A. Store and protect products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weather-tight, climate-controlled enclosures.

B. Assure that materials are kept clean, and away from excessive heat and cold; do not remove labels or tear off protective covering until ready for application; store in an enclosed area where temperature is above 50 degrees and below 90 degrees Fahrenheit, securely tied with rope. Material shall not be stored directly on the ground.

C. For exterior storage of fabricated products, place on sloped supports, above ground.

D. Provide off-site storage and protection when the site does not permit on-site storage or protection.

E. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.

F. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

G. Arrange storage of products to permit access for inspection. Periodically inspect to ensure products are undamaged and are maintained under specified conditions.

H. Maintain aisle space between stacks to facilitate fire suppression if necessary.

I.6 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Products of manufacturers named and meeting specifications, no options or substitutions allowed.

I.7 SUBSTITUTIONS

A. Instructions to Bidders specify time restrictions for submitting requests for Substitutions during the bidding period.

B. Project Manager will consider requests for Substitutions only within 15 days after date of Contract Agreement.

C. Substitutions may be considered when a product becomes unavailable through no fault of the Contractor.

D. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.

E. A request constitutes a representation that the Contractor:

1. Has investigated the proposed product and determined that it meets or exceeds the quality level of the specified product.

2. Will provide the same warranty for the Substitution as for the specified product.

3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to the Government.

4. Waives claims for additional costs or time extension which may subsequently become apparent.

F. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.

G. Substitution Submittal Procedure:

1. Submit three copies of request for Substitution for consideration. Refer to 01 65 00 for substitution procedures.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01 65 00

PRODUCT DELIVERY REQUIREMENTS

1. GENERAL

1.1. SUMMARY

1.1.1. A.Section Includes
- 1.1.1.1. Products.
- 1.1.1.2. Transportation and Handling.
- 1.1.1.3. Product Options.
- 1.1.1.4. Substitutions.

1.1.2. Related Sections
- 1.1.2.1. Section 01 11 00 - Summary of Work.
- 1.1.2.2. Section 01 33 00 - Submittals

1.2. PRODUCTS

1.2.1. Products: For the purpose of this Section, products mean new material, machinery, components, equipment, fixtures, and systems forming the Work. It does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components required for reuse.

1.3. TRANSPORTATION AND HANDLING

1.3.1. Transport and handle products in accordance with manufacturer's instructions; provide equipment and personnel to handle products by methods to preserve quality, appearance, and suitability for the project.

1.4. PRODUCT OPTIONS

1.4.1. Products Specified by Reference Standards or by Description Only: Any product meeting those standards or description.

1.4.2. Products Specified by Naming One or More Manufacturers: Products of manufacturers named and meeting specifications or accepted substitutes. Provide a minimum of three selections.

1.5. SUBSTITUTIONS

1.5.1. Submit in writing, within the time limit set forth in General Conditions, on form provided as 01 65 00 - Attachment A, Notice of Request for Substitution. Notice of Request for Substitution shall include complete data substantiating compliance of proposed substitution with Contract.

1.5.2. A request constitutes a representation that the Contractor:

1.5.2.1. Has investigated proposed substitution and determined that it meets or exceeds the quality level required to achieve operating efficiency and effectiveness of the specified material, product, thing, or service.
1.5.2.2. Will provide the same warranty for the substitution as for the specified material, product, thing, or service.
1.5.2.3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to State.
1.5.2.4. Waives claims for additional costs or time extension which may subsequently become apparent.
1.5.2.5. Will reimburse State for review or redesign services associated with proposed substitutions.

1.5.3. Substitution Submittal Procedure:

1.5.3.1. Limit each request to one proposed substitution.
1.5.3.2. Submit shop drawings, product data, and certified test results attesting to the proposed equivalence.
1.5.3.3. Facility Representative will notify Contractor, in writing, of decision to approve or reject request.

1.5.4. After approval of Notice of Request for Substitution, submit required submittals under provisions of Sections 01 33 00.

2. PRODUCTS - NOT USED

3. EXECUTION - NOT USED

END OF SECTION

SECTION 01 65 00 - ATTACHMENT A

NOTICE OF REQUEST FOR SUBSTITUTION

Substitution Request: _____

In accordance with the Conditions of the Contract and the provisions of Section 01 65 00, we hereby submit for consideration, this Notice of Request for Substitution for the following material, product, thing, or service:

_____ _____ _____
Section Paragraph Specified Item

Proposed Substitution: _____

The following supporting information is attached:
[ ] Product Data including model numbers and descriptions.
[ ] Certified test results attesting to equivalence.
[ ] Product/material samples.
[ ] Other:

_____
____

Reason for proposed substitution:
[ ] Specified or indicated item is unavailable.
[ ] Significant cost reduction. Amount to be credited to the Department: $ _____
[ ] Significant quality difference without cost change.
[ ] Other: _____

Submitted and Certified By:

CONTRACTOR:

_____ _____
Signature Date

_____ _____
Name (Print) Title

_____
Firm Name

_____ _____
Address Phone

_____ _____
City, State, Zip FAX

Received: _____ _____
Date CMD Representative

[ ] Approved: _____ _____
[ ] Rejected: Date CMD Representative

END OF SECTION 01 65 00 - ATTACHMENT A

SECTION 01 70 00

CONTRACT CLOSEOUT

PART 1 GENERAL

1 SECTION INCLUDES

A. Closeout procedures.

B. Final cleaning.

C. Adjusting.

D. Project record documents.

2 CLOSEOUT PROCEDURES

A. Submit written certification that Contract Documents have been reviewed, Work has been inspected and accepted, and that Work is complete in accordance with Contract Documents and ready for inspection.

B. Comply with requirements of specification sections 01 11 00 and 01 33 00.

C. Provide warranty certificates to Project Manager.

D. Submit final Application for Payment to the Contract Manager identifying total adjusted Contract Sum, previous payments, and sum remaining due.

E. The Contract Manager and/or their representatives shall conduct a final inspection within 14 days of receipt of a written request from the Contractor for final inspection.

F. A corrective notice (i.e. punch list) will be developed during the final inspection. All items noted on the corrective must be complete prior to the job being accepted by the project manager.

3 ADJUSTING

Adjust operating Products and equipment to ensure smooth, proper operation.

4 PROJECT RECORD DOCUMENTS

A. Maintain on site, one set of the following record documents; record actual revisions to the Work:

1. Project Drawings.

2. Specifications.

3. Change Orders and other Modifications to the Contract.

4. Reviewed shop drawings, product data, and samples.

5. Manufacturer’s Warranty Certificate(s).

B. Store Record Documents separate from documents used for construction.

C. Record information concurrent with construction progress.

D. Specifications: Legibly mark and record at each Product section description of actual Products installed, including the following:

1. Manufacturer's name and product model and number.

2. Product substitutions or alternates utilized.

3. Changes made by Addenda and Modifications.

E. Record Documents and Shop Drawings: Legibly mark each item to record actual construction including:

1. Field changes of dimension and detail.

2. Details not on original Contract Drawings.

3. Submit prior to final inspection, one (1) set bound in 8-1/2 x 11-inch text pages, 3-D side ring binder and one (1) set of identical documentation in electronic (.pdf) format.

4. Internally subdivide the binder contents with page dividers, logically organized, and tabbed to identify contents of binder.

5. Part 1: Directory, listing names, addresses, and telephone numbers of Contractor, and Subcontractors.

6. Part 2: Project documents and certificates, including the following:

7. Part 3: Requests for Information (RFI) log and copies of all signed RFIs

8. Part 4: Submittal log and copies all approved submittals.

9. Warranty certificates.

F. Submit one hard copy and one electronic copy of completed volume in final form seven (7) days prior to final inspection. Revise as required prior to final contract close out per CM directions.

G. Submit final revised hardcopy and electronic volumes within ten (10) days after final inspection and prior to release of final payment.

END OF SECTION

SECTION 01 74 19

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.1 SUMMARY

A. Section includes
   1. Administrative and procedural requirements for the following:
      a. Salvaging nonhazardous demolition and construction waste.
      b. Recycling nonhazardous demolition and construction waste.
      c. Disposing of nonhazardous demolition and construction waste.

B. Related Sections
   1. Section 01 30 00 – Administrative Requirements.
   2. Section 02 41 00 - Demolition.

1.2 REFERENCES

A. ASTM E1609- 2010 - Standard Guide for Development and Implementation of a Pollution Prevention Program.

1.3 DEFINITIONS

A. Class III Landfill: A landfill that accepts non-hazardous waste such as household, commercial, and industrial waste, including construction, remodeling, repair, and demolition operations.
B. Chemical Waste: Includes petroleum products, bituminous materials, salts, acids, alkalis, herbicides, pesticides, organic chemicals and inorganic wastes, and other similar materials.
C. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or similar.
D. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
E. Debris: Includes both combustible and noncombustible wastes, such as leaves and tree trimmings that result from construction or maintenance and repair work, and other similar materials.
F. Deconstruction: The process of removing existing building materials from renovation and demolition projects for the purposes of reuse and recycling in as an efficient and safe manner as possible.
G. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
H. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
I. Divert: Using material for any purpose other than disposal in a landfill.
J. Inert Fill: A permitted facility that accepts inert waste such as asphalt and concrete exclusively.
K. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
L. Rubbish: Includes both combustible and noncombustible wastes, such as paper, boxes, glass, crockery, metal and lumber scrap, tin cans, bones, and other similar materials.

M. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
N. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

O. Sanitary Wastes
   1. Garbage: Refuse and scraps resulting from preparation, cooking, distribution, or consumption of food, or other similar materials.
   2. Sewage: Domestic sanitary sewage.

1.4 PERFORMANCE REQUIREMENTS

A. General: Achieve end-of-Project rates for salvage/recycling of a minimum of 75 percent by weight of total non-hazardous solid waste generated by the Work. Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to divert construction and demolition waste from landfills and incinerators. Facilitate recycling and salvage of materials. Materials, including the following:
   1. Demolition Waste
      a. Wood studs.
      b. Wood joists.
      c. Plywood and oriented strand board.
      d. Wood trim.
      e. Structural and miscellaneous steel.
      f. Rough hardware.
      g. Roofing.
      h. Insulation (including fiberglass, rigid polystyrene but excluding polyisocyanurate).
      i. Metal studs.
      j. Gypsum board.
      k. Acoustical tile and panels.

   2. Construction Waste
      a. Untreated lumber.
      b. Wood sheet materials (plywood, oriented strand board, and medium density fiberboard).
      c. Wood trim.
      d. Metals.
      e. Roofing.
      f. Insulation (including fiberglass, rigid polystyrene but excluding polyisocyanurate).
      g. Packaging: Regardless of salvage/recycle goal indicated above, salvage or recycle 100 percent of the following uncontaminated packaging materials:
         1) Paper.
         2) Cardboard.
         3) Boxes.
         4) Plastic sheet and film.
         5) Polystyrene packaging.
         6) Wood crates and pallets.
         7) Plastic pails.
         8) Beverage containers.

1.5 ACTION SUBMITTALS

A. Construction Waste Management Plan (CWMP): Submit 1 copy of plan within 30 calendar days of date of the Notice to Proceed and prior to any waste removal.

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1.6 INFORMATIONAL SUBMITTALS

A. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.
B. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.

C. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

D. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

E. Qualification Data: For waste management coordinator.

1.7 QUALITY ASSURANCE

A. Facility representative will act as a waste coordinator.

B. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.

C. Waste Management Review: Conduct review at Project Site in accordance with Section 01 30 00“”. Review methods and procedures related to waste management including, but not limited to, the following:
   1. Review and discuss CWMP including responsibilities of waste management coordinator.
   2. Review requirements for documenting quantities of each type of waste and its disposition.
   3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.

   4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
   5. Review waste management requirements for each trade.

1.8 CONSTRUCTION WASTE MANAGEMENT PLAN (CWMP)

A. General: Develop a CWMP according to ASTM E1609 and requirements of this Section. Plan shall consist of waste identification, and waste reduction work plan. Distinguish between demolition and construction waste.
B. Waste Identification: Indicate anticipated types and quantities of demolition construction waste generated by the Work. Use Include estimated quantities and assumptions for estimates.
C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation,

total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.

1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
5. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, telephone number, and a copy of the permit or license of each landfill and incinerator facility. The permit or license shall indicate the type or class of waste accepted.
6. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location on Project Site where materials separation will be located.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 PLAN IMPLEMENTATION

A. General: Implement the approved CWMP. Provide handling, containers, storage, signage, transportation, and other items as required to implement the CWMP during the entire duration of the Contract.
   1. Comply with Section 01 50 00 “”for operation, termination, and removal requirements.
B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of the CWMP.
C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures as appropriate for the Work occurring at Project site.
   1. Distribute the CWMP to Project Manager within 10 working days of submittal return.
   2. Distribute the CWMP to entities when they first begin work on site. Review the CWMP procedures and locations established for salvage, recycling, and disposal.
   3. Provide information and training updates throughout the construction process as needed to facilitate understanding and participation.
D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
   1. Designate and label specific areas on Project Site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
   2. Comply with Section 01 50 00 “”for controlling dust and dirt, environmental protection, and noise control.

3.2 SALVAGING DEMOLITION WASTE

A. Salvaged Items for Reuse in the Work: Salvage items for reuse and handle as follows:
   1. Clean salvaged items.
   2. Pack or crate items after cleaning. Identify contents of containers.

3. Store items in a secure area until installation.
4. Protect items from damage during transport and storage.
5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.

B. Salvaged Items for Sale and Donation: Not permitted on Project Site.

C. Salvaged Items for Facility's Use:
1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until delivery to Facility.
4. Transport items to Facility's storage area on-site designated by Facility Representative.
5. Protect items from damage during transport and storage.

3.3 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

A. General: Recycle paper and beverage containers used by on-site workers.

B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Contractor.

C. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.

D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Locate containers and/or bins in areas designated in the CWMP. Separate recyclable waste by type at Project site to the maximum extent practical according to the approved CWMP.
1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project Site. Include list of acceptable and unacceptable materials at each container and bin.
   a. Inspect containers and bins for contamination and remove contaminated materials if found.
2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
4. Store components off the ground and protect from the weather.
5. Remove recyclable waste off Facility property and transport to recycling receiver or processor.

3.4 RECYCLING DEMOLITION WASTE

A. Wood Materials: Sort and stack members according to type. Separate lumber, engineered wood products, panel products, and treated wood materials.

B. Metals: Separate metals by type.
1. Structural Steel: Stack members according to size, type of member, and length.
2. Remove and dispose of bolts, nuts, washers, and other rough hardware.

C. Roofing: Separate organic and glass-fiber asphalt shingles and felts. Remove and dispose of nails, staples, and accessories.
D. Acoustical Ceiling Panels and Tile: Stack large clean pieces on wood pallets and store in a dry location if quantity warrants it.

3.5 RECYCLING CONSTRUCTION WASTE

A. Packaging
   1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
   2. Polystyrene Packaging: Separate and bag materials.
   3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
   4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.
B. Wood Materials
   1. Clean Cut-Offs of Lumber: Stack by size.
   2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.

3.6 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project Site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
   1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
   2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
B. Burning: Do not burn waste materials.
C. Disposal: Transport waste materials off Facility property and legally dispose of them.

END OF SECTION

SECTION 01 78 00

CLOSE-OUT SUBMITTALS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes
   1. Close-out submittals, including as-builts; record drawings, specifications, and product data; and warranties.

B. Related Sections
   1. 01 33 00 - Submittals
   2. Divisions 2 through 44 Sections for specific requirements of the Work in those Sections.

1.2 ITEMS SUBMITTED TO ARCHITECT FOR REVIEW PRIOR TO DISTRIBUTION TO FACILITY REPRESENTATIVE:

A. Marked-up copies of Contract Drawings.

B. Newly prepared Drawings.

C. Marked-up copies of Specifications, addenda and Change Orders.

D. Record information on Work that is recorded only schematically, when part of record documents.

E. Complete set of RFI's.

1.3 ITEMS DELIVERED DIRECTLY TO CONTRACT MANAGER:

A. Orders (Construction Change Directives).

B. Marked-up copies of Shop Drawings.

C. Marked-up Product Data submittals.

D. Record Samples.

E. Field records for variable and concealed conditions.

F. Copies of change orders, submittal, substitutions, warranties and other forms that are part of this Project.

1.4 SUBMITTALS

A. Record Drawings: Comply with the following:
   1. Review required content with CA Military Dept. prior to submittal.
   2. Completed Submittal: Submit one set of marked-up Record Prints

B. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications.

C. Record Product Data: Submit one copy of each Product Data submittal. Where Record Product Data is required as part of operation and maintenance manuals, submit marked-up Product Data as an insert in manual instead of submittal as Record Product Data.

1.5 WARRANTIES

A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.

B. Partial Occupancy: Submit properly executed warranties within [15] days of completion of designated portions of the Work that are completed and occupied or used by CA Military Dept. during construction period by separate agreement with Contractor.

C. Organize warranty documents into an orderly sequence based on the table of contents of the project manual.
   1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2 x 11-inch documents.
   2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
   3. Identify each binder on the front and spine with the type or printed title "WARRANTIES", Project name, and name of Contractor.

PART 2 PRODUCTS

2.1 RECORD DRAWINGS

A. Record Prints: Maintain one set of blue- or black-line white prints of the Contract Drawings and Shop Drawings.
   1. Preparation: Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
      a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
      b. Accurately record information in an understandable drawing technique.
      c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.

   2. Content: Types of items requiring marking include, but are not limited to, the following:
      a. Dimensional changes to Drawings.
      b. Revisions to details shown on Drawings.
      c. Changes made by Change Order or Construction Change Directive.
      d. Changes made following Architect's written orders.

e. Details not on the original Contract Drawings.
f. Field records for variable and concealed conditions.
g. Record information on the Work that is shown only schematically.

3. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
5. Mark important additional information that was either shown schematically or omitted from original Drawings.
6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
7. Accompany submittal with certification that each document as submitted is complete and accurate.

B. Record Prints: Provide one set of Drawings.

C. Newly Prepared Record Drawings: Prepare new Drawings instead of preparing Record Drawings where A/E determines that neither the original Contract Drawings nor Shop Drawings are suitable to show actual installation.
1. New Drawings may be required when a Change Order is issued as a result of accepting an alternate, substitution, or other modification.
2. Consult A/E for proper scale and scope of detailing and notations required to record the actual physical installation and its relation to other construction. Integrate newly prepared Record Drawings into Record Drawing sets; comply with procedures for formatting, organizing, copying, binding, and submitting.

D. Format: Identify and date each Record Drawing; include the designation “PROJECT RECORD DRAWING” in a prominent location.
1. Record Prints: Organize Record Prints and newly prepared Record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
2. Identification: As follows:
a. Project name.
b. Date.
c. Designation “PROJECT RECORD DRAWINGS.”
d. Name of Architect and Construction Manager.
e. Name of Contractor.

2.2 RECORD SPECIFICATIONS

A. Preparation: Mark specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications. Information shall be sufficient for Owner’s personnel to maintain facility.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.

5. Note related Change Orders, Record Product Data, and Record Drawings where applicable.

2.3 RECORD PRODUCT DATA

A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
   1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
   2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
   3. Note related Change Orders, Record Specifications, and Record Drawings where applicable.

2.4 MISCELLANEOUS RECORD SUBMITTALS

A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

PART 3 EXECUTION

3.1 RECORDING AND MAINTENANCE

A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.

B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's and Construction Contract Manager's reference during normal working hours.

END OF SECTION

SECTION 02 41 00

DEMOLITION

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AIR-CONDITIONING, HEATING AND REFRIGERATION INSTITUTE (AHRI)

AHRI Guideline K	(2009) Guideline for Containers for Recovered Non-Flammable Fluorocarbon Refrigerants

AMERICAN SOCIETY OF SAFETY PROFESSIONALS (ASSP)

ASSP A10.6	(2006) Safety & Health Program Requirements for Demolition Operations - American National Standard for Construction and Demolition Operations

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 61	National Emission Standards for Hazardous Air Pollutants
40 CFR 82	Protection of Stratospheric Ozone
49 CFR 173.301	Shipment of Compressed Gases in Cylinders and Spherical Pressure Vessels

SAFETY AND OCCUPATIONAL HEALTH REQUIREMENTS

29 CFR 1910	Safety and Health Regulation in General Industry
29 CFR 1926	Safety and Health Regulations for Construction

1.2 PROJECT DESCRIPTION

1.2.1 Definitions

1.2.1.1 Demolition

Demolition is the process of wrecking or taking out any load-supporting structural member of a facility together with any related handling and disposal operations.

1.2.1.2 Deconstruction

Deconstruction is the process of taking apart a facility with the primary goal of preserving the value of all useful building materials.

1.2.1.3 Demolition Plan

Demolition Plan is the planned steps and processes for managing demolition activities and identifying the required sequencing activities and disposal mechanisms.

1.2.1.4 Deconstruction Plan

Deconstruction Plan is the planned steps and processes for dismantling all or portions of a structure or assembly, to include managing sequencing activities, storage, re-installation activities, salvage, and disposal mechanisms.

1.2.2 Demolition/Deconstruction Plan

Prepare a salvage and removal procedures plan for approval before work is started. Include in the plan procedures for careful removal and disposition of materials specified to be salvaged. A disconnection schedule of building power. Identify components and materials to be salvaged for reuse or recycling with reference to paragraph Existing Facilities to be removed. Append tracking forms for all removed materials indicating type, quantities, condition, destination, and end use. Coordinate with Waste Management Plan in accordance with Section 01 74 19 construction waste management and disposal. Include statements affirming Contractor inspection of the existing roof deck and its suitability to perform as a safe working platform or if inspection reveals a safety hazard to workers, state provisions for securing the safety of the workers throughout the performance of the work. Plan shall be approved by Contract Manager prior to work beginning.

1.2.3 General Requirements

Do not begin demolition or deconstruction until authorization is received from the Contract Manager. The work of this section is to be performed in a manner that maximizes the value derived from the salvage and recycling of materials. Remove rubbish and debris from the project site; do not allow accumulations inside the building or on airfield pavements. The work includes demolition and salvage of identified items and materials, and removal of

resulting rubbish and debris. Remove rubbish and debris from Government property daily, unless otherwise directed. Store materials that cannot be removed daily in areas specified by the Contract Manager. In the interest of occupational safety and health, perform the work in accordance with OSHA requirements.

1.3 ITEMS TO REMAIN IN PLACE

Take necessary precautions to avoid damage to existing items, to remain in place, to be reused, or to remain the property of the Government. Repair or replace damaged items as approved by the Contract Manager. Coordinate the work of this section with all other work indicated. Construct and maintain shoring, bracing, and supports as required. Ensure that structural elements are not overloaded. Increase structural supports or add new supports as may be required as a result of any cutting, removal, deconstruction, or demolition work performed under this contract. Do not overload [structural elements] [pavements to remain]. Provide new supports and reinforcement for existing construction weakened by demolition, deconstruction, or removal work. Repairs, reinforcement, or structural replacement require approval by the Contract Manager prior to performing such work.

1.3.1 Existing Construction Limits and Protection

Do not disturb existing construction beyond the extent indicated or necessary for installation of new construction. Provide temporary shoring and bracing for support of building components to prevent settlement or other movement. Provide protective measures to control accumulation and migration of dust and dirt in all work areas. Remove dust, dirt, and debris from work areas daily.

1.3.2 Weather Protection

For portions of the building to remain, protect building interior and materials and equipment from the weather at all times. Where removal of existing roofing is necessary to accomplish work, have materials and workmen ready to provide adequate and temporary covering of exposed areas.

1.3.3 Trees

Protect trees within the project site which might be damaged during demolition or deconstruction, and which are indicated to be left in place, by a 6-foot-high fence. Erect and secure fence a minimum of 5 feet from the trunk of individual trees or follow the outer perimeter of branches or clumps of trees. Replace any tree designated to remain that is damaged during the work under this contract with like-kind or as approved by the Contract Manager.

1.3.4 Utility Service

Maintain existing utilities indicated to stay in service and protect against damage during demolition and deconstruction operations. Prior to start of work, utilities serving each area of alteration or removal will be shut off by the Government and disconnected and sealed by the Contractor.

1.3.5 Facilities

Protect electrical and mechanical services and utilities. Where removal of existing utilities and pavement is specified or indicated, provide approved barricades, temporary covering of exposed areas, and temporary services or connections for electrical and mechanical utilities. Floors, roofs, walls, columns, pilasters, and other structural components that are designed and constructed to stand without lateral support or shoring, and are determined to be in stable condition, must remain standing without additional bracing, shoring, or lateral support until demolished or deconstructed, unless directed otherwise by the Contract Manager.

Ensure that no elements determined to be unstable are left unsupported and place and secure bracing, shoring, or lateral supports as may be required as a result of any cutting, removal, deconstruction, or demolition work performed under this contract.

1.4 SUBMITTALS

Government approval is required for all submittals with a "G" designation. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 submittal procedures:

SD-01 Preconstruction Submittals

Salvage and removal procedures; G

Closeout Submittals

Receipts

1.5 QUALITY ASSURANCE

Submit timely notification of demolition projects to Federal, State, regional, and local authorities in accordance with 40 CFR 61, Subpart M. Notify the State's environmental protection agency and the Contract Manager in writing 10 working days prior to the commencement of work in accordance with 40 CFR 61, Subpart M. Comply with federal, state, and local hauling and disposal regulations. In addition to the requirements of the "Contract Clauses," conform to the safety requirements contained in ASSP A10.6.

1.5.1 Dust and Debris Control

Prevent the spread of dust and debris to occupied portions of the building and on airfield pavements and avoid the creation of a nuisance or hazard in the surrounding area. Do not use water if it results in hazardous or objectionable conditions such as, but not limited to, ice, flooding, or pollution. Vacuum and dust the work area daily. Sweep pavements as often as necessary to control the spread of debris that may result in foreign object damage potential to aircraft.

1.8 PROTECTION

1.8.1 Traffic Control Signs

a. Where pedestrian and driver safety is endangered in the area of removal work, use traffic barricades with flashing lights. Anchor barricades in a manner to prevent displacement by wind, jet or prop blast. Notify the Contract Manager prior to beginning such work.

1.8.2 Protection of Personnel

Before, during and after the demolition work continuously evaluate the condition of the objects being demolished and take immediate action to protect all personnel working in and around the project site. No area, section, or component of floors, roofs, walls, columns, pilasters, or other structural element will be allowed to be left standing without sufficient bracing, shoring, or lateral support to prevent collapse or failure while workmen remove debris or perform other work in the immediate area.

1.9 FOREIGN OBJECT DAMAGE (FOD) - Not Applicable

Aircraft and aircraft engines are subject to FOD from debris and waste material lying on airfield pavements. Remove all such materials that may appear on operational aircraft pavements due to the Contractor's operations. If necessary, the Contract Manager may require the Contractor to install a temporary barricade at the Contractor's expense to control the spread of FOD potential debris. The barricade shall include a fence covered with a fabric designed to stop the spread of debris. Anchor the fence and fabric to prevent displacement by winds or jet/prop blasts. Remove barricade when no longer required.

1.10 RELOCATIONS

Perform the removal and reinstallation of relocated items as indicated with workmen skilled in the trades involved. Repair or replace items to be relocated which are damaged by the Contractor with new undamaged items as approved by the Contract Manager.

1.11 EXISTING CONDITIONS

Before beginning any demolition or deconstruction work, survey the site and examine the drawings and specifications to determine the extent of the work. Record existing conditions in the presence of the Contract Manager showing the condition of structures and other facilities adjacent to areas of alteration or removal. Photographs sized 4 inch will be acceptable as a record of existing conditions. Include in the record the elevation of the top of foundation walls, finish floor elevations, possible conflicting electrical conduits, plumbing lines, alarms systems, the location and extent of existing cracks and other damage and description of surface conditions that exist prior to before starting work. It is the Contractor's responsibility to verify and document all required outages which will be required during the course of work, and to note these outages on the record document.

PART 2 PRODUCTS - Not used

PART 3 EXECUTION

3.1 EXISTING FACILITIES TO BE REMOVED

Inspect and evaluate existing structures onsite for reuse. Existing construction scheduled to be removed for reuse shall be disassembled. Dismantled and removed materials are to be separated, set aside, and prepared as specified, and stored or delivered to a collection point for reuse, remanufacture, recycling, or other disposal, as specified. Materials shall be designated for reuse onsite whenever possible.

3.1.1 Structures

a. Demolish objects in a systematic manner from the top of the structure to the ground. Complete demolition work above each tier or floor before the supporting members on the lower level are disturbed. Demolish concrete and masonry walls in small sections. Remove structural framing members and lower to ground by means of derricks, platforms hoists, or other suitable methods as approved by the Contract Manager.

b. Locate demolition and deconstruction equipment throughout the structure and remove materials so as to not impose excessive loads to supporting walls, floors, or framing.

3.1.2 Utilities and Related Equipment

3.1.2.1 General Requirements

Do not interrupt existing utilities serving occupied or used facilities, except when authorized in writing by the Contract Manager. Do not interrupt existing utilities serving facilities occupied and used by the Government except when approved in writing and then only after temporary utility services have been approved and provided. Do not begin demolition or deconstruction work until all utility disconnections have been made.
Shut off and cap utilities for future use, as indicated.

3.1.2.2 Disconnecting Existing Utilities

Remove existing utilities, as indicated and terminate in a manner conforming to the nationally recognized code covering the specific utility and approved by the Contract Manager. When utility lines are encountered but are not indicated on the drawings, notify the Contract Manager prior to further work in that area. Remove meters and related equipment and deliver to a location [on the station] in accordance with instructions of the Contract Manager.

3.1.3 Roofing

Remove existing roof system and associated components in their entirety down to existing roof deck. Remove SBS roofing to effect the connections with new flashing or roofing. Cut membrane and insulation along straight lines. Remove roofing system and insulation without damaging the roof deck. Sequence work to minimize building exposure between demolition or deconstruction and new roof materials installation.

3.1.3.1 Temporary Roofing

Install temporary roofing and flashing as necessary to maintain a watertight condition throughout the course of the work. Remove temporary work prior to installation of permanent roof system materials unless approved otherwise by the Contract Manager.

If the existing deck and support structure is deteriorated, such that ability to support foot traffic and construction loads is unknown. Make provisions for worker safety during demolition and installation of new materials as described in paragraphs entitled "Statements" and "Regulatory and Safety Requirements."

3.1.3.2 Reroofing

When removing the existing roofing system from the roof deck, remove only as much roofing as can be recovered by the end of the work day, unless approved otherwise by the Contract Manager. Do not attempt to open the roof covering system in threatening weather. Reseal all openings prior to suspension of work the same day.

3.1.6 Masonry

Sawcut and remove masonry so as to prevent damage to surfaces to remain, to removed materials being salvaged and to facilitate the installation of new work. Where new masonry adjoins existing, the new work shall abut or tie into the existing construction as specified for the new work. Provide square, straight edges and corners where existing masonry adjoins new work and other locations. Masonry removed in whole blocks shall be salvaged and stored for reuse.

3.1.7 Miscellaneous Metal

Salvage shop-fabricated items such as access doors and frames, steel gratings, metal ladders, wire mesh partitions, metal railings, metal windows and similar items as whole units. Salvage light-gage and cold-formed metal framing, such as steel studs, steel trusses, metal gutters, roofing and siding, metal toilet partitions, toilet accessories and similar items. [Scrap metal shall become the Contractor's property.] Recycle scrap metal as part of demolition and deconstruction operations. Provide separate containers to collect scrap metal and transport to a scrap metal collection or recycling facility, in accordance with the Waste Management Plan.

3.1.8 Carpentry

Salvage for recycle lumber, millwork items, and finished boards, and sort by type and size. Salvage [Remove] windows, doors, frames, and cabinets, and similar items as whole units, complete with trim and accessories. Do not remove hardware attached to units, except for door closers. Salvage hardware attached to units for reuse. Brace the open end of door frames to prevent damage.

3.1.9 Patching

Where removals leave holes and damaged surfaces exposed in the finished work, patch and repair these holes and damaged surfaces to match adjacent finished surfaces, using on-site materials when available. Where new work is to be applied to existing surfaces, perform removals and patching in a manner to produce surfaces suitable for receiving new work. Finished surfaces of patched area shall be flush with the adjacent existing surface and shall match the existing adjacent surface as closely as possible as to texture and finish. Patching shall be as specified and indicated, and shall include:

a. Concrete and Masonry: Completely fill holes and depressions, [caused by previous physical damage or] left as a result of removals in existing masonry walls to remain, with an approved masonry patching material, applied in accordance with the manufacturer's printed instructions.

b. Where existing partitions have been removed leaving damaged or missing resilient tile flooring, patch to match the existing floor tile.

c. Patch acoustic lay-in ceiling where partitions have been removed. The transition between the different ceiling heights shall be effected by continuing the higher ceiling level over to the first runner on the lower ceiling and closing the vertical opening with a painted sheet metal strip.

3.1.10 Air Conditioning Equipment

Remove air conditioning, refrigeration, and other equipment containing refrigerants without releasing chlorofluorocarbon refrigerants to the atmosphere in accordance with the Clean Air Act Amendment of 1990. Recover all refrigerants prior to removing air conditioning, refrigeration, and other equipment containing refrigerants and dispose of in accordance with the paragraph entitled "Disposal of Ozone Depleting Substance (ODS)." Turn in salvaged Class I ODS refrigerants as specified in paragraph, "Salvaged Materials and Equipment."

3.1.11 Mechanical Equipment and Fixtures

Disconnect mechanical hardware at the nearest connection to existing services to remain, unless otherwise noted. Disconnect mechanical equipment and fixtures at fittings. Remove service valves attached to the unit. Salvage each item of equipment and fixtures as a whole unit; listed, indexed, tagged, and stored. Salvage each unit with its normal operating auxiliary equipment. Transport salvaged equipment and fixtures, including motors and machines, to a designated [on station] storage area as directed by the Contract Manager. Do not remove equipment until approved.

Remove water, dirt, dust, and foreign matter from units; tanks, piping and fixtures shall be drained; interiors, if previously used to store flammable, explosive, or other dangerous liquids, shall be steam cleaned. Seal openings with caps, plates, or plugs. Secure motors attached by flexible connections to the unit. Change lubricating systems with the proper oil or grease.

3.1.18.1 Piping

Disconnect piping at unions, flanges and valves, and fittings as required to reduce the pipe into straight lengths for practical storage. Store salvaged piping according to size and type. If the piping that remains can become pressurized due to upstream valve failure, end caps, blind flanges, or other types of plugs or fittings with a pressure gage and bleed valve shall be attached to the open end of the pipe to ensure positive leak control. Carefully dismantle piping that previously contained gas, gasoline, oil, or other dangerous fluids, with precautions taken to prevent injury to persons and property. Store piping outdoors until all fumes and residues are removed. Box prefabricated supports, hangers, plates, valves, and specialty items according to size and type. Wrap sprinkler heads individually in plastic bags before boxing. Classify piping not designated for salvage, or not reusable, as scrap metal.

3.1.18.2 Ducts

Classify removed duct work as scrap metal.

3.1.18.3 Fixtures, Motors and Machines

Remove and salvage fixtures, motors and machines associated with plumbing, heating, air conditioning, refrigeration, and other mechanical system installations. Salvage, box and store auxiliary units and accessories with the main motor and machines. Tag salvaged items for identification, storage, and protection from damage. Classify non-porcelain broken, damaged, or otherwise unserviceable units and not caused to be broken, damaged, or otherwise unserviceable as debris to be disposed of by the Contractor.

3.1.19 Electrical Equipment and Fixtures

Salvage motors, motor controllers, and operating and control equipment that are attached to the driven equipment. Salvage wiring systems and components. Box loose items and tag for identification. Disconnect primary, secondary, control, communication, and signal circuits at the point of attachment to their distribution system.

3.1.19.1 Fixtures

Remove and salvage electrical fixtures as indicated on the drawings. Salvage unprotected glassware from the fixture and salvage separately. Salvage incandescent, mercury-vapor, and fluorescent lamps and fluorescent ballasts manufactured prior to 1978, boxed and tagged for identification, and protected from breakage.

3.1.19.2 Electrical Devices

Remove and salvage switches, switchgear, transformers, conductors including wire and nonmetallic sheathed and flexible armored cable, regulators, meters, instruments, plates, circuit breakers, panelboards, outlet boxes, and similar items. Box and tag these items for identification according to type and size. Remove as indicated on the drawings

3.1.19.3 Wiring Ducts or Troughs

Remove and salvage wiring ducts or troughs. Dismantle plug-in ducts and wiring troughs into unit lengths. Remove plug-in or disconnecting devices from the busway and store separately. Remove as indicated on the drawings.

3.1.19.4 Conduit and Miscellaneous Items

Salvage conduit except where embedded in concrete or masonry. Consider corroded, bent, or damaged conduit as scrap metal. Sort straight and undamaged lengths of conduit according to size and type. Classify supports, knobs, tubes, cleats, and straps as debris to be removed and disposed.

3.2 DISPOSITION OF MATERIAL

3.2.1 Title to Materials

Except for salvaged items specified in related Sections, and for materials or equipment scheduled for salvage, all materials and equipment removed and not reused or salvaged, shall become the property of the Contractor and shall be removed from Government property. Title to materials resulting from demolition and deconstruction, and materials and equipment to be removed, is vested in the Contractor upon approval by the Contract Manager of the Contractor's demolition, deconstruction, and removal procedures, and authorization by the Contract Manager to begin demolition and deconstruction. The government will not be responsible for the condition or loss of, or damage to, such property after contract award. Showing for sale or selling materials and equipment on site is prohibited.

3.2.2 Reuse of Materials and Equipment

Remove and store materials and equipment as indicated to be reused or relocated to prevent damage, and reinstall as the work progresses. Coordinate the re-use of materials and equipment with the re-use requirements in accordance with Section 01 74 19 construction waste management and disposal. Capture re-use of materials in the diversion calculations for the project.

3.2.3 Salvaged Materials and Equipment

Remove materials and equipment that are indicated and specified to be removed by the Contractor and that are to remain the property of the Government, and deliver to a storage site, as directed on the work site.

a. Salvage items and material to the maximum extent possible.

b. Store all materials salvaged for the Contractor as approved by the Contract Manager and remove from Government property before completion of the contract.

c. Remove salvaged items to remain the property of the Government in a manner to prevent damage, and packed or crated to protect the items from damage while in storage or during shipment. Items damaged during removal or storage must be repaired or replaced to match existing items. Properly identify the contents of containers.

d. Remove and capture all Class I ODS refrigerants in accordance with the Clean Air Act Amendment of 1990, and turn in as directed by the Contract Manager.

3.2.4 Disposal of Ozone Depleting Substance (ODS)

Class I and Class II ODS are defined in Section, 602(a) and (b), of The Clean Air Act. Prevent discharge of Class I and Class II ODS to the atmosphere. Place recovered ODS in cylinders meeting AHRI Guideline K suitable for the type ODS (filled to no more than 80 percent capacity) and provide appropriate labeling.

Recovered ODS shall be put back into the existing equipment. Products, equipment and appliances containing ODS in a sealed, self-contained system (e.g. residential refrigerators and window air conditioners) shall be disposed of in accordance with 40 CFR 82. Submit Receipts or bills of lading, as specified.

3.3.5.1 Special Instructions

No more than one type of ODS is permitted in each container. A warning/hazardous label shall be applied to the containers in accordance with Department of Transportation regulations. All cylinders including but not limited to fire extinguishers, spheres, or canisters containing an ODS shall have a tag with the following information:

a. Activity name and unit identification code

b. Activity point of contact and phone number

c. Type of ODS and pounds of ODS contained

d. Date of shipment

e. National stock number (for information, call (804) 279-4525).

3.3.6 Unsalvageable and Non-Recyclable Material

Dispose of unsalvageable and non-recyclable noncombustible material in the disposal area. Dispose of unsalvageable and non-recyclable combustible material in the sanitary fill area located in and near Fresno.

3.4 CLEANUP

Remove debris and rubbish from basement and similar excavations. Remove and transport the debris in a manner that prevents spillage on streets or adjacent areas. Apply local regulations regarding hauling and disposal.

3.5 DISPOSAL OF REMOVED MATERIALS

3.5.1 Regulation of Removed Materials

Dispose of debris, rubbish, scrap, and other nonsalvageable materials resulting from removal operations with all applicable federal, state and local regulations as contractually specified.

3.5.2 Removal to Spoil Areas on Government Property

Transport noncombustible materials removed from demolition and deconstruction structures

to designated spoil areas on Government property.

3.5.3 Removal from Government Property

Transport waste materials removed from demolished and deconstructed structures, except waste soil, from Government property for legal disposal. Dispose of waste soil as directed.

3.6 REUSE OF SALVAGED ITEMS

Recondition salvaged materials and equipment designated for reuse before installation. Replace items damaged during removal and salvage operations or restore them as necessary to usable condition.

END OF SECTION

DIVISION 03 - CONCRETE

SECTION 03 30 00

CAST-IN-PLACE CONCRETE

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PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN CONCRETE INSTITUTE (ACI)

ACI 117	(2010; Errata 2011) Specifications for Tolerances for Concrete Construction and Materials and Commentary
ACI 121R	(2008) Guide for Concrete Construction Quality Systems in Conformance with ISO 9001
ACI 213R	(2014; E2017) Guide for Structural Lightweight-Aggregate Concrete
ACI 301	(2016) Specifications for Structural Concrete
ACI 302.1R	(2015) Guide for Concrete Floor and Slab Construction
ACI 304.2R	(2017) Guide to Placing Concrete by Pumping Methods
ACI 304R	(2000; R 2009) Guide for Measuring, Mixing, Transporting, and Placing Concrete
ACI 305.1	(2014) Specification for Hot Weather Concreting
ACI 305R	(2020) Guide to Hot Weather Concreting
ACI 306.1	(1990; R 2002) Standard Specification for Cold Weather Concreting
ACI 306R	(2016) Guide to Cold Weather Concreting
ACI 308.1	(2011) Specification for Curing Concrete
ACI 347R	(2014; Errata 1 2017) Guide to Formwork for Concrete
ACI SP-2	(2007; Abstract: 10th Edition) ACI Manual of Concrete Inspection
ACI SP-15	(2011) Field Reference Manual: Standard Specifications for Structural Concrete ACI 301-05

with Selected ACI References

AMERICAN HARDBOARD ASSOCIATION (AHA)

AHA A135.4	(1995; R 2004) Basic Hardboard

AMERICAN WELDING SOCIETY (AWS)

AWS D1.4/D1.4M	(2011) Structural Welding Code - Reinforcing Steel

ASTM INTERNATIONAL (ASTM)

ASTM A36/A36M	(2019) Standard Specification for Carbon Structural Steel
ASTM A53/A53M	(2022) Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
ASTM A184/A184M	(2019) Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement
ASTM A615/A615M	(2022) Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A706/A706M	(2022a) Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement
ASTM A767/A767M	(2016) Standard Specification for Zinc-Coated (Galvanized) Steel Bars for Concrete Reinforcement
ASTM A775/A775M	(2022) Standard Specification for Epoxy-Coated Steel Reinforcing Bars
ASTM A780/A780M	(2020) Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
ASTM A820/A820M	(2022) Standard Specification for Steel Fibers for Fiber-Reinforced Concrete
ASTM A884/A884M	(2019) Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement
ASTM A934/A934M	(2022) Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing

Bars

ASTM A955/A955M	(2020c) Standard Specification for Deformed and Plain Stainless-Steel Bars for Concrete Reinforcement
ASTM A970/A970M	(2018) Standard Specification for Headed Steel Bars for Concrete Reinforcement
ASTM A996/A996M	(2016) Standard Specification for Rail-Steel and Axle-Steel Deformed Bars for Concrete Reinforcement
ASTM A1022/A1022M	(2016b) Standard Specification for Deformed and Plain Stainless-Steel Wire and Welded Wire for Concrete Reinforcement
ASTM A1044/A1044M	(2016a) Standard Specification for Steel Stud Assemblies for Shear Reinforcement of Concrete
ASTM A1055/A1055M	(2022) Standard Specification for Zinc and Epoxy Dual Coated Steel Reinforcing Bars
ASTM A1060/A1060M	(2016b) Standard Specification for Zinc-Coated (Galvanized) Steel Welded Wire Reinforcement, Plain and Deformed, for Concrete
ASTM A1064/A1064M	(2022) Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
ASTM A1094/A1094M	(2020) Standard Specification for Continuous Hot-Dip Galvanized Steel Bars for Concrete Reinforcement
ASTM C31/C31M	(2023) Standard Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C33/C33M	(2023) Standard Specification for Concrete Aggregates
ASTM C39/C39M	(2023) Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C42/C42M	(2020) Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete

ASTM C78/C78M	(2022) Standard Test Method for Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)
ASTM C94/C94M	(2023) Standard Specification for Ready-Mixed Concrete
ASTM C136/C136M	(2019) Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C138/C138M	(2023) Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
ASTM C143/C143M	(2020) Standard Test Method for Slump of Hydraulic-Cement Concrete
ASTM C150/C150M	(2022) Standard Specification for Portland Cement
ASTM C172/C172M	(2017) Standard Practice for Sampling Freshly Mixed Concrete
ASTM C173/C173M	(2023) Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method
ASTM C231/C231M	(2022) Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C260/C260M	(2010a; R 2016) Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C311/C311M	(2022) Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete
ASTM C330/C330M	(2017a) Standard Specification for Lightweight Aggregates for Structural Concrete
ASTM C494/C494M	(2019; E 2022) Standard Specification for Chemical Admixtures for Concrete
ASTM C567/C567M	(2019) Determining Density of Structural Lightweight Concrete
ASTM C595/C595M	(2023) Standard Specification for Blended Hydraulic Cements
ASTM C618	(2023; E 2023) Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete

ASTM C803/C803M	(2023) Standard Test Method for Penetration Resistance of Hardened Concrete
ASTM C845/C845M	(2018) Standard Specification for Expansive Hydraulic Cement
ASTM C873/C873M	(2015) Standard Test Method for Compressive Strength of Concrete Cylinders Cast in Place in Cylindrical Molds
ASTM C900	(2015) Standard Test Method for Pullout Strength of Hardened Concrete
ASTM C920	(2018) Standard Specification for Elastomeric Joint Sealants
ASTM C989/C989M	(2022) Standard Specification for Slag Cement for Use in Concrete and Mortars
ASTM C1012/C1012M	(2018b) Standard Test Method for Length Change of Hydraulic-Cement Mortars Exposed to a Sulfate Solution
ASTM C1017/C1017M	(2013; E 2015) Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete
ASTM C1074	(2019) Standard Practice for Estimating Concrete Strength by the Maturity Method
ASTM C1077	(2017) Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM C1107/C1107M	(2020) Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink)

ASTM C1116/C1116M	(2023) Standard Specification for Fiber-Reinforced Concrete
ASTM C1157/C1157M	(2023) Standard Performance Specification for Hydraulic Cement
ASTM C1218/C1218M	(2020c) Standard Test Method for Water-Soluble Chloride in Mortar and Concrete
ASTM C1240	(2020) Standard Specification for Silica Fume Used in Cementitious Mixtures
ASTM C1260	(2023) Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)
ASTM C1293	(2008; R 2015) Standard Test Method for Determination of Length Change of Concrete Due to Alkali-Silica Reaction
ASTM C1567	(2023) Standard Test Method for Potential Alkali-Silica Reactivity of Combinations of Cementitious Materials and Aggregate (Accelerated Mortar-Bar Method)
ASTM C1602/C1602M	(2022) Standard Specification for Mixing Water Used in Production of Hydraulic Cement Concrete
ASTM C1778	(2016) Standard Guide for Reducing the Risk of Deleterious Alkali-Aggregate Reaction in Concrete
ASTM D412	(2016; R 2021) Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers - Tension
ASTM D471	(2016a) Standard Test Method for Rubber Property - Effect of Liquids
ASTM D1751	(2018) Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)
ASTM D1752	(2018) Standard Specification for Preformed Sponge Rubber, Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction
ASTM D2628	(1991; R 2016) Standard Specification for Preformed Polychloroprene Elastomeric Joint Seals for

	Concrete Pavements
ASTM D2835	(1989; R 2017) Standard Specification for Lubricant for Installation of Preformed Compression Seals in Concrete Pavements
ASTM D3042	(2017) Standard Test Method for Insoluble Residue in Carbonate Aggregates
ASTM D5759	(2012; R 2020) Characterization of Coal Fly Ash and Clean Coal Combustion Fly Ash for Potential Uses
ASTM D6690	(2015) Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements
ASTM E96/E96M	(2022a; E 2023) Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials
ASTM E329	(2023) Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection
ASTM E1155	(2020) Standard Test Method for Determining Floor Flatness and Floor Levelness Numbers
ASTM E1643	(2018a) Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs
ASTM E1745	(2017; R 2023) Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs
ASTM E1993/E1993M	(1998; R 2020) Standard Specification for Bituminous Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs

CONCRETE REINFORCING STEEL INSTITUTE (CRSI)

CRSI 10MSP	(2018) Manual of Standard Practice
CRSI RB4.1	(2016) Supports for Reinforcement Used in Concrete

FOREST STEWARDSHIP COUNCIL (FSC)

FSC STD 01 001	(2015) Principles and Criteria for Forest Stewardship

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST)

NIST PS 1	(2009) DOC Voluntary Product Standard PS 1-07, Structural Plywood

U.S. ARMY CORPS OF ENGINEERS (USACE)

COE CRD-C 104	(1980) Method of Calculation of the Fineness Modulus of Aggregate
COE CRD-C 513	(1974) Corps of Engineers Specifications for Rubber Waterstops
COE CRD-C 572	(1974) Corps of Engineers Specifications for Polyvinylchloride Waterstops

U.S. GENERAL SERVICES ADMINISTRATION (GSA)

FS SS-S-200	(Rev E; Notice 1; Notice 2) Sealant, Joint, Two-Component, Jet-Blast-Resistant, Cold-Applied, for Portland Cement Concrete Pavement

1.2 DEFINITIONS

a. "Cementitious material" as used herein must include all portland cement, pozzolan, fly ash, slag cement .

b. "Exposed to public view" means situated so that it can be seen from eye level from a public location after completion of the building. A public location is accessible to persons not responsible for the operation or maintenance of the building.

c. "Chemical admixtures" are materials in the form of powder or fluids that are added to the concrete to give it certain characteristics not obtainable with plain concrete mixes.

d. "Supplementary cementing materials" (SCM) include coal fly ash, [silica fume,]slag cement, natural or calcined pozzolans, and ultra-fine coal ash when used in such proportions to replace the portland cement that result in improvement to sustainability and durability and reduced cost.

e. "Design strength" (f'c) is the specified compressive strength of concrete at time(s) specified in this section to meet structural design criteria.

f. "Mass Concrete" is any concrete system that approaches a maximum temperature of 70 degrees C 158 degrees F within the first 72 hours of placement. In addition, it includes all concrete elements with a section thickness of 1 meter 3 feet or more regardless of temperature.

g. "Mixture proportioning" is the process of designing concrete mixture proportions to enable it to meet the strength, service life and constructability requirements of the project while minimizing the initial and life-cycle cost.

h. "Mixture proportions" are the masses or volumes of individual ingredients used to make a unit measure (cubic meter or cubic yard) of concrete.

i. "Pozzolan" is a siliceous or siliceous and aluminous material, which in itself possesses little or no cementitious value but will, in finely divided form and in the presence of moisture, chemically react with calcium hydroxide at ordinary temperatures to form compounds possessing cementitious properties.

j. "Workability (or consistence)" is the ability of a fresh (plastic) concrete mix to fill the form/mould properly with the desired work (vibration) and without reducing the concrete's quality. Workability depends on water content, chemical admixtures, aggregate (shape and size distribution), cementitious content and age (level of hydration).

1.3 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Concrete Curing Plan

Quality Control Program;

Quality Control Personnel Certifications

Quality Control Organizational Chart

Laboratory Accreditation

Form Removal Schedule

Maturity Method Data

SD-02 Shop Drawings

Reinforcing SteelSD-03 Product Data

Joint Sealants Joint

Filler Formwork

Materials

Recycled Aggregate Materials Cementitious

Materials

Vapor Retarder Concrete Curing Materials

Reinforcement

Liquid Chemical Floor Hardeners and Sealers

Admixtures

Local/Regional Materials

Pumping Concrete

Finishing Plan

SD-04 Samples

SD-05 Design Data

Concrete Mix Design

] SD-06 Test Reports

Concrete Mix Design Fly Ash

Pozzolan

Slag Cement

Aggregates

Compressive Strength Tests

Unit Weight of Structural Concrete

Air Content

Slump Tests

Water

SD-07 Certificates Reinforcing

Bars Welder Qualifications

VOC Content for Form Release Agents, Curing Compounds, and Concrete Penetrating Sealers

Safety Data Sheets

Field Testing Technician and Testing Agency

SD-08 Manufacturer's Instructions

Liquid Chemical Floor Hardeners and Sealers Joint

Sealants; S

Curing Compound

1.4 MODIFICATION OF REFERENCES

Accomplish work in accordance with ACI publications except as modified herein. Consider the advisory or recommended provisions to be mandatory. Interpret reference to the "Building Official," the "Structural Engineer," and the "Architect/Engineer" to mean the Contract Manager.

1.5 DELIVERY, STORAGE, AND HANDLING

Follow ACI 301, ACI 304R and ASTM A934/A934M requirements and recommendations. Do not deliver concrete until forms, reinforcement, embedded items, and chamfer strips are in place and ready for concrete placement. Do not store concrete curing compounds or sealers with materials that have a high capacity to adsorb volatile organic compound (VOC) emissions. Do not store concrete curing compounds or sealers in occupied spaces.

1.5.1 Reinforcement

Store reinforcement of different sizes and shapes in separate piles or racks raised above the ground to avoid excessive rusting. Protect from contaminants such as grease, oil, and dirt. Ensure bar sizes can be accurately identified after bundles are broken and tags removed.

1.5.1.1 Epoxy Coated Reinforcing Steel Not applicable to project

1.6 QUALITY ASSURANCE

1.6.1 Design Data

1.6.1.1 Formwork Calculations Not applicable to project

1.6.1.2 Concrete Mix Design

Sixty days minimum prior to concrete placement, submit a mix design for each strength and type of concrete. Submit all documentation required in ACI 301 Section 4 and as specified in this section. Submit a complete list of materials including type; brand; source and amount of cement, supplementary cementitious materials, and admixtures; and applicable reference specifications. Submit mill test and all other test for cement, supplementary cementitious materials, aggregates, and admixtures. Provide documentation of maximum nominal aggregate size, gradation analysis, percentage retained and passing sieve, and a graph of percentage retained verses sieve size. Provide mix proportion data using at least three different water-cementitious material ratios for each type of mixture, which produce a range of strength encompassing those required for each type of concrete required. If source material changes, resubmit mix proportion data using revised source material. Provide only materials that have been proven by trial mix studies to meet the requirements of this specification, unless otherwise approved in writing by the Contract Manager. Indicate clearly in the submittal where each mix design is used when more than one mix design is submitted. Resubmit data on concrete components if the qualities or source of components changes.

Required average strength can be documented by field experience if field strength test data are available and represent a single group of at least 10 consecutive strength tests for one mixture, using materials and conditions similar to those expected for work, and encompassing

a period of not less than 45 days. The average of field strength tests shall equal or exceed fcr'. Changes in materials, conditions, and proportions within the test record shall not have been more closely restricted than those for the proposed work. Test records shall not be more than 24 months old. Obtain mix design approval from the contracting officer prior to concrete placement.

1.6.2 Shop Drawings

1.6.2.1 Formwork

1.6.2.2 Reinforcing Steel

Indicate bending diagrams, assembly diagrams, splicing and laps of bars, shapes, dimensions, and details of bar reinforcing, accessories, and concrete cover. Do not scale dimensions from structural drawings to determine lengths of reinforcing bars. Reproductions of contract drawings are unacceptable.

1.6.3 Control Submittals 1.6.3.1

Concrete Curing Plan

Submit proposed materials, methods and duration for curing concrete elements in accordance with ACI 308.1.

1.6.3.2 Pumping Concrete

Submit proposed materials and methods for pumping concrete. Submittal must include mix designs, pumping equipment including type of pump and size and material for pipe, and maximum length and height concrete is to be pumped.][1.6.3.4 Finishing Plan

Not applicable to project –medium broom finish unless otherwise noted.

1.6.3.5 VOC Content for form release agents, curing compounds, and concrete penetrating sealers

Submit certification for the form release agent, curing compounds, and concrete penetrating sealers that indicate the VOC content of each product.

1.6.3.6 Safety Data Sheets

Submit Safety Data Sheets (SDS) for all materials that are regulated for hazardous health effects. SDS must be readily accessible during each work shift to employees when they are at the construction site.

1.6.4 Test Reports

1.6.4.1 Fly Ash and Pozzolan

Submit test results in accordance with ASTM C618 for fly ash and pozzolan. Submit test results performed within 6 months of submittal date.

1.6.4.2 Slag Cement

Submit test results in accordance with ASTM C989/C989M for slag cement. Submit test results performed within 6 months of submittal date.

1.6.4.3 Aggregates

Submit test results in accordance with ASTM C33/C33M, or ASTM C330/C330M for lightweight aggregate, and ASTM C1293 or ASTM C1567 as required in the paragraph titled ALKALI-AGGREGATE REACTION.

[1.6.4.4 Fiber-Reinforced Concrete

Not applicable to project

]1.6.5 Field Samples [1.6.5.1

Slab Finish Sample

Not applicable to project

1.6.5.2 Surface Finish Samples

Not applicable to project

1.6.6 Quality Control Program

Develop and submit for approval a concrete quality control program in accordance with the guidelines of ACI 121R and as specified herein. The plan must include approved laboratories. Provide direct oversight for the concrete qualification program inclusive of associated sampling and testing. All quality control reports must be provided to the Contracting Officer, Quality Manager and Concrete Supplier. Maintain a copy of ACI SP-15 and CRSI 10MSP at project site.

1.6.7 Quality Control Personnel Certifications

The Contractor must submit for approval the responsibilities of the various quality control personnel, including the names and qualifications of the individuals in those positions and a quality control organizational chart defining the quality control hierarchy and the responsibility of the various positions. Quality control personnel must be employed by the Contractor.

Submit American Concrete Institute certification for the following:

a. CQC personnel responsible for inspection of concrete operations.

b. Lead Foreman or Journeyman of the Concrete Placing, Finishing, and Curing Crews.

c. Field Testing Technicians: ACI Concrete Field-Testing Technician, Grade I.

1.6.7.1 Quality Manager Qualifications

The quality manager must hold a current license as a professional engineer in a U.S. state or territory with experience on at least five similar projects. Evidence of extraordinary proven experience may be considered by the Contracting Officer as sufficient to act as the Quality Manager.

1.6.7.2 Field Testing Technician and Testing Agency

Submit data on qualifications of proposed testing agency and technicians for approval by the Contract Manager prior to performing testing on concrete.

a. Work on concrete under this contract must be performed by an ACI Concrete Field Testing Technician Grade 1 qualified in accordance with ACI SP-2 or equivalent. Equivalent certification programs must include requirements for written and performance examinations as stipulated in ACI SP-2.

b. Testing agencies that perform testing services on reinforcing steel must meet the requirements of ASTM E329.

c. Testing agencies that perform testing services on concrete materials must meet the requirements of ASTM C1077.

1.6.8 Laboratory Qualifications for Concrete Qualification Testing The concrete

testing laboratory must have the necessary equipment and
experience to accomplish required testing. The laboratory must meet the requirements of ASTM C1077 and be Cement and Concrete Reference Laboratory (CCRL) inspected.

1.6.9 Laboratory Accreditation

Laboratory and testing facilities must be provided by and at the expense of the Contractor. The laboratories performing the tests must be accredited in accordance with ASTM C1077, including ASTM C78/C78M and ASTM C1260. The accreditation must be current and must include the required test methods, as specified. Furthermore, the testing must comply with the following requirements:

a. Aggregate Testing and Mix Proportioning: Aggregate testing and mixture proportioning studies must be performed by an accredited laboratory and under the direction of a registered professional engineer in a U.S. state of California who is competent in concrete materials and must sign all reports and designs.

b. Acceptance Testing: Furnish all materials, labor, and facilities required for molding, curing, testing, and protecting test specimens at the site and in the laboratory. Furnish and maintain boxes or other facilities suitable for storing and curing the specimens at the site while in the mold within the temperature range stipulated by ASTM C31/C31M.

c. Contractor Quality Control: All sampling and testing must be performed by an

approved, onsite, independent, accredited laboratory.

1.7 ENVIRONMENTAL REQUIREMENTS

1.7.1 Submittals for Environmental Performance

a. Provide data indication the percentage of post-industrial pozzolan (fly ash, slag cement) cement substitution as a percentage of the full product composite by weight.

b. Provide data indicating the percentage of post-industrial and post-consumer recycled content aggregate.

c. Provide product data indicating the percentage of post-consumer recycled steel content in each type of steel reinforcement as a percentage of the full product composite by weight.

d. Provide product data stating the location where all products were manufactured.

e. For projects using FSC certified formwork, provide chain-of-custody documentation for all certified wood products.

f. For projects using reusable formwork, provide data showing how formwork is reused.

g. Provide SDS product information data showing that form release agents meet any environmental performance goals such as using vegetable and soy-based products.

h. Provide SDS product information data showing that concrete adhesives meet any environmental performance goals including low emitting, low volatile organic compound products.

1.8 SUSTAINABLE DESIGN REQUIREMENTS

1.8.1 Local/Regional Materials

Use materials or products extracted, harvested, or recovered, as well as manufactured, within a 500 mile radius from the project site, if available from a minimum of three sources

Submit documentation indicating distance between manufacturing facility and the project site. Indicate distance of raw material origin from the project site. Indicate relative dollar value of local/regional materials to total dollar value of products included in project.
Forest Stewardship Council (FSC) Certification

Not applicable to project

1.9 QUALIFICATIONS FOR WELDING WORK

No welding on project

PART 2 PRODUCTS

2.1 FORMWORK MATERIALS

a. Form-facing material in contact with concrete must be Wood product. Submit product information on proposed form-facing materials if different from that specified herein.

b. Design formwork, shores, reshores, and backshores to support loads transmitted to them and to comply with applicable building code requirements – if applicable.

c. Design formwork and shoring for load redistribution resulting from stressing of post-tensioned reinforcement. Ensure that formwork allows movement resulting from application of prestressing force.

d. Design formwork to withstand pressure resulting from placement and vibration of concrete and to maintain specified tolerances.

e. Provide temporary openings in formwork if needed to facilitate cleaning and inspection.

f. Design formwork joints to inhibit leakage of mortar.

g. Do not use earth cuts as forms for vertical or sloping surfaces.

h. Submit product information on proposed form-facing materials if different from that specified herein.

i. Submit shop drawings for formwork, shoring, reshoring, and backshoring. Not applicable to project

2.1.1 Wood Forms

Use lumber as specified in Section 06 10 00 ROUGH CARPENTRY and as follows. Provide lumber that is square edged or tongue-and-groove boards, free of raised grain, knotholes, or other surface defects. Submit data verifying that composite wood products contain no urea formaldehyde resins. Concrete Form Plywood (Standard Rough)

Not applicable to project

2.1.1.1 Overlaid Concrete Form Plywood (Standard Smooth)

2.2 Not applicable to project

2.2.1 Plastic Forms

2.3 Not applicable to project

2.3.1 Carton Forms

2.4 Not applicable to project

2.4.1 Steel Forms

2.5 Not applicable to project

2.6 FORMWORK ACCESSORIES

a. Use commercially manufactured formwork accessories, including ties and hangers.

b. Form ties and accessories must not reduce the effective cover of the reinforcement.

2.6.1 Form Ties

Not applicable to project

2.6.2 Waterstops

Not applicable to project

2.6.3 Biodegradable Form Release Agent

a. Provide form release agent that is colorless, biodegradable, and water-based, with a[low (maximum of 55 grams/liter (g/l))][zero] VOC content. A minimum of 85percent of the total product must be biobased material.

b. Provide product that does not bond with, stain, or adversely affect concrete surfaces and does not impair subsequent treatments of concrete surfaces.

c. Provide form release agent that reduces formwork moisture absorption, and does not contain diesel fuel, petroleum-based lubricating oils, waxes, or kerosene. Submit documentation indicating type of biobased material in product and biobased content. Indicate relative dollar value of biobased content products to total dollar value of products included in project.

d. Submit manufacturer's product data on formwork release agent for use on each form-facing material.

2.6.4 Chamfer Materials

2.7 Not applicable to project

2.7.1 Construction and movement joints

a. Submit details and locations of construction joints in accordance with the requirements herein.

b. Locate construction joints as shown on drawings. Make construction joints perpendicular to main reinforcement.

c. Provide movement joints where indicated in Contract Documents or in accepted alternate locations.

d. Submit location and detail of movement joints if different from those indicated in Contract Documents.

e. Submit manufacturer's data sheet on expansion joint materials.

f. Provide keyways where indicated in Contract Documents. Longitudinal keyways indicated in Contract Documents must be at least 37.5 mm 1-1/2 in. deep, measured perpendicular to the plane of the joint.

2.7.2 Other Embedded items

See specification section 34 73 13 for embedded item – aircraft tie down

2.8 CONCRETE MATERIALS

2.8.1 Cementitious Materials

2.8.1.1 Portland Cement

a. Unless otherwise specified, provide cement that conforms to ASTM C150/C150M Type II

b. Use one brand and type of cement for formed concrete having exposed-to-view finished surfaces.

c. Submit information along with evidence demonstrating compliance with referenced standards. Submittals must include types of cementitious materials, manufacturing locations, shipping locations, and certificates showing compliance.

d. Cementitious materials must be stored and kept dry and free from contaminants.

2.3.1.2 Blended Cements

Not applicable to project

2.3.1.3 Fly Ash

a. ASTM C618, Class F except that the maximum allowable loss on ignition must not exceed 3 6 percent.

b. If fly ash is used it shall range from 15 to 20percent by weight of cementitious material, provided the fly ash does not reduce the amount of cement in the concrete mix below the minimum requirements of local building codes. Where the use of fly ash cannot meet the minimum level,it shall not be used. Report the chemical analysis of the fly ash in accordance with ASTM C311/C311M. Evaluate and classify fly ash in accordance with ASTM D5759.

2.3.1.4 Slag Cement

2.3.1.5 Not applicable to project

2.3.1.6 Silica Fume

Silica fume must conform to ASTM C1240, including the optional limits on reactivity with cement alkalis. Silica fume may be furnished as a dry, densified material or as slurry. Proper mixing is essential to accomplish proper distribution of the silica fume and avoid agglomerated silica fume which can react with the alkali in the cement resulting in premature and extensive concrete damage. Supervision at the batch plant, finishing, and curing is essential. [Provide at the Contractor's expense the services of a manufacturer's technical representative, experienced in mixing, proportioning, placement procedures, and curing of concrete containing silica fume. This representative must be present on the project prior to and during at least the first 4 days of concrete production and placement using silica fume.] [A High Range Water Reducing admixture (HRWRA) must be used when silica fume is the only pozzolan used.]

2.3.1.7 Other Supplementary Cementitious Materials

Natural pozzolan must be raw or calcined and conform to ASTM C618, Class N, including the optional requirement for uniformity.

Ultra Fine Fly Ash (UFFA) and Ultra Fine Pozzolan (UFP) must conform to ASTM C618, Class F or N, and the following additional requirements:

a. The strength activity index at 28 days of age must be at least 95 percent of the control specimens.

b. The average particle size must not exceed 6 microns.

c. The sum of SiO2 plus Al2O3 plus Fe2O3 must be greater than 77 percent.

2.8.2 Water

a. Water or ice must comply with the requirements of ASTM C1602/C1602M.

b. Minimize the amount of water in the mix. Improve workability by adjusting the grading of the aggregate and using admixture rather than by adding water.

c. Water must be potable; free from injurious amounts of oils, acids, alkalis, salts, organic materials, or other substances deleterious to concrete.

d. Protect mixing water and ice from contamination during storage and delivery.

e. Submit test report showing water complies with ASTM C1602/C1602M.

f. When nonpotable source is proposed for use, submit documentation on effects of water on strength and setting time in compliance with ASTM C1602/C1602M.

2.3.3 Aggregate

2.3.3.1 Normal-Weight Aggregate

a. Aggregates must conform to ASTM C33/C33M Aggregates used in concrete must be obtained from the same sources and have the same size range as aggregates used in

concrete represented by submitted field test records or used in trial mixtures.

b. Provide sand that is at least 50 percent acid insoluble based on ASTM D3042.][Provide sand that is at least 50 percent natural sand.]

c. Store and handle aggregate in a manner that will avoid segregation and prevents contamination by other materials or other sizes of aggregates. Store aggregates in locations that will permit them to drain freely. Do not use aggregates that contain frozen lumps.

d. Submit types, pit or quarry locations, producers' names, aggregate supplier statement of compliance with ASTM C33/C33M, and ASTM C1293 expansion data not more than 18 months old.

2.3.3.2 Lightweight Aggregate

Lightweight aggregate in accordance with ASTM C330/C330M.

2.3.3.3 Recycled Aggregate Materials

2.3.3.4 Not applicable to project

2.3.4 Admixtures

a. Chemical admixtures must conform to ASTM C494/C494M.

b. Air-entraining admixtures must conform to ASTM C260/C260M.

c. Chemical admixtures for use in producing flowing concrete must conform to ASTM C1017/C1017M.

d. Do not use calcium chloride admixtures

e. Use a corrosion-inhibiting admixture for concrete classified under exposure category C1C2. Use an ASR-inhibiting admixture for concrete containing aggregate susceptible to ASR.

f. Admixtures used in concrete must be the same as those used in the concrete represented by submitted field test records or used in trial mixtures.

g. Protect stored admixtures against contamination, evaporation, or damage.

h. To ensure uniform distribution of constituents, provide agitating equipment for admixtures used in the form of suspensions or unstable solutions. Protect liquid admixtures from freezing and from temperature changes that would adversely affect their characteristics.

i. Submit types, brand names, producers' names, manufacturer's technical data sheets, and certificates showing compliance with standards required herein.

2.9 MISCELLANEOUS MATERIALS

2.9.1 Concrete Curing Materials

Provide concrete curing material in accordance with ACI 301 Section 5 and ACI 308.1 Section 2. Submit product data for concrete curing compounds.

Submit manufacturer's instructions for placement of curing compound.

2.9.2 Nonshrink Grout

2.9.2.1 Not applicable to project

2.9.3 Floor Finish Materials

2.9.3.1 Liquid Chemical Floor Hardeners and Sealers

2.9.3.2 Not applicable to project

2.9.3.3 Abrasive Aggregate for Nonslip Aggregate Finish

Not applicable to project

2.4.3.3 Dry Materials for Colored Wear-Resistant Finish

Not applicable to project

2.4.3.4 Aggregate for Heavy-Duty Wear-Resistant Finish

Not applicable to project

2.9.4

2.9.4 Expansion/Contraction Joint Filler

2.9.5 Not applicable to project

2.9.6 Joint Sealants

2.4.5.1 Horizontal Surfaces, 3 Percent Slope, Maximum ASTM

D6690 or ASTM C920, Type M, Class 25, Use T.

2.4.5.2 Vertical Surfaces Greater Than 3 Percent Slope

Not applicable to project

Preformed Polychloroprene

Not applicable to project

2.4.5.3

Lubricant for Preformed - Not Applicable to project.

2.9.7 Vapor Retarder [and Vapor Barrier]

2.9.8 Not applicable to project

2.9.9 Dovetail Anchor Slot

2.9.10 Not applicable to project

2.10 CONCRETE MIX DESIGN

2.10.1 Properties and Requirements

a. Use materials and material combinations listed in this section and the contract documents.

b. Cementitious material content must be adequate for concrete to satisfy the specified requirements for strength, w/cm, durability, and finish ability described in this section and the contract documents.

The minimum cementitious material content for concrete used in floors must meet the following requirements:

Nominal maximum size of aggregate, in.	**Minimum cementitious material content, pounds per cubic yard**
1-1/2	470
1	520
3/4	540
3/8	610

c. Selected target slump must meet the requirements this section, the contract documents, and must not exceed 2 in. Concrete must not show visible signs of segregation.

d. The target slump must be enforced for the duration of the project Determine the slump by ASTM C143/C143M. Slump tolerances must meet the requirements of ACI 117.

e. The nominal maximum size of coarse aggregate for a mixture must not exceed three-fourths of the minimum clear spacing between reinforcement, one-fifth of the narrowest dimension between sides of forms, or one-third of the thickness of slabs or toppings.

f. Concrete must be air entrained for members assigned to Exposure Class F3. The total air content must be in accordance with the requirements of the paragraph titled DURABILITY.

g. Measure air content at the point of delivery in accordance with ASTM C173/C173M or ASTM C231/C231M.

h. Concrete for slabs to receive a hard-troweled finish must not contain an air-entraining admixture or have a total air content greater than 3 percent.

i. Concrete properties and requirements for each portion of the structure are specified in the table below. Refer to the paragraph titled DURABILITY for more details on exposure categories and their requirements.

	Minimum *f'c* MPa psi	**Exposure Categories ^**	**Miscellaneous Requirements**
Drilled piers	[3000] at 28 days	F3	Nominal maximum aggregate size must be 3/4 in
• **Ext slabs** • **Swale** • **headwalls**	[4000] at 28 days	F3	Nominal maximum aggregate size must be 3/4 in
•			

2.10.2 Durability

2.10.2.1 Alkali-Aggregate Reaction

Do not use any aggregate susceptible to alkali-carbonate reaction (ACR).

Use one of the three options below for qualifying concrete mixtures to reduce the potential of alkali-silica reaction (ASR):

a. For each aggregate used in concrete, the expansion result determined in accordance with ASTM C1293 must not exceed 0.04 percent at one year.

b. For each aggregate used in concrete, the expansion result of the aggregate and cementitious materials combination determined in accordance with ASTM C1567 must not exceed 0.10 percent at an age of 16 days.

c. Alkali content in concrete (LBA) must not exceed 4 pounds per cubic yardfor moderately reactive aggregate or 3 pounds per cubic yard for highly reactive aggregate. Reactivity must be determined by testing in accordance with ASTM C1293 and categorized in accordance with ASTM C1778. Alkali content is calculated as follows:
LBA = (cement content, kg per cubic meter pounds per cubic yard) × (equivalent alkali content of portland cement in percent/100 percent)

2.10.2.2 Freezing and Thawing Resistance

a. Provide concrete meeting the following requirements based on exposure class assigned to members for freezing-and-thawing exposure in Contract Documents:

Exposure class	Maximum *w/cm**	Minimum *f'c*, MPa psi	Air content	Additional Requirements

Exposure class	Maximum *w/cm*	Minimum *f'c*, MPa psi	Air content	Additional Requirements
F3	0.40	4000	Depends on aggregate size	See limits on maximum cementitious material by mass

b. Concrete must be air entrained for members assigned to Exposure Class F3. The total air content must meet the requirements of the following table:

Nominal maximum aggregate size, mm in.	Total air content, percent*^	
	Exposure Class F2 and F3	
3/4	6.0	

*Tolerance on air content as delivered must be plus/minus 1.5 percent.

^For f'c greater than 5000 psi, reducing air content by 1.0 percentage point is acceptable.

c. Submit documentation verifying compliance with specified requirements.

d. For sections of the structure that are assigned Exposure Class F3, submit certification on cement composition verifying that concrete mixture meets the requirements of the following table:

Cementitious material	Maximum percent of total cementitious material by mass*

Fly ash or other pozzolans conforming to ASTM C618	25
Slag cement conforming to ASTM C989/C989M	50
Silica fume conforming to ASTM C1240	10
Total of fly ash or other pozzolans, slag cement, and silica fume	50^
Total of fly ash or other pozzolans and silica fume	35^

*Total cementitious material also includes ASTM C150/C150M, ASTM C595/C595M, ASTM C845/C845M, and ASTM C1157/C1157M cement. The maximum percentages above must include:

i. Fly ash or other pozzolans present in ASTM C1157/C1157M or ASTM C595/C595M Type IP blended cement.

ii. Slag cement present in ASTM C1157/C1157M or ASTM C595/C595M Type IS blended cement.

iii. Silica fume conforming to ASTM C1240 present in ASTM C1157/C1157M or ASTM C595/C595M Type IP blended cement.

^Fly ash or other pozzolans and silica fume must constitute no more than 25 percent and 10 percent, respectively, of the total mass of the cementitious materials.

2.10.2.3 Corrosion and Chloride Content

Not applicable to project

2.10.2.4

2.10.2.4 Sulfate Resistance

Not applicable to project

2.10.2.5

2.10.2.5 Concrete Temperature

The temperature of concrete as delivered must not exceed 95°F

2.10.2.6 Concrete permeability

a. Provide concrete meeting the requirements of the following table based on exposure class assigned to members requiring low permeability in the Contract Documents.

Exposure class	Maximum *w/cm**	Minimum f'c, MPa psi	Additional minimum requirements
W1	0.5	28 4000	None

b. Submit documentation verifying compliance with specified requirements.

2.10.3 Contractor's Option for Material Only

not applicable to project

2.10.4 Trial Mixtures

Trial mixtures must be in accordance to ACI 301.

2.10.5 Ready-Mix Concrete

Provide concrete that meets the requirements of ASTM C94/C94M.

Ready-mixed concrete manufacturer must provide duplicate delivery tickets with each load of concrete delivered. Provide delivery tickets with the following information in addition to that required by ASTM C94/C94M:

a. Type and brand cement.

b. Cement and supplementary cementitious materials content in 94-pound bags per cubic meter yard of concrete

c. Maximum size of aggregate

d. Amount and brand name of admixtures.

e. Total water content expressed by water cementitious material ratio.

2.6 REINFORCEMENT

a. Bend reinforcement cold. Fabricate reinforcement in accordance with fabricating tolerances of ACI 117.

b. Submit manufacturer's certified test report for reinforcement.

c. Submit placing drawings showing fabrication dimensions and placement locations of reinforcement and reinforcement supports. Placing drawings must indicate locations of splices, lengths of lap splices, and details of mechanical and welded splices.

d. Submit request with locations and details of splices not indicated in Contract Documents.

e. Submit request for field cutting, including location and type of bar to be cut and reason field cutting is required.

2.6.1 Reinforcing Bars

a. Reinforcing bars must be deformed, except spirals, load-transfer dowels, and welded wire reinforcement, which may be plain.

b. ASTM A615/A615M with the bars marked S, Grade 60 [See Section 01 33 29 SUSTAINABILITY REQUIREMENTS AND REPORTING for cumulative total recycled content requirements.]

c. Submit mill certificates for reinforcing bars.

2.6.1.1 Galvanized Reinforcing Bars - not applicable to project

2.6.1.2 Epoxy-Coated Reinforcing Bars - not applicable to project.

2.6.1.3 Dual-coated Reinforcing Bars - not applicable to project

2.6.1.4 Stainless Steel Reinforcing Bars - not applicable to project

2.6.1.5 Headed Reinforcing Bars - not applicable to project.

2.6.1.6 Bar Mats - not applicable to project

2.6.1.7 Headed Shear Stud Reinforcement - not applicable to project.

2.6.2 Mechanical Reinforcing Bar Connectors- not applicable to project

2.6.3 Wire - not applicable to project

2.6.4 Welded wire reinforcement- not applicable to project

a. by ASTM A1060/A1060M.

2.6.5 Reinforcing Bar Supports

Provide reinforcement support types within structure as required by Contract Documents.

a. Legs of supports in contact with formwork must be hot-dip galvanized, or plastic coated after fabrication, or stainless-steel bar supports.

2.6.6 Reinforcing Fibers - not applicable to project

2.6.6.1 Synthetic Fibers- not applicable to project

2.6.6.2 Steel Fibers- not applicable to project

2.6.7 Dowels

Provide greased dowels , dowel bars that are plain-billet steel conforming to ASTM A615/A615M, Grade 40.

2.6.8 Welding- not applicable to project

PART 3 EXECUTION

3.1 EXAMINATION

a. Do not begin installation until substrates have been properly constructed; verify that substrates are level.

b. If substrate preparation is the responsibility of another installer, notify Contract Manager of unsatisfactory preparation before processing.

c. Check field dimensions before beginning installation. If dimensions vary too much from design dimensions for proper installation, notify the Contract Manager and wait for instructions before beginning installation.

3.2 PREPARATION

Determine quantity of concrete needed and minimize the production of excess concrete. Designate locations or uses for potential excess concrete before the concrete is poured.

3.2.1 General

a. Surfaces against which concrete is to be placed must be free of debris, loose material, standing water, snow, ice, and other deleterious substances before start of concrete placing.

b. Remove standing water without washing over freshly deposited concrete. Divert flow of water through side drains is provided for such purpose.

3.2.2 Subgrade Under Foundations and Footings- not applicable to project

3.2.3 Subgrade Under Slabs on Ground

a. Before construction of slabs on ground, ensure underground work on pipes and conduits is completed and approved.

b. Previously constructed subgrade or fill must be cleaned of foreign materials.

3.2.4 Edge Forms and Screed Strips for Slabs – if applicable

a. Set edge forms or bulkheads and intermediate screed strips for slabs to obtain indicated elevations and contours in finished slab surface and must be strong enough to support vibrating bridge screeds or roller pipe screeds if nature of specified slab finish requires use of such equipment.

b. Align concrete surface to elevation of screed strips by use strike-off templates or approved compacting-type screeds.

3.2.5 Reinforcement and Other Embedded Items

a. Secure reinforcement, joint materials, and other embedded materials in position, inspected, and approved before start of concrete placing.

b. When concrete is placed, reinforcement must be free of materials deleterious to bond. Reinforcement with rust, mill scale, or a combination of both will be considered satisfactory, provided minimum nominal dimensions, nominal weight, and minimum average height of deformations of a hand-wire-brushed test specimen are not less than applicable ASTM specification requirements.

3.3 FORMS

a. Provide forms, shoring, and scaffolding for concrete placement. Set forms mortar-tight and true to line and grade.

b. Inspect formwork and remove foreign material before concrete is placed.

c. Do not make adjustments in formwork after concrete has reached initial setting. Brace formwork to resist lateral deflection and lateral instability.

d. Fasten form wedges in place after final adjustment of forms and before concrete placement.

e. Provide anchoring and bracing to control upward and lateral movement of formwork system.

f. Construct formwork for openings to facilitate removal and to produce opening dimensions as specified and within tolerances.

g. Provide runways for moving equipment. Support runways directly on formwork or structural members. Do not support runways on reinforcement. Loading applied by runways must not exceed the capacity of formwork or structural members.

h. Position and support expansion joint materials, waterstops, and other embedded items to prevent displacement. Fill voids in sleeves, inserts, and anchor slots temporarily with removable material to prevent concrete entry into voids.

i. Clean surfaces of formwork and embedded materials of mortar, grout, and foreign materials before concrete placement.

3.3.1 Coating

a. Cover formwork surfaces with an acceptable material that inhibits bond with concrete.

b. If formwork release agent is used, apply to formwork surfaces in accordance with manufacturer's recommendations before placing reinforcement. Remove excess release agent on formwork prior to concrete placement.

c. Do not allow formwork release agent to contact reinforcement or hardened concrete against which fresh concrete is to be placed.

3.3.2 Reshoring- not applicable to project

3.3.3 Reuse

a. Reuse forms providing the structural integrity of concrete and the aesthetics of exposed concrete are not compromised.

b. Wood forms must not be clogged with paste and must be capable of absorbing high water-cementitious material ratio paste.

c. Remove leaked mortar from formwork joints before reuse.

3.3.4 Forms for Standard Rough Form Finish

Provide formwork in accordance with ACI 301 Section 5 with a surface finish, SF-1.0, for formed surfaces that are to be concealed by other construction.

3.3.5 Forms for Standard Smooth Form Finish

Provide formwork in accordance with ACI 301 Section 5 with a surface finish, SF-3.0, for formed surfaces that are exposed to view

3.3.6 Form Ties- not applicable to project Forms for Concrete Pan Joist Construction- not applicable to project

3.3.7 Tolerances for Form Construction- not applicable to project

3.3.8 Removal of Forms and Supports

a. If vertical formed surfaces require finishing, remove forms as soon as removal operations will not damage concrete.

b. Remove top forms on sloping surfaces of concrete as soon as removal will not allow concrete to sag. Perform repairs and finishing operations required. If forms are removed before end of specified curing period, provide curing and protection.

c. Do not damage concrete during removal of vertical formwork for columns, walls, and sides of beams. Perform needed repair and finishing operations required on vertical surfaces. If forms are removed before the end of specified curing period, provide curing and protection.

d. Leave formwork and shoring in place to support construction loads and weight of concrete in beams, slabs, and other structural members until in-place required strength of concrete is reached.

e. Form-facing material and horizontal facing support members may be removed before in-place concrete reaches specified compressive strength if shores and other supports are designed to allow facing removal without deflection of supported slab or member.

3.4 WATERSTOP INSTALLATION AND SPLICES- not applicable to project

3.4.1 PVC Waterstop- not applicable to project

3.4.2 Rubber Waterstop- not applicable to project

3.4.3 Thermoplastic Elastomeric Rubber Waterstop- not applicable to project

3.4.4 - not applicable to project Hydrophilic Waterstop- not applicable to project

3.5 PLACING REINFORCEMENT AND MISCELLANEOUS MATERIALS

a. Unless otherwise specified, placing reinforcement and miscellaneous materials must be in accordance to ACI 301. Provide barswire ties, supports, and other devices necessary to install and secure reinforcement.

b. Reinforcement must not have rust, scale, oil, grease, clay, or foreign substances that would reduce the bond. Rusting of reinforcement is a basis of rejection if the effective cross-sectional area or the nominal weight per unit length has been reduced. Remove loose rust prior to placing steel. Tack welding is prohibited.

c. Nonprestressed cast-in-place concrete members must have concrete cover for reinforcement given in the following table:

Concrete Exposure	Member	Reinforcement	Specified cover, in.
Cast against and permanently in contact with ground	All	All	3
Exposed to weather or in contact with ground	All	No. 6 through No. 18 bars	2

3.5.1 General

Provide details of reinforcement that are in accordance with the Contract Documents.

3.5.2 Vapor Retarder [and Vapor Barrier] - not applicable to project.

3.5.3 Perimeter Insulation- not applicable to project

3.5.4 Reinforcement Supports

Provide reinforcement support in accordance with CRSI RB4.1 and ACI 301 Section 3 requirements.

3.5.5 Epoxy Coated Reinforcing

Epoxy Coated Reinforcing must meet the requirements of [ASTM A934/A934M including Appendix X2,] "Guidelines for Job Site Practices" except as otherwise specified herein.

3.5.5.1 Epoxy Coated Reinforcing Steel Placement and Coating Repair - not applicable to project.

3.5.6 Splicing

3.5.7 As indicated in the Contract Documents. For splices not indicated follow ACI 301.

3.5.7 Future Bonding- not applicable to project

3.5.8 Setting Miscellaneous Material

Place and secure aircraft mooring devices, anchors and bolts, pipe sleeves, conduits, and other such items in position before concrete placement and support against displacement. Plumb anchor bolts and check location and elevation.
Temporarily fill voids in sleeves with readily removable material to prevent the entry of concrete.

3.5.9 Fabrication

Shop fabricate reinforcing bars to conform to shapes and dimensions indicated for reinforcement, and as follows:

a. Provide fabrication tolerances that are in accordance with ACI 117.

b. Provide hooks and bends that are in accordance with the Contract Documents.

Reinforcement must be bent cold to shapes as indicated. Bending must be done in the shop. T h e rebending of a reinforcing bar that has been bent incorrectly is not be permitted. Bending must be in accordance with standard approved practice and by approved machine methods.

Deliver reinforcing bars bundled, tagged, and marked. Tags must be metal with bar size, length, mark, and other information pressed in by machine. Marks must correspond with those used on the placing drawings.

Do not use reinforcement that has any of the following defects:

a. Bar lengths, depths, and bends beyond specified fabrication tolerances

b. Bends or kinks not indicated on drawings or approved shop drawings.

c. Bars with reduced cross-section due to rusting or other cause

Replace defective reinforcement with new reinforcement having required shape, form, and cross-section area.

3.5.10 Placing Reinforcement

Place reinforcement in accordance with ACI 301.

For slabs on grade support bars or welded wire reinforcement on precast concrete blocks, spaced at intervals required by size of reinforcement, to keep reinforcement the minimum height specified above the underside of slab or footing.

Provide reinforcement that is supported and secured together to prevent displacement by construction loads or by placing of wet concrete, and as follows:

a. Provide supports for reinforcing bars that are sufficient in number and have sufficient strength to carry the reinforcement they support, and in accordance with ACI 301 and CRSI 10MSP. Do not use supports to support runways for concrete conveying equipment and similar construction loads.

b. Secure reinforcements to supports by means of tie wire. Wire must be black, soft iron wire, not less than 16 gage.

c. Reinforcement must be accurately placed, securely tied at intersections, and held in position during placing of concrete by spacers, chairs, or other approved supports. Point wire-tie ends away from the form. Unless otherwise indicated, numbers, type, and spacing of supports must conform to the Contract Documents.

d. Bending of reinforcing bars partially embedded in concrete is not permitted.

3.5.11 Spacing of Reinforcing Bars

a. Spacing must be as indicated in the Contract Documents.

b. Reinforcing bars may be relocated to avoid interference with other reinforcement, or with conduit, pipe, or other embedded items. If any reinforcing bar is moved a distance exceeding one bar diameter or specified placing tolerance, resulting rearrangement of reinforcement is subject to preapproval by the Contract Manager.

3.5.12 Concrete Protection for Reinforcement

3.5.13 Welding- not applicable to project

3.6 BATCHING, MEASURING, MIXING, AND TRANSPORTING CONCRETE

In accordance with ASTM C94/C94M, ACI 301, ACI 302.1R and ACI 304R, except as modified herein. Batching equipment must be such that the concrete ingredients are consistently measured within the following tolerances: 1 percent for cement and water, 2 percent for aggregate, and 3 percent for admixtures. Furnish mandatory batch ticket information for each load of ready mix concrete.

3.6.1 Measuring

Make measurements at intervals as specified in paragraphs SAMPLING and TESTING.

3.6.2 Mixing

a. Mix concrete in accordance with ASTM C94/C94M, ACI 301 and ACI 304R.

b. Machine mix concrete. Begin mixing within 30 minutes after the cement has been added to the aggregates. Place concrete within 90 minutes of either addition of mixing water to cement and aggregates or addition of cement to aggregates. A retarder shall be used to facilitate placing and finishing when concrete temperature is 85 degrees F or greater.

c. If the entrained air content falls below the specified limit, add a sufficient quantity of admixture, within the manufacturer's recommended dosage, to bring the entrained air content within the specified limits. Dissolve admixtures in the mixing water and mix in the drum to uniformly distribute the admixture throughout the batch. Do not reconstitute concrete that has begun to solidify.

3.6.3 Transporting

Transport concrete from the mixer to the forms as rapidly as practicable. Prevent segregation or loss of ingredients. Clean transporting equipment thoroughly before each batch. Do not use aluminum pipe or chutes. Remove concrete which has segregated in transporting and dispose of as directed.

3.7 PLACING CONCRETE

Place concrete in accordance with ACI 301 Section 5. Concrete shall be placed within 15 minutes of discharge into non-agitating equipment.

3.7.1 Footing Placement- not applicable to project.

3.7.2 Pumping

ACI 304R and ACI 304.2R. Pumping must not result in separation or loss of materials nor cause interruptions sufficient to permit loss of plasticity between successive increments. Loss of slump in pumping equipment must not exceed 2 inches at discharge/placement. Do not convey concrete through pipe made of aluminum or aluminum alloy. Avoid rapid changes in pipe sizes. Limit maximum size of course aggregate to 33 percent of the diameter of the pipe. Limit maximum size of well-rounded aggregate to 40 percent of the pipe diameter. Take samples for testing at both the point of delivery to the pump and at the discharge end.

3.7.2.1 Pumping Lightweight Concrete- not applicable to project

3.7.3 Cold Weather

Cold weather concrete must meet the requirements of ACI 301 andACI 306.1 unless otherwise specified. Do not allow concrete temperature to decrease below 50 degrees F. Obtain approval prior to placing concrete when the ambient temperature is below 40 degrees F or when concrete is likely to be subjected to freezing temperatures within 24 hours. Cover concrete and provide sufficient heat to maintain 50 degrees F minimum adjacent to both the formwork and the structure while curing. Limit the rate of cooling to 37 degrees F in any one hour and 50 degrees F per 24 hours after heat application.

3.7.4 Hot Weather

Hot weather concrete must meet the requirements of ACI 301andACI 305.1 unless otherwise specified. Maintain required concrete temperature using Figure 4.2 in ACI 305R to prevent the evaporation rate from exceeding 0.2 pound of water per square foot of exposed concrete per hour. Cool ingredients before mixing or use other suitable means to control concrete temperature and prevent rapid drying of newly placed concrete. Shade the fresh concrete as soon as possible after placing. Start curing when the surface of the fresh concrete is sufficiently hard to permit curing without damage. Provide water hoses, pipes, spraying equipment, and water hauling equipment, where job site is remote to water source, to maintain a moist concrete surface throughout the curing period. Provide burlap cover or other suitable, permeable material with fog spray or continuous wetting of the concrete when weather conditions prevent the use of either liquid membrane curing compound or impervious sheets. For vertical surfaces, protect forms from direct sunlight and add water to top of structure once concrete is set.

3.7.5 Bonding – if applicable

Surfaces of set concrete at joints, must be roughened and cleaned of laitance, coatings, loose particles, and foreign matter. Roughen surfaces in a manner that exposes the aggregate uniformly and does not leave laitance, loosened particles of aggregate, nor damaged concrete at the surface.

Obtain bonding of fresh concrete that has set as follows:

a. At joints between footings and walls or columns, between walls or columns and the beams or slabs they support, and elsewhere unless otherwise specified; roughened and cleaned surface of set concrete must be dampened, but not saturated, immediately prior to placing of fresh concrete.

b. At joints in exposed-to-view work; at vertical joints in walls; at joints near midpoint of span in girders, beams, supported slabs, other structural members; in work designed to contain liquids; the roughened and cleaned surface of set concrete must be dampened but not saturated and covered with a cement grout coating.

c. Provide cement grout that consists of equal parts of portland cement and fine aggregate by weight with not more than 6 gallons of water per sack of cement. Apply cement grout with a stiff broom or brush to a minimum thickness of 1/16 inch. Deposit fresh concrete before cement grout has attained its initial set.

3.8 WASTE MANAGEMENT

Provide as specified in the Waste Management Plan and as follows.

3.8.1 Mixing Equipment

Before concrete pours, designate on-site area for cleaning out concrete mixing trucks. Minimize water used to wash equipment. Contractor shall provide washout as part their work.

3.8.2 Hardened, Cured Waste Concrete

Remove from site and dispose.

3.8.3 Reinforcing Steel

Collect reinforcing steel and place in designated area for recycling.

3.8.4 Other Waste

Identify concrete manufacturer's or supplier's policy for collection or return of construction waste, unused material, deconstruction waste, and/or packaging material. Remove from government site as required.

3.9 Surface finishes except floor, slab, and pavement finishes- NOT APPLICABLE TO PROJECT floor, slab, and pavement finishes and miscellaneous construction

In accordance with ACI 301 and ACI 302.1R, unless otherwise specified. Steel trowel and fine-broom finish concrete slabs .

3.9.1 Finish

Place, consolidate, and immediately strike off concrete to obtain proper contour, grade, and elevation before bleedwater appears. Permit concrete to attain a set sufficient for floating and supporting the weight of the finisher and equipment. If bleedwater is present prior to floating the surface, drag the excess water off or remove by absorption with porous materials. Do not use dry cement to absorb bleedwater. Grate tampers ("jitterbugs") shall not be used.

3.9.1.1 Scratched

Use for surfaces intended to receive bonded applied cementitious applications. Finish concrete in accordance with ACI 301 Section 5 for a scratched finish.

3.9.1.2 Floated

Use for [surfaces to receive [roofing,] [waterproofing membranes,] [sand bed terrazzo,]][and] [exterior slabs where not otherwise specified.] Finish concrete in accordance with ACI 301 Section 5 for a floated finish.

[3.10.1.3 Concrete Containing Silica Fume

Finish using magnesium floats or darbies.[Finish using techniques demonstrated in the sample installation.]

]3.10.1.4 Steel Troweled

3.10.1.7 Pavement

Screed the concrete with a template advanced with a combined longitudinal and crosswise motion. Maintain a slight surplus of concrete ahead of the template. After screeding, float the concrete longitudinally. Use a straightedge to check slope and flatness; correct and refloat as necessary. Obtain final finish by brooming

3.10.1.8 Concrete Toppings Placement- not applicable to project

3.10.1.9 Chemical-Hardener Treatment- not applicable to project

]3.10.1.10 Colored Wear-Resistant Finish- not applicable to project

]3.10.1.11 Heavy-Duty Wear-Resistant Finish- not applicable to project

[3.10.2 Flat Floor Finishes- not applicable to project

3.10.3 Concrete Walks- not applicable to project

3.10.4 Pits and Trenches- not applicable to project

3.10.5 Gutters Swales

Provide contraction joints spaced every 10 feet maximum unless otherwise indicated. Cut contraction joints 3/4 inch deep with a knife tool, then joint with 1/2" radius jointing tool after the surface has been finished. Provide expansion joints spaced every 40 feet maximum unless otherwise indicated. Perform pavement finish.

3.10.6 Splash Blocks- not applicable to project

3.11 JOINTS – See Swales

3.11.1 Isolation Joints in Slabs on Ground- not applicable to project

3.11.2 Contraction Joints in Slabs on Ground

a. Provide joints to form panels as indicated on drawings

b. Sawcut contraction joints into slab on ground in accordance with ACI 301 Section 5.

3.11.4 Sealing Joints in Slabs on Ground

a. see drawings and sealant specifications.

3.12 CONCRETE FLOOR TOPPING- not applicable to project

3.13 CURING AND PROTECTION

Curing and protection in accordance with ACI 301 Section 5, unless otherwise specified. Begin curing immediately following form removal. Avoid damage to concrete from vibration created by blasting, pile driving, movement of equipment in the vicinity, disturbance of formwork or protruding reinforcement, and any other activity resulting in ground vibrations. Protect concrete from injurious action by sun, rain, flowing water, frost, mechanical injury, tire marks, and oil stains. Do not allow concrete to dry out from time of placement until the expiration of the specified curing period. Do not use membrane-forming compound on surfaces where appearance would be objectionable, on any surface to be painted, where coverings are to be bonded to the concrete, or on concrete to which other concrete is to be bonded. If forms are removed prior to the expiration of the curing period, provide another

curing procedure specified herein for the remaining portion of the curing period. Provide moist curing for those areas receiving liquid chemical sealer, hardener, or epoxy coating. Allow curing compound/sealer installations to cure prior to the installation of materials that adsorb VOCs.

3.13.1 Curing Periods

ACI 301 Section 5, as shown on drawings. The materials and methods of curing are subject to approval by the Contract Manager.

3.13.2 Curing Formed Surfaces- not applicable to project

3.13.3 Curing Unformed Surfaces- not applicable to project

3.13.4 Temperature of Concrete During Curing

When temperature of atmosphere is 41 degrees F and below, maintain temperature of concrete at not less than 55 degrees F throughout concrete curing period or 45 degrees F when the curing period is measured by maturity. When necessary, make arrangements before start of concrete placing for heating, covering, insulation, or housing as required to maintain specified temperature and moisture conditions for concrete during curing period.

When the temperature of atmosphere is 80 degrees F and above or during other climatic conditions which cause too rapid drying of concrete, make arrangements before start of concrete placing for installation of wind breaks, of shading, and for fog spraying, wet sprinkling, or moisture-retaining covering of light color as required to protect concrete during curing period.

Changes in temperature of concrete must be uniform and not exceed 37 degrees F in any one hour nor 80 degrees F in any 24-hour period.

3.13.5 Protection from Mechanical Injury

During curing period, protect concrete from damaging mechanical disturbances, particularly load stresses, heavy shock, and excessive vibration and from damage caused by rain or running water.

3.13.6 Protection After Curing

Protect finished concrete surfaces from damage by construction operations.

3.14 FIELD QUALITY CONTROL

3.14.1 Aggregate Testing

3.14.1.1 Fine Aggregate – covered by mix design.

3.14.1.2 Coarse Aggregate – covered by mix design.

3.14.2 Concrete Sampling

ASTM C172/C172M. Collect samples of fresh concrete to perform tests specified. ASTM

C31/C31M for making test specimens. Supply two (2) test cylinders.

3.14.3 Concrete Testing

3.14.3.1 Slump Tests

3.14.3.2 ASTM C143/C143M. Take concrete samples during concrete placement/discharge. The maximum slump may be increased as specified with the addition of an approved admixture provided that the water-cementitious material ratio is not exceeded. Perform tests at commencement of concrete placement when test cylinders are made Approved admixture may be added to truck drum at site location. Temperature Tests Test the concrete delivered and the concrete in the forms.

3.14.3.3 Perform tests in hot or cold weather conditions (below 50 degrees F and above 80 degrees F) for each batch (minimum) or until the specified temperature is obtained, and whenever test cylinders and slump tests are made.

3.14.3.4 Compressive Strength Tests

ASTM C39/C39M. For each truck deposit Make two 6 inch by 12 inch test cylinders for tests in accordance with ASTM C31/C31M, ASTM C172/C172M and applicable requirements of ACI 305R and ACI 306R.Take precautions to prevent evaporation and loss of water from the specimen. Test two 6-inch by 12-inch 28 days Concrete compressive tests must meet the requirements of this section, the Contract Document, and ACI 301.

3.14.3.4 Air Content

ASTM C173/C173M or ASTM C231/C231M for normal weight concrete [and ASTM C173/C173M for lightweight concrete]. Test air-entrained concrete for air content at the same frequency as specified for slump tests.

3.14.3.5 Unit Weight of Structural Concrete

ASTM C567/C567M and ASTM C138/C138M. Determine unit weight of normal weight concrete. Perform test for every 20 cubic yards maximum.

3.14.3.6 Chloride Ion Concentration- not applicable to project

3.14.3.7 Strength of Concrete Structure

The strength of the concrete will be considered to be deficient if any of the following conditions are identified:

a. Failure to meet compressive strength tests as evaluated.

b. Reinforcement not conforming to requirements specified.

c. Concrete which differs from required dimensions or location in such a manner as to

reduce strength.

d. Concrete curing and protection of concrete against extremes of temperature during curing, not conforming to requirements specified.

e. Concrete subjected to damaging mechanical disturbances, particularly load stresses, heavy shock, and excessive vibration.

f. Poor workmanship is likely to result in deficient strength.

Where the strength of the concrete structure is considered deficient submit a mitigation or remediation plan for review and approval by the Contract Manager.

3.14.3.8 Non-Conforming Materials

Factors that indicate that there are non-conforming materials include (but not limited to) excessive compressive strength, inadequate compressive strength, excessive slump, excessive voids and honeycombing, concrete delivery records that indicate excessive time between mixing and placement, or excessive water was added to the mixture during delivery and placement. Any of these indicators alone are sufficient reason for the Contracting Officer to request additional sampling and testing.

Investigations into non-conforming materials must be conducted at the Contractor's expense. The Contractor must be responsible for the investigation and must make written recommendations to adequately mitigate or remediate the non-conforming material. The Contracting Officer may accept, accept with reduced payment, require mitigation, or require removal and replacement of non-conforming material at no additional cost to the Government.

3.14.3.9 Testing Concrete for Strength - not applicable to project

3.15 REPAIR, REHABILITATION AND REMOVAL

Before the Contract Manager accepts the structure, the Contractor must inspect the concrete for cracks, damage and substandard concrete placements that may adversely affect the service life of the structure. A report documenting these defects must be prepared which includes recommendations for repair, removal or remediation must be submitted to the Contracting Officer for approval before any corrective work is accomplished.

3.15.1 Crack Repair

Prior to final acceptance, all cracks in excess of 0.50 mm 0.02 inches wide must be documented and repaired. The proposed method and materials to repair the cracks must be submitted to the Contracting Officer for approval. The proposal must address the amount of movement expected in the crack due to temperature changes and loading.

]3.15.2 Repair of Weak Surfaces

Weak surfaces are defined as mortar-rich, rain-damaged, uncured, or containing exposed voids or deleterious materials. Concrete surfaces with weak surfaces less than 1/4 inch thick must be diamond ground to remove the weak surface. Surfaces containing weak

surfaces greater than 1/4 inch thick must be removed and replaced or mitigated in a manner acceptable to the Contracting Officer.

3.15.3 Failure of Quality Assurance Test Results

Proposed mitigation efforts by the Contractor must be approved by the Contract Manager prior to proceeding.

END OF SECTION

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SECTION 03 30 53

MISCELLANEOUS CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.1 SUMMARY

Perform all work in accordance with ACI 318M ACI 318.

1.2 UNIT PRICES - Lump Sum

1.2.1 Concrete Payment - Lump Sum

Payment will cover all costs associated withfurnishing, delivering, placing, finishing, and curing of concrete for the various items of the schedule, including the cost of all formwork. Payment for concrete, for which payment is made as a lump sum, [is] to be included in this unit price payment item. Payment for grout, preformed expansion joints, field-molded sealants, waterstops, reinforcing steel bars or wire reinforcement [is] to be included in this unit price payment item.

1.2.2 Measurement - Lump Sum

Concrete will be measured for payment on the basis of the actual volume of concrete within the pay lines of the structures as indicated. Measurement of concrete placed against the sides of any excavation without the use of intervening forms will be made only within the pay lines of the structure. No deductions will be made for rounded or beveled edge, for space occupied by metal work, for electrical conduits or timber, or for voids or embedded items that are either less than 0.14 cubic meter 5 cubic feet in volume or 0.1 square meter 1 square foot in cross section.

1.2.3 Unit of Measure

Unit of measure: cubic yard.

1.3 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN CONCRETE INSTITUTE (ACI)

ACI 117	(2010; R 2015) Specifications for Tolerances for Concrete Construction and Materials and Commentary
ACI 301	(2020) Specifications for Structural Concrete
ACI 301M	(2020) Metric Specifications for Structural Concrete
ACI 302.1R	(2015) Guide for Concrete Floor and Slab Construction
ACI 304R	(2000; R 2009) Guide for Measuring, Mixing, Transporting, and Placing Concrete

ACI 305R	(2020) Guide to Hot Weather Concreting
ACI 306R	(2016) Guide to Cold Weather Concreting
ACI 318	(2019; R 2022) Building Code Requirements for Structural Concrete (ACI 318-19) and Commentary (ACI 318R-19)
ACI 318M	(2019; Errata 2022) Building Code Requirements for Structural Concrete & Commentary
ACI 347R	(2014; Errata 1 2017) Guide to Formwork for Concrete
ACI SP-66	(2004) ACI Detailing Manual

ASTM INTERNATIONAL (ASTM)

ASTM A615/A615M	(2025) Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A1064/A1064M	(2024) Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
ASTM C31/C31M	(2026) Standard Practice for Making and Curing Concrete Test Specimens in the Field

ASTM C33/C33M	(2024a) Standard Specification for Concrete Aggregates
ASTM C39/C39M	(2024) Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C94/C94M	(2025a) Standard Specification for Ready-Mixed Concrete
ASTM C143/C143M	(2020) Standard Test Method for Slump of Hydraulic-Cement Concrete
ASTM C150/C150M	(2024) Standard Specification for Portland Cement
ASTM C172/C172M	(2017) Standard Practice for Sampling Freshly Mixed Concrete
ASTM C173/C173M	(2024a) Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method
ASTM C231/C231M	(2026) Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C260/C260M	(2024) Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C309	(2025) Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C494/C494M	(2024) Standard Specification for Chemical Admixtures for Concrete
ASTM C595/C595M	(2025) Standard Specification for Blended Hydraulic Cements
ASTM C618	(2025a) Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C685/C685M	(2025) Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing
ASTM C920	(2018; R 2024) Standard Specification for Elastomeric Joint Sealants
ASTM C989/C989M	(2025) Standard Specification for Slag Cement for Use in Concrete and Mortars
ASTM C1064/C1064M	(2023) Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete

ASTM C1157/C1157M	(2025) Standard Performance Specification for Hydraulic Cement
ASTM C1260	(2023) Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)
ASTM C1567	(2025) Standard Test Method for Determining the Potential Alkali-Silica Reactivity of Combinations of Cementitious Materials and Aggregate (Accelerated Mortar-Bar Method)
ASTM C1602/C1602M	(2022) Standard Specification for Mixing Water Used in Production of Hydraulic Cement Concrete
ASTM D75/D75M	(2019) Standard Practice for Sampling Aggregates
ASTM D98	(2015) Calcium Chloride
ASTM D412	(2016; R 2021) Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers - Tension
ASTM D471	(2016a; R 2021) Standard Test Method for Rubber Property - Effect of Liquids
ASTM D1752	(2018) Standard Specification for Preformed Sponge Rubber, Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction
ASTM E96/E96M	(2024a) Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials
ASTM E1155	(2020) Standard Test Method for Determining Floor Flatness and Floor Levelness Numbers
ASTM E1155M	(2014) Standard Test Method for Determining Floor Flatness and Floor Levelness Numbers (Metric)
ASTM E1643	(2018a) Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs
ASTM E1745	(2017; R 2023) Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs
ASTM E1993/E1993M	(1998; R 2020) Standard Specification for Bituminous Water Vapor Retarders Used in Contact with Soil or Granular Fill Under

U.S. ARMY CORPS OF ENGINEERS (USACE)

COE CRD-C 513	(1974) Corps of Engineers Specifications for Rubber Waterstops
COE CRD-C 572	(1974) Corps of Engineers Specifications for Polyvinylchloride Waterstops

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 247	Comprehensive Procurement Guideline for Products Containing Recovered Materials

1.4 SUBMITTALS

Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for Contractor Quality Control approval. Submittals not having a "G" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Installation Drawings; G, SD-03

Product Data

Air-Entraining Admixture

Accelerating Admixture

Water-Reducing or Retarding Admixture

Curing Materials

Expansion Joint Filler Strips, Premolded

Joint Sealants - Field Molded Sealants

Waterstops

Chemical Floor Hardener

Batching and Mixing Equipment

Conveying and Placing Concrete

Formwork

Mix Design Data; G, Ready-

Mix Concrete

Curing Compound

Mechanical Reinforcing Bar Connectors

SD-06 Test Reports

Aggregates

Concrete Mixture Proportions; G,

Measurement of Floor Tolerances

Compressive Strength Testing; G, Slump;

G,

Air Content

Water

SD-07 Certificates

Cementitious Materials

Pozzolan

CPG for recycled materials or appropriate Waiver Form

Aggregates

Delivery Tickets

SD-08 Manufacturer's Instructions

Chemical Floor Hardener

Curing Compound

1.5 QUALITY ASSURANCE

When referenced on drawings for contractor to produce working drawings, indicate specific locations of [Concrete Placement] [Forms] [Steel Reinforcement] [Accessories] [Expansion Joints] [Construction Joints] [Contraction Joints] [Control Joints] on installation drawings and include, but not be limited to, square meters feet of concrete placements, thicknesses and widths, plan dimensions, and arrangement of cast-in-place concrete section.

1.5.1 Regulatory Requirements

The state statutory and regulatory requirements: [California] form a part of this specification to the extent referenced.

1.5.2 Flatness and Levelness of Floor Slabs

Conduct floor flatness and levelness test, (FF and FL respectively), on floor slabs in accordance with the provisions set forth in ASTM E1155M or ASTM E1155. Provide results of floor tolerance tests, including formal notice of acceptance or rejection of the work, to the Contracting Officer within 24 hours after data collection.

PART 2 PRODUCTS

2.1 SYSTEM DESCRIPTION

The Government retains the option to sample and test [joint sealer, joint filler material, waterstop,] aggregates and concrete to determine compliance with the specifications. As directed by the COR, provide facilities and labor as may be necessary to assist the Government, inspector of record (IOR) in procurement of representative test samples. Obtain samples of aggregates at the point of batching in accordance with ASTM D75/D75M. IOR may Sample concrete in accordance with ASTM C172/C172M. Determine slump and air content in accordance with ASTM C143/C143M and ASTM C231/C231M, respectively, when cylinders are molded. Prepare, cure, and transport compression test specimens in accordance with ASTM C31/C31M. Test compression test specimens in accordance with ASTM C39/C39M. Take samples for strength tests not less than once each shift in which concrete is produced [from each strength of concrete required]. Provide a minimum of four 150 x 300 mm6 x 12 inch or six 100 x 200 mm4 x 8 inch specimens from each sample; two 150 x 300 mm6 x 12 inch or three 100 x 200 mm4 x 8 inch to be tested at 28 days (90 days if pozzolan or slag cement is used) for acceptance. Two 150 x 300mm6 x 12 inch or three 4 x 8 inch will be tested at 7 days for information.

2.1.1 Strength

Acceptance test results are the average strengths of two 150 x 300 mm6 x 12 inch or three 100 x 200 mm4 x 8 inch specimens tested at 28 days (90 days if pozzolan or slag cement is used). The strength of the concrete is considered satisfactory so long as the average of all three consecutive acceptance test results equal or exceed the specified compressive strength, f'c, and no individual acceptance test result falls below f'c by more than 3.4 MPa 500 psi.

2.1.2 Construction Tolerances – if indicated on drawings

Apply a Class "C" finish to all surfaces except those specified to receive a Class "D" finish. Apply a Class "D" finish to all post-construction surfaces which will be permanently concealed. Surface requirements for the classes of finish required are as specified in ACI 117.

2.1.3 Concrete Mixture Proportions

Concrete mixture proportions are the responsibility of the Contractor. Mixture proportions must include the dry weights of cementitious material(s); the nominal maximum size of the coarse aggregate; the specific gravities, absorptions, and saturated surface-dry weights of fine and coarse aggregates; the quantities, types, and names of admixtures; and quantity of water per cubic meter yard of concrete. Provide materials included in the mixture proportions of the same type and from the same source as will be used on the project. The maximum nominal size coarse aggregate is [19] [25]

[37.5] mm [3/4] [1] [1-1/2] inch, in accordance with ACI 304R. The air content must be between 4.5 and 7.5 percent with a slump between 50 and 125 mm 2 and 5 inches. The maximum water-cementitious material ratio is [0.50] . Submit the applicable test reports and mixture proportions that will produce concrete of the quality required, as required by COR.

2.2 MATERIALS

Submit manufacturer's literature from suppliers which demonstrates compliance with applicable specifications for the specified materials.

2.2.1 Cementitious Materials

Submit Manufacturer's certificates of compliance, accompanied by mill test reports, attesting that the concrete materials meet the requirements of the specifications in accordance with the Special Clause "CERTIFICATES OF COMPLIANCE". Also, certificates for all material conforming to EPA's Comprehensive Procurement Guidelines (CPG), in accordance with 40 CFR 247. Provide cementitious materials that conform to the appropriate specifications listed:

2.2.1.1 Portland Cement

ASTM C150/C150M, Type [II]with tri-calcium aluminates (C3A) content less than 10 percent and a maximum cement-alkali content of 0.80 percent Na2Oe (sodium oxide) equivalent.

2.2.1.2 Blended Hydraulic Cement – n/a

]2.2.1.3 Pozzolan – n/a

2.2.1.4 Slag Cement – n/a

2.2.2 Aggregates

For fine and coarse aggregates meet the quality and grading requirements of ASTM C33/C33M[and test and evaluate for alkali-aggregate reactivity in accordance with ASTM C1260. Perform evaluation of fine and coarse aggregates separately and in combination, matching the proposed mix design proportioning. All results of the separate and combination testing must have a measured expansion less than 0.08 percent at 28 days after casting. If the test data indicates an expansion of 0.08 percent or greater, reject the aggregate(s) or perform additional testing using ASTM C1260 and ASTM C1567. Perform the additional testing using ASTM C1260 and ASTM C1567 using the low alkali portland cement in combination with ground granulated blast furnace (GGBF) slag, or Class F fly ash. Use GGBF slag in the range of 40 to 50 percent of the total cementitious material by mass. Use Class F fly ash in the range of 25 to 40 percent of the total cementitious material by mass]. Submit certificates of compliance and test reports for aggregates showing the material(s) meets the quality and grading requirements of the specifications under which it is furnished.

2.2.3 Admixtures

Provide admixtures, when required or approved, in compliance with the appropriate specification listed. Retest chemical admixtures that have been in storage at the project site, for longer than 6 months or that have

been subjected to freezing, at the expense of the Contractor at the request of the Contracting Officer and will be rejected if test results are not satisfactory.

2.2.3.1 Air-Entraining Admixture

Provide air-entraining admixture that meets the requirements of ASTM C260/C260M.

2.2.3.2 Accelerating Admixture

Provide calcium chloride meeting the requirements of ASTM D98. Other accelerators must meet the requirements of ASTM C494/C494M, Type C or E.

2.2.3.3 Water-Reducing or Retarding Admixture

Provide water-reducing or retarding admixture meeting the requirements of ASTM C494/C494M, Type A, B, or D. [High-range water reducing admixture Type F [or G] may be used only when approved, approval being contingent upon particular placement requirements as described in the Contractor's Quality Control Plan.]

2.2.4 Water

Mixing and curing water in compliance with the requirements of ASTM C1602/C1602M; [potable, and] free of injurious amounts of oil, acid, salt, or alkali. Submit test report showing water complies with ASTM C1602/C1602M.

[2.2.5 Reinforcing Steel

Provide reinforcing bars conforming to the requirements of ASTM A615/A615M, Grade 60, deformed.

][2.2.6 Expansion Joint Filler Strips, Premolded -n/a

Expansion joint filler strips, premolded of sponge rubber conforming to ASTM D1752, Type I.

][2.2.7 Joint Sealants - Field Molded Sealants – if indicated on drawings

Conform to ASTM C920, Type M, Grade NS, Class 25, use NT for vertical joints and Type M, Grade P, Class 25, use T for horizontal joints. Provide polyethylene tape, coated paper, metal foil, or similar type bond breaker materials. The backup material needs to be compressible, nonshrink, nonreactive with the sealant, and a nonabsorptive material such as extruded butyl or polychloroprene foam rubber. Immediately prior to installation of field-molded sealants, clean the joint of all debris and further cleaned using water, chemical solvents, or other means as recommended by the sealant manufacturer or directed.

2.2.8 Formwork

Install the formwork as well as its construction in accordance with ACI 301M ACI 301 Section 2 and 5 and ACI 347R. Fabricate of wood, steel, or other approved material.

2.2.9 Form Coatings

Provide form coating in accordance with ACI 301M ACI 301.

2.2.10 Vapor Retarder n/a

]2.2.11 Curing Materials

Provide curing materials in accordance with ACI 301M ACI 301, Section 5.

2.3 READY-MIX CONCRETE

Provide ready-mix concrete with mix design data conforming to ACI 301M ACI 301 Part 4. Submit delivery tickets in accordance with ASTM C94/C94M for each ready-mix concrete delivery, include the following additional information: .

a. Type and brand cement

b. Cement content in 43 kilogram 94-pound bags per cubic meter yard of concrete

c. Maximum size of aggregate

d. Amount and brand name of admixture

e. Total water content expressed by water cementitious material ratio

2.4 ACCESSORIES

2.4.1 Waterstops - n/a
3 to 1 minimum.

2.4.2 Chemical Floor Hardener-n/a

2.4.3 Curing Compound

Provide curing compound conforming to ASTM C309. Submit manufactures instructions for placing curing compound.

PART 3 EXECUTION

3.1 PREPARATION

The surface must be clean, damp, and free of laitance. Construct ramps and walkways, as necessary, to allow safe and expeditious access for concrete and workmen. Remove snow, ice, standing or flowing water, loose particles, debris, and foreign matter. Satisfactorily compact earth foundations. Make spare vibrators available. If required to vibrate; a minimum of one (1) alternate vibratory element must remain on site un-engaged, to be used in the event of failure of the primaries. Placement cannot begin until the entire preparation has been accepted by the Government.

3.1.1 Embedded Items

Secure reinforcement in place after, anchors, and other embedded items have been positioned. Arrange internal ties so that when the forms are removed the metal part of the tie is not less than 50 mm 2 inches from concrete surfaces permanently exposed to view or exposed to water on the finished structures. Prepare embedded items so they are be free of oil and other foreign matters such as loose coatings or rust, paint, and scale. The embedding of wood in concrete is permitted only when specifically authorized or directed. Provide all equipment needed to place, consolidate, protect, and cure the concrete at the placement site and in good operating condition.

3.1.2 Formwork Installation

Forms must be properly aligned, adequately supported, and mortar-tight. Provide smooth form surfaces, free from irregularities, dents, sags, or holes when used for permanently exposed faces. Chamfer all exposed joints and edges , unless otherwise indicated. Form work must be visually inspected and approved by IOR.

[3.1.3 Vapor Retarder Installation – n/a

]3.1.4 Production of Concrete

3.1.4.1 Ready-Mixed Concrete

Provide ready-mixed concrete conforming to ASTM C94/C94M except as otherwise specified.

3.1.4.2 Concrete Made by Volumetric Batching and Continuous Mixing

Conform to ASTM C685/C685M.

[3.1.4.3 Batching and Mixing Equipment

The option of using an on-site batching and mixing facility shall not be used.

][3.1.5 Waterstops - n/a

]3.2 CONVEYING AND PLACING CONCRETE

Convey and place concrete in accordance with ACI 301M ACI 301, Section 5.

3.2.1 Cold-Weather Requirements

Place concrete in cold weather in accordance with ACI 306R

3.2.2 Hot-Weather Requirements

Place concrete in hot weather in accordance with ACI 305R

3.3 FINISHING

3.3.1 Temperature Requirement

Do not finish or repair concrete when either the concrete or the ambient temperature is below 10 degrees C 50 degrees F.

3.3.2 Finishing Formed Surfaces

Remove all fins and loose materials , and surface defects including filling of tie holes. Repair all honeycomb areas and other defects. Remove all unsound concrete from areas to be repaired. Ream or chip surface defects greater than 13 mm 1/2 inch in diameter and holes left by removal of tie rods in all surfaces not to receive additional concrete and fill with dry-pack mortar. Brush-coat the prepared area with an approved epoxy resin or latex bonding compound or with a neat cement grout after dampening and filling with mortar or concrete. Use a blend of portland cement and white cement in mortar or concrete for repairs to all surfaces permanently exposed to view so that the final color when cured is the same as adjacent concrete.

3.3.3 Finishing Unformed Surfaces

Finish unformed surfaces in accordance with ACI 301M ACI 301, Section 5.

FINISH	LOCATION
Float	AS INDICATED ON DRAWINGS
Trowel	AS INDICATED ON DRAWINGS
FINISH	LOCATION
Broom or Belt	AS INDICATED ON DRAWINGS

3.3.3.1 Flat Floor Finishes - n/a

3.3.3.1.1 Floor Slabs – n/a

3.3.3.1.2

3.3.3.1.2 Subject to Vehicular Traffic – n/a

3.3.3.2 Measurement of Floor Tolerances

a. Test floor slabs within 24 hours of the final troweling. Final slab or concrete elements shall be subject to acceptance of IOR, government. [3.3.3.3 Expansion and Contraction Joints

Make expansion and contraction joints in accordance with the details shown or as otherwise specified on drawings. Unless on drawings, at a minimum provide 13 mm 1/2 inch thick transverse expansion joints where new work abuts an existing concrete. Provide expansion joints at a maximum spacing of 10 m 30 feet on center in sidewalks Provide contraction joints at a maximum spacing of [2] [___] linear meters [6] [___] linear feet in sidewalks, unless otherwise indicated. Cut contraction joints at a minimum of [25] [_____] mm [1] [_____] inch(es) deep with a mechanical device (drysaw/wetsaw) after the surface has been finished.

Unless otherwise shown on drawings for the slab work, provide at a max

Expansion joints 40x slab thickness

Contraction joints 10x slab thickness

]3.4 CURING AND PROTECTION

Cure and protect in accordance with ACI 301M ACI 301, Section 5.

3.5 FORM WORK

Provide form work in accordance with ACI 301M ACI 301, Section 2 and Section 5.

3.5.1 Removal of Forms

Remove forms in accordance with ACI 301M ACI 301, Section 2.

3.6 STEEL REINFORCING

Reinforcement must be free from loose, flaky rust and scale, and free from oil, grease, or other coating which might destroy or reduce the reinforcement's bond with the concrete.

3.6.1 Fabrication

Shop fabricate steel reinforcement in accordance with ACI 318 and ACI SP-66. Provide shop details and bending in accordance with ACI 318 and ACI SP-66.

3.6.2 Splicing

Perform splices in accordance with ACI 318 and ACI SP-66. See drawing general sheets for table and general information for minimum requirements.

3.6.3 Supports

Secure reinforcement in place by the use of metal or concrete supports, spacers, or ties.

3.7 EMBEDDED ITEMS

Before placing concrete, take care to determine that all embedded items are firmly and securely fastened in place. Provide embedded items free of oil and other foreign matter, such as loose coatings of rust, paint and scale. Embedding of wood in concrete is permitted only when specifically authorized or directed.

3.8 CHEMICAL FLOOR HARDENER – n/a

3.9 TESTING AND INSPECTING

Report the results of all tests and inspections conducted at the project site informally at the end of each shift to IOR. Submit written reports weekly to IOR. Deliver within three days after the end of each weekly reporting period. See Section 01 45 00 QUALITY CONTROL.

3.9.1 Field Testing Technicians

As supplied by COR.

3.9.2 Preparations for Placing

Inspect slab, foundation or construction joints, forms, and embedded items in sufficient time prior to each concrete placement to certify that it is ready to receive concrete. Certification may be visual, verbal or other coordination as accepted by IOR.

3.9.3 Sampling and Testing

a. Obtain samples and test concrete for quality control during placement. Sample fresh concrete for testing in accordance with ASTM C172/C172M. Make six test cylinders.

b. Test concrete for compressive strength at 7 and 28 days for each design mix and for every 77 cubic meters 100 cubic yards of concrete. Test two cylinders at 7 days; two cylinders at 28 days; and hold two cylinders in reserve. Conform test specimens to ASTM C31/C31M. Perform compressive strength testing conforming to ASTM C39/C39M.

c. Test slump at the site of discharge for each design mix in accordance with ASTM C143/C143M. Check slump once during each shift that concrete is produced.

d. Test air content for air-entrained concrete in accordance with ASTM C231/C231M. Test concrete using lightweight or extremely porous aggregates in accordance with ASTM C173/C173M. Check air content at least once during each shift that concrete is placed.

e. Determine temperature of concrete at time of placement in accordance with ASTM C1064/C1064M. Check concrete temperature at least once during each shift that concrete is placed.

3.9.4 Action Required

3.9.4.1 Placing

Do not begin placement until the availability of an adequate number of acceptable vibrators, which are in working order and have competent operators, has been verified. Discontinue placing if any lift is inadequately consolidated.

3.9.4.2 Air Content

Whenever an air content test result is outside the specification limits, adjust the dosage of the air-entrainment admixture prior to delivery of concrete to forms.

3.9.4.3 Slump

Whenever a slump test result is outside the specification limits, adjust the batch weights of water and fine aggregate prior to delivery of concrete to the forms. Make the adjustments so that the water-cementitious material ratio does not exceed that specified in the submitted concrete mixture proportion and the required concrete strength is still met.

-- End of Section --

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SECTION 31 00 00

EARTHWORK

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

AASHTO T 180	(2025) Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop

AMERICAN WATER WORKS ASSOCIATION (AWWA)

AWWA C600	(2023) Installation of Ductile-Iron Mains and Their Appurtenances

AMERICAN WELDING SOCIETY (AWS)

AWS D1.1/D1.1M	(2025) Structural Welding Code - Steel

ASTM INTERNATIONAL (ASTM)

ASTM C33/C33M	(2024a) Standard Specification for Concrete Aggregates
ASTM C117	(2023) Standard Test Method for Materials Finer than 75-um (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C136/C136M	(2025) Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C150/C150M	(2024) Standard Specification for Portland Cement
ASTM C260/C260M	(2024) Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C618	(2025a) Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C989/C989M	(2025) Standard Specification for Slag Cement for Use in Concrete and Mortars

ASTM D698	(2012; R 2021) Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/cu. ft. (600 kN-m/cu. m.))
ASTM D1140	(2017) Standard Test Methods for Determining the Amount of Material Finer than 75-µm (No. 200) Sieve in Soils by Washing
ASTM D1556/D1556M	(2015; E 2016) Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method
ASTM D1557	(2012; E 2015) Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3) (2700 kN-m/m3)
ASTM D2167	(2015) Density and Unit Weight of Soil in Place by the Rubber Balloon Method
ASTM D2216	(2019) Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass
ASTM D2321	(2020) Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications
ASTM D2487	(2017; R 2025) Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D2974	(2020; E 2020) Moisture, Ash, and Organic Matter of Peat and Other Organic Soils
ASTM D4253	(2016; E 2019) Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table
ASTM D4254	(2016) Standard Test Methods for Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density
ASTM D4318	(2017; E 2018) Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4829	(2021) Standard Test Method for Expansion Index of Soils
ASTM D4832	(2016; E 2018) Standard Test Method for Preparation and Testing of Controlled Low Strength Material (CLSM) Test Cylinders
ASTM D5268	(2019) Topsoil Used for Landscaping

	Purposes
ASTM D6023	(2016) Standard Test Method for Density (Unit Weight), Yield, Cement Content, and Air Content (Gravimetric) of Controlled Low-Strength Material (CLSM)
ASTM D6103/D6103M	(2017; E 2021) Standard Test Method for Flow Consistency of Controlled Low Strength Material (CLSM)
ASTM D6938	(2017a) Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)
ASTM D8167/D8167M	(2023) Standard Test Method for In-Place Bulk Density of Soil and Soil-Aggregate by a Low-Activity Nuclear Method (Shallow Depth)

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2024) Safety -- Safety and Occupational Health (SOH) Requirements

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA SW-846.3-3	(1999, Third Edition, Update III-A) Test Methods for Evaluating Solid Waste: Physical/Chemical Methods

U.S. GENERAL SERVICES ADMINISTRATION (GSA)

CID A-A-203	(Rev C; Notice 3) Paper, Kraft, Untreated

1.2 DEFINITIONS

1.2.1 Structural Fill - n/a

1.2.2 Embankment Fill – n/a

1.2.3 Porous Fill

Free-draining material placed for subsurface drainage, as a capillary break, or another specific purpose.

1.2.4 Topsoil – n/a

1.2.5 Utility Bedding Material – as encountered in field when relocating ground lights

Fill placed to directly support pipes, conduits, cables, and appurtenant structures. Bedding may also be used to provide a cushion between utilities and bedrock, obstacles, obstructions and other unyielding materials.

1.2.6 Flowable Fill – n/a

1.2.7 Satisfactory Materials

Class II free draining base as classified by California Transporation Agency (Caltrans)

1.2.8 Unsatisfactory Materials

Materials which do not comply with the requirements for satisfactory materials are unsatisfactory. Unsatisfactory materials also include man-made fills; trash; refuse; backfills from previous construction; roots and other organic matter or frozen material. Notify the Contracting Officer when encountering any contaminated materials.

1.2.9 Cohesionless Materials – n/a

1.2.10 Cohesive Materials – n/a

1.2.11 Hard/Unyielding Materials

1.2.12 Stockpile at spoils location as required. Location shown on plans.Unstable Material

1.2.13 Stockpile at spoils location as required. Location shown on plans.Expansive Soils

1.2.14 Stockpile at spoils location as required. Location shown on plans.Rock

1.2.15 Stockpile at spoils location as required. Location shown on plans.Capillary Water Barrier – n/a

1.2.16 Degree of Compaction (Proctor)

Degree of compaction required, except as noted in the second sentence, is expressed as a percentage of the maximum dry density obtained by the test procedure presented in [ASTM D1557] abbreviated as a percent.

1.2.17 Degree of Compaction (Relative Density)

Degree of compaction required for soils with less than 5 percent passing

the No. 200 sieve, is expressed as a relative percentage of the maximum index density/dry unit weight and minimum index density/dry unit weight, obtained by the test procedures in accordance with ASTM D4253 and ASTM D4254, respectively, abbreviated as a percent of laboratory relative density.

1.2.18 Overhaul – n/a

1.2.19 Borrow – n/a

1.2.20 Subgrade – n/a

1.3 SUBSURFACE DATA – n/a

1.4 CRITERIA FOR BIDDING – Lump Sum

Base bids on the following criteria:

a. Surface elevations are as indicated on drawings.

b. Pipes or other artificial obstructions, except those indicated, will not be encountered.

c. No groundwater is expected to be encountered.

d.

e. Hard materials and rock will not be encountered the excavations at the depths indicated on drawings.

1.5 SUBMITTALS

Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for Contractor Quality Control approval. Submittals not having a "G" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Excavation and Trenching Plan; G,

Disposition of Surplus Materials; G,

Preconstruction Meeting; G

SD-03 Product Data

Geotextiles

SD-04 Samples

Geotextiles

SD-06 Test Reports

Material Test Report; G, Pipe

Inspection Report; G,

1.6 QUALITY CONTROL

1.6.1 Geotechnical Engineer – n/a

1.6.2 Qualified Technician – n/a

1.6.3 Lab Validation – submittal data will be sufficient

1.6.4 Preconstruction Meeting – per contracts manager

Conduct a preconstruction meeting at the jobsite at least five business days prior to the start of earthwork operations on the project. The preconstruction meeting is to be arranged by the Contractor and is to follow the written agenda submitted prior to the meeting. The purpose of this meeting is to review the requirements of this specification and the associated plans. The following individuals must be in attendance at this meeting: Contractor's Project Manager and Project Superintendent, earthwork subcontractor's Project Manager and Site Foreman, Contractor's Geotechnical Engineer and Testing Agency, Government Geotechnical Engineer and Civil Engineer, and Government Construction Manager and Engineering Technician.

The minutes of this meeting are to be recorded by the Contractor and published via email within 48 hours to all attendees. The minutes must be re-published within 48 hours via email pending any subsequent comments from the attendees.

PART 2 PRODUCTS

2.1 SOIL MATERIALS

2.1.1 Structural Fill – n/a

2.1.2 Embankment Fill – n/a

2.1.3 Porous Fill – Caltrans class II base

Materials containing less than 5 percent passing the No. 200 sieve. Provide the gradation as appropriate for the intended purpose.

2.1.4 Topsoil – n/a

2.1.5 Capillary Water Barrier – n/a

2.1.6 Utility Bedding Material

Except as specified otherwise in the individual piping section, provide bedding for buried piping in accordance with [AWWA C600] [ASTM D2321]. Install bedding for plastic piping to spring line of pipe Utility bedding material may include the following:

2.1.6.1 Class I – n/a

2.1.6.2 Class II – n/a

2.1.6.3 Sand

Clean, coarse-grained sand classified as SP, gradation of the [DOT] [caltrans standard] or [SP] by ASTM D2487 for bedding [as indicated]].

2.2 Gravel and Crushed Stone – n/a

2.3 FLOWABLE FILL – n/a

2.4 BURIED WARNING AND IDENTIFICATION MARKERS – if encountered

Provide [polyethylene plastic] [and] [metallic core or metallic-faced, acid- and alkali-resistant, polyethylene plastic] warning tape manufactured specifically for warning and identification of buried utility lines. Provide tape on rolls, 75 mm 3 inches minimum width, color coded as specified below for the intended utility with warning and identification imprinted in bold black letters continuously over the entire tape length. Warning and identification to read, "CAUTION, BURIED (intended service) LINE BELOW" or similar wording. Provide permanent color and printing, unaffected by moisture or soil.

Warning Tape Color Codes	
Red	Electric
Yellow	Gas, Oil; Dangerous Materials
Orange	Telephone and Other Communications
Blue	Water Systems
Green	Sewer Systems
White	Steam Systems

Warning Tape Color Codes	
Gray	Compressed Air

2.4.1 Warning Tape for Metallic Piping

Provide acid and alkali-resistant polyethylene plastic tape conforming to the width, color, and printing requirements specified above, with a minimum thickness of 0.08 mm 0.003 inch and a minimum strength of 10.3 MPa 1500 psi lengthwise, and 8.6 MPa 1250 psi crosswise, with a maximum 350 percent elongation.

2.4.2 Detectable Warning Tape for Non-Metallic Piping

Provide polyethylene plastic tape conforming to the width, color, and printing requirements specified above, with a minimum thickness of 0.10 mm 0.004 inch, and a minimum strength of 10.3 MPa 1500 psi lengthwise and 8.6 MPa 1250 psi crosswise. Manufacture tape with integral wires, foil backing, or other means of enabling detection by a metal detector when tape is buried up to 920 mm 3 feet deep. Encase metallic element of the tape in a protective jacket or provide with other means of corrosion protection.

2.4.3 Detection Wire for Non-Metallic Piping

Insulate a single strand, solid copper detection wire with a minimum of 12 AWG.

2.5 MATERIAL FOR RIP-RAP – n/a

2.6 BORROW – n/a

2.7 GEOTEXTILE – see section 31 05 19.13 – Geotextiles in Earthwork

Provide a pervious sheet of polyester, nylon, glass or polypropylene ultraviolet resistant filaments woven, spun bonded, fused, or otherwise manufactured into a non-raveling fabric with uniform thickness and strength. Fabric must have manufacturer certified minimum average roll properties that conform with ASTM D123.Submit a sample and material product data for all Geotextiles utilized.

PART 3 EXECUTION

3.1 PROTECTION – n/a

3.1.1 Underground Utilities

The Contractor is responsible for protecting utilities from damage during construction.

3.1.2 Drainage and Dewatering – n/a

3.1.3 Shoring and Sheeting – n/a

3.1.4 Protection of Graded Surfaces

Protect newly backfilled, graded, and topsoiled areas from traffic, erosion, and settlements that may occur. Repair or reestablish damaged grades, elevations, or slopes.

3.2 BORROW – n/a

3.2.1 Government Furnished Borrow Area(s) – n/a

3.2.2 Contractor Furnished Borrow Area(s) – n/a

3.2.3 Environmental Requirements for Off-Site Soil -n/a

3.3 SURFACE PREPARATION

3.3.1 Clearing and Grubbing

Clear and grub as specified in Section 31 11 00 CLEARING AND GRUBBING.

Remove trees, stumps, logs, shrubs, brush and vegetation and other items that would interfere with construction operations. Remove stumps entirely. Grub out matted roots and roots over 75 mm 3 inches in diameter to at least 500 mm 18 inches below existing surface.

3.3.2 Stripping

Strip site where indicated on the plans. Strip in all areas within the planned limits of disturbance.

]3.3.3 Proof Rolling – n/a

3.3.4 Stockpiling Operations

Place stockpiles of materials as specified. Keep stockpiles in a neat and well

drained condition, giving due consideration to drainage at all times.

3.4 EXCAVATION

Excavate to contours, elevation, and dimensions indicated. Excavate soil disturbed or weakened by Contractor's operations, and soils softened or made unstable for subsequent construction due to exposure to weather. Do not excavate below indicated depths except to remove unstable material as determined by the Government and confirmed by the Contracting Officer.

Remove and replace excavations below the grades shown with appropriate materials as directed by the Contracting Officer.

If at any time during excavation, including excavation from borrow areas, the Contractor encounters material that may be classified as rock or as hard/unyielding material, uncover such material, and notify the Contracting Officer. Do not proceed with the excavation of this material until the Contracting Officer has classified the materials as common excavation or rock excavation. Failure on the part of the Contractor to uncover such material, notify the Contracting Officer, and allow sufficient time for classification and delineation of the undisturbed surface of such material will cause the forfeiture of the Contractor's right of claim to any classification or volume of material to be paid for other than that allowed by the Contracting Officer for the areas of work in which such deposits occur.

3.4.1 Ditches, Gutters, and Channel Changes – n/a

3.4.2 Trench Excavation Requirements – n/a

3.4.2.1 Bottom Preparation

Grade the bottoms of trenches accurately to provide uniform bearing and support for the bottom quadrant of each section of the pipe. Excavate bell holes to the necessary size at each joint or coupling to eliminate point bearing. Remove stones of 3 inch or greater in any dimension, or as recommended by the pipe manufacturer, whichever is smaller, to avoid point bearing.

3.4.2.2 Removal of Unyielding Material

Where [over depth is not indicated and]unyielding material is encountered in the bottom of the trench, notify the Contracting Officer. Following approval, remove such material 4 inch below the required grade and replaced with suitable materials as provided in paragraph FILLING AND COMPACTION.

3.4.2.3 Removal of Unstable Material

Where unstable material is encountered in the bottom of the trench, remove such material to the depth directed and replace it to the proper grade with suitable material as provided in paragraph FILLING AND COMPACTION. When removal of unstable material is required due to the Contractor's fault or neglect in performing the work, the Contractor is responsible for excavating the resulting material and replacing it without additional cost to the Government.

3.4.2.4 Excavation for Appurtenances – n/a

3.4.2.5 Gas Distribution – n/a

3.4.2.6 Water Lines

Excavate trenches to a depth that provides a minimum cover of 1.5 feet from the existing ground surface, or from the indicated finished grade, whichever is lower, to the top of the pipe

3.4.3 Jacking, Boring, and Tunneling – N/A

3.4.3.1 Pipeline Casing – n/a

3.4.3.2 Bore Holes – n/a

3.4.3.3 Cleaning – n/a

3.4.3.4 End Seals -n/a

3.4.4 Underground Utilities

Excavation made with power-driven equipment is not permitted within [2] feet of known utility. For work immediately adjacent to or for excavations exposing a utility or other buried obstruction, excavate by hand. Start hand excavation on each side of the indicated obstruction and continue until the obstruction is uncovered or until clearance for the new grade is assured. Support uncovered lines or other existing work affected by the contract excavation until approval for backfill is granted by the Contracting Officer. Report damage to utility lines or subsurface construction immediately to the Contracting Officer.

3.4.5 Structural Excavation – n/a

3.4.6 Pile Cap Excavation – n/a

3.4.7 Rock Excavation and Blasting – n/a

3.5 SUBGRADE PREPARATION

3.5.1 General Requirements

Shape subgrade to line, grade, and cross section as indicated. Remove unsatisfactory and unstable material in surfaces to receive fill or in excavated areas, and replaced with Caltrans class II base as shown on plans/details Do not place material on surfaces that are muddy, frozen, contain frost, or otherwise containing unstable material

3.5.2 Subgrade for Structures, Spread Footings, and Concrete Slabs

Do not excavate below depth shown for structures, spread footings, and concrete slabs. If over excavation occurs, [compact disturbed material to [95] percent of [ASTM D698] [ASTM D1557].] After final rolling, the surface of the subgrade for buildings and pavements must not show deviations greater than 15 mm 0.05 foot when tested with a 4 meter 12-foot straightedge applied both parallel and at right angles to the centerline of the area.

3.5.3 Subgrade for Railroads – n/a

3.5.4 Subgrade for Pavements

Compact top 300 mm 12 inches of subgrade for pavements to at least 95 percent of [ASTM D698] [ASTM D1557]. After final rolling, the surface of

the subgrade for buildings and pavements must not show deviations greater than 15 mm 0.05 foot when tested with a 4 meter 12-foot straightedge applied both parallel and at right angles to the centerline of the area.

3.5.5 Subgrade for Shoulders - n/a

3.5.6 Subgrade for Airfield Pavements - n/a

3.5.7 Subgrade Filter Fabric

Place filter fabric as indicated directly on prepared subgrade free of vegetation, stumps, rocks larger than 50 mm 2 inch diameter and other debris which may puncture or otherwise damage the fabric. Repair damaged fabric by placing an additional layer of fabric to cover the damaged area a minimum of one meter 3 feet overlap in all directions. Overlap fabric at joints a minimum of one meter 3 feet. Obtain approval of filter fabric installation before placing fill or backfill. Place fill or backfill on fabric in the direction of overlaps and compact as specified herein. Follow manufacturer's recommended installation procedures.

3.6 FILLING AND COMPACTION

Prepare ground surface on which backfill is to be placed and provide compaction requirements for backfill materials in conformance with the applicable portions of paragraphs for SUBGRADE PREPARATION. Do not place material on surfaces that are muddy, frozen, or contain frost. Moisten material as necessary to provide the moisture content that will readily facilitate obtaining the specified compaction with the equipment used].
Fill and backfill to, elevations, and dimensions indicated.
Compact and test each lift before placing overlaying lift.

3.6.1 Trench Backfill

Backfill trenches to the grade shown.

3.6.1.1 Replacement of Unyielding Material

Replace unyielding material removed from the bottom of the trench with satisfactory material or initial backfill material.

3.6.1.2 Replacement of Unstable Material

Replace unstable material removed from the bottom of the trench or excavation with satisfactory material placed in layers not exceeding 150 mm 6 inches loose thickness.

3.6.1.3 Bedding and Initial Backfill

Place initial backfill material and compact it with approved tampers to a height of at least 300 mm one foot above the utility pipe or conduit. Bring up the backfill evenly on both sides of the pipe for the full length of the pipe. Take care to ensure thorough compaction of the fill under the haunches of the pipe. Except where shown or when specified otherwise in the individual piping section, provide bedding for buried piping in accordance with PART

2 paragraph UTILITY BEDDING MATERIAL. Compact backfill to top of pipe to [95 percent of ASTM D698 maximum dry density] [85 percent of ASTM D1557]. Provide plastic piping with bedding to spring line of pipe.

3.6.1.4 Final Backfill – n/a

3.6.1.4.1 Buildings[, Railroads][, Airfields] and Pavements – n/a

3.6.1.4.2 Turfed or Seeded Areas and Miscellaneous Areas – n/a

3.6.1.5 Heat Distribution System – n/a

3.6.1.6 Electrical Distribution System – if encountered

Provide a minimum cover of 600 mm 24 inches from the finished grade to direct burial cable and conduit or duct line, unless otherwise indicated.

3.6.1.7 Sewage Absorption Trenches or Pits – n/a

3.6.1.7.1 Porous Fill

Provide backfill consisting of porous fill material in the locations and thickness as shown on the drawings.

3.6.1.7.2 Cover – n/a

3.6.1.8 Displacement of Features – n/a

3.6.1.9 Buried Tape And Detection Wire

3.6.1.9.1 Buried Warning and Identification Tape

Provide buried utility lines with utility identification tape. Bury tape 300 mm 12 inches below finished grade; under pavements and slabs, bury tape 150 mm 6 inches below top of subgrade.

3.6.1.9.2 Buried Detection Wire

Bury detection wire directly above non-metallic piping at a distance not to exceed 300 mm 12 inches above the top of pipe. Extend the wire continuously and unbroken, from manhole to manhole. Terminate the ends of the wire inside the manholes at each end of the pipe, with a minimum of 0.9 meters 3 feet of wire, coiled, remaining accessible in each manhole. Furnish insulated wire over its entire length. Install wires at manholes between the top of the corbel and the frame, and extend up through the chimney seal between the frame and the chimney seal. For force mains, terminate the wire in the valve pit at the pump station end of the pipe.

3.6.2 Structural Fill Placement – n/a

3.6.3 Backfill for Appurtenances – n/a

3.6.4 Porous Fill Placement

Provide under floor and area-way slabs on a compacted subgrade. Place in a single lifts not to exceed 6" and compact with a minimum of two passes of a hand-operated plate-type vibratory compactor.

3.6.5 Flowable Fill - n/a

3.6.6 Compaction

3.6.6.1 General Site

Compact underneath areas designated for vegetation and areas outside the 1.5 meter 5 foot line of the paved area or structure to [90] percent of [ASTM D698] [ASTM D1557].

3.6.6.2 Adjacent Areas

Compact areas within 1.5 meters 5 feet of structures to 95 percent of [ASTM D1557], unless indicated on plans.

3.7 EMBANKMENTS - n/a

3.7.1 Earth Embankments - n/a

3.7.2 Rock Embankments - n/a

3.8 RIP-RAP CONSTRUCTION - n/a

3.8.1 Bedding Placement - n/a

3.8.2 Stone Placement - n/a

[3.8.3 Grouting - n/a

]3.9 FINISHING/FINISH OPERATIONS

3.9.1 Capillary Water Barrier - n/a

3.9.2 Grading Around Structures

Construct areas within 1.5 meters 5 feet outside of each building and structure line true-to-grade, shape to drain, and maintain free of trash and debris until final inspection has been completed and the work has been accepted.

3.9.3 Shoulder Construction - n/a

3.9.4 Grading

Finish grades as indicated within 30 mm one-tenth of one foot. Grade

areas to drain water away from structures. Maintain areas free of trash and debris. For existing grades that will remain but which were disturbed by Contractor's operations, grade as directed.

3.9.5 Topsoil and Seed – n/a

Contractor shall seed all exposed dirt areas in clearing ditch region with native grasses indicative of the camp slo region. DISPOSITION OF SURPLUS MATERIAL

Remove from Government property all surplus material.

3.10 TESTING – submit material test reports to IOR to verify compliance

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SECTION 31 10 00

SITE CLEARING

PART 1 GENERAL

1.1 UNIT PRICES - Lump Sum

1.1.1 Clearing (Timber and Structure)

1.1.1.1 Payment - Schedule of Value

Payment will be made for costs associated with furnishing plant, labor, materials and equipments, and performing all operations necessary for clearing (timber and structures) as specified.

1.1.1.2 Unit of Measure

Unit of measure: Schedule

of Values

1.2 DEFINITIONS

1.2.1 Trees

The line of demarcation between brush and trees, for the purpose of distinguishing clearing requirements, is that trees, as used, will be considered as that woody growth not falling within the limits of brush as defined below.

1.2.2 Brush

Brush is that growth which is less than 50 mm 2 inches in diameter measured 150 mm6 inches from the ground on the uphill side and is less than 2 m 6 feet in height measured from the ground on the uphill side.

1.2.3 Structures - n/a

1.3 PROJECT/SITE CONDITIONS

1.3.1 Aesthetics and Pollution Control

1.3.1.1 Ground Areas

All ground areas in the zone of normal pool level fluctuations which are disturbed by clearing operations and which would become subject to erosion will be protected or restored.

1.3.1.2 Construction Roads - n/a

1.3.2 Existing Conditions

1.3.2.1 Boundaries

The area to be cleared under this contract is divided into one (1) zones having the general limits as defined below and as indicated on the drawings.

1.3.2.1.1 Zone 1 – Drainage Swale Area between buildings

1.3.2.1.2 Zone 2 – none

[1.3.2.2 Cemeteries – n/a

]1.3.2.3 Markings of Zones – n/a

1.3.2.4 Zones – See Plans

1.3.2.5 Fences – n/a

1.3.2.5.1 Zone 1 – n/a

1.3.2.5.2 Zone 2 – n/a

1.3.2.6 Structures – n/a

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

3.1 CLEARING REQUIREMENTS

3.1.1 Brush

The cutting of brush as required to complete the work.

3.1.2 Zone 1

Remove all trees stumps and misc materials required to complete the work

3.1.3 Zone 2 - none

Equipment

Excavator or tree crushing machine at the option of the contractor.

3.2 DISPOSAL OF MATERIAL – cost to be included in Lump Sum contract amount, disposal offsite.

3.2.1 General

Completely remove material cleared from the areas by transporting from the Government property

3.2.2 Burning – n/a

a.

3.2.3 Burial – n/a

3.2.4 Removal from Site

Except as otherwise provided, the Contractor will be permitted to remove felled and trimmed timber from the site of the work. The Contractor will be allowed to stockpile salvaged timberThe Government will assume no responsibility for the protection and safekeeping of such material. All stockpiled timber must be removed from Government lands before final acceptance of the work will be made.

3.3 DEBRIS

3.4 MARKETABLE MATERIALS

Any of the cleared materials which the Contractor considers marketable becomes its property and remove from the area.

3.5 LOCATIONS – see plans

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SECTION 31 11 00

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SECTION 31 11 00

CLEARING AND GRUBBING

PART 1 GENERAL – see plans for extent of work

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. DEPARTMENT OF DEFENSE (DOD)

DODI 4150.07 (2019) DOD Pest Management Program

1.2 SUBMITTALS

Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for Contractor Quality Control approval. Submittals not having a "G" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Herbicide Application Plan – n/a

SD-03 Product Data

Herbicides; n/a

SD-07 Certificates

Qualifications; n/a

SD-11 Closeout Submittals

-n/a QUALITY CONTROL

1.2.1 Regulatory Requirements

1.2.2 Qualifications – n/a

1.3 DELIVERY, STORAGE, AND HANDLING

Deliver materials to the site, and handle in a manner which will maintain the materials in their original manufactured or fabricated condition until ready for use.

1.3.1 Storage

Storage of herbicides on the installation will not be permitted unless it is written into the contract.

1.3.2 Handling

Handle herbicides in accordance with the manufacturer's label and Safety Data Sheet (SDS), preventing contamination by dirt, water, and organic material. Protect herbicides from weather elements as recommended by the manufacturer's label and SDS. Spill kits must be maintained on herbicide control vehicles. Mixing of herbicides on the installation will not be permited unless it is written into the contract.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Herbicide – n/a

PART 3 EXECUTION

3.1 PREPARATION

3.1.1 Herbicide Application Plan – n/a

3.1.2 Protection

3.1.2.1 Roads and Walks

Keep roads and walks free of dirt and debris at all times.

3.1.2.2 Trees, Shrubs, and Existing Facilities

Protect trees and vegetation to be left standing from damage incident to clearing, grubbing, and construction operations by the erection of barriers or by such other means as the circumstances require.

3.1.2.3 Utility Lines

Protect existing utility lines that are indicated to remain from damage. Notify the Contracting Officer immediately of damage to or an encounter with an unknown existing utility line. The Contractor is responsible for the repair of damage to existing utility lines that are indicated or made known to the Contractor prior to start of clearing and grubbing operations. When utility lines which are to be removed are encountered within the area of operations, notify the Contracting Officer in ample time to minimize interruption of the service. Refer to Section 01 30 00 ADMINISTRATIVE REQUIREMENTS and Section 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS for additional utility protection.

3.2 APPLICATION

3.2.1 Herbicide Application – n/a

3.2.1.1 Clean Up, Disposal, And Protection - n/a

3.2.1.1.1 Disposal of Herbicide – n/a

3.3 CLEARING

Clearing consists of the felling, trimming, and cutting of trees into sections and the satisfactory disposal of the trees and other vegetation designated for removal, including downed timber, snags, brush, and rubbish occurring within the areas to be cleared. Clearing also includes the removal and disposal of structures that obtrude, encroach upon, or otherwise obstruct the work. Cut off flush with or below the original ground surface trees, stumps, roots, brush, and other vegetation in areas to be cleared, except such trees and vegetation as may be indicated or directed to be left standing. Trim dead branches that are 40 mm 1-1/2 inches or more in diameter on trees designated to be left standing within the cleared areas and trim all branches to the heights indicated or directed. Neatly cut close to the bole of the tree or main branches, limbs and branches to be trimmed.

3.3.1 Tree Removal

Where indicated, remove trees and stumps that interfere with the required areas to complete the work. This work includes the felling of such trees and the removal of their stumps and roots as specified in paragraph GRUBBING. Dispose of trees as specified in paragraph DISPOSAL OF MATERIALS.

[3.3.2 Pruning - n/a

]3.3.3 Grubbing - see plans

Grubbing consists of the removal and disposal of stumps, roots larger than 75 mm 3 inches in diameter, and matted roots from the designated grubbing areas. Remove material to be grubbed, together with logs and other organic or metallic debris not suitable for foundation purposes, to a depth of not less than 455 mm 18 inches below the original surface level of the ground in areas indicated to be grubbed and in areas indicated as construction areas under this contract.Fill depressions made by grubbing with suitable material and compact to make the surface conform with the original adjacent surface of the ground.

3.4 DISPOSAL OF MATERIALS

Dispose of excess materials in accordance with the approved solid waste management permit and include those materials in the solid waste management report.

All wood or wood like materials, except for salable timber, remaining from clearing, prunning or grubbing such as limbs, tree tops, roots, stumps, logs, rotten wood, and other similiar materials is the property of the Contractor and dispose of as specified. All non-saleable timber and wood or wood like materials remaining from timber harvesting such as limbs, tree tops, roots, stumps, logs, rotten wood, and other similiar materials is the property of the Contractor and dispose of as specified.

[3.4.1 Saleable Timber - n/a

3.5 CLOSEOUT ACTIVITIES

3.5.1 Herbicides – n/a

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BASE COURSE DRAINAGE LAYERS

PART 1 GENERAL

1.1 UNIT PRICES – Lump Sum

1.1.1 Measurement – Schedule of Values (SOV), see contract

1.1.1.1 Aggregate Drainage Layer Material– Schedule of Values (SOV), see contract

Measure the quantity of aggregate drainage layer material, completed and

accepted, Percent competition of SOV will be verified by Inspector of Record (IOR)

1.1.1.2 Bituminous or Cement Stabilized Drainage Layer – n/a

1.1.2 Payment

The quantities of drainage layer aggregates, as specified above, will be paid for at the contract unit prices, which will constitute full compensation for the construction and completion of the drainage layer, including the test section, and the furnishing of all other necessary labor and incidentals.

1.1.3 Waybills and Delivery Tickets

Submit copies of waybills and delivery tickets during the progress of the work. Before the final payment is allowed, file certified waybills and certified delivery tickets for all aggregates, bituminous, and cementitious materials actually used.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

AASHTO M 156	(2013; R 2025) Standard Specification for Requirements for Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures

AASHTO M 288	(2021) Standard Specification for Geosynthetic Specification for Highway Applications
AASHTO T 102	(2009; R 2013) Standard Method of Test for Spot Test of Asphaltic Materials

ASTM INTERNATIONAL (ASTM)

ASTM C29/C29M	(2023) Standard Test Method for Bulk Density ("Unit Weight") and Voids in Aggregate
ASTM C88	(2018) Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C117	(2023) Standard Test Method for Materials Finer than 75-um (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C131/C131M	(2020) Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C136/C136M	(2025) Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C150/C150M	(2024) Standard Specification for Portland Cement
ASTM C595/C595M	(2025) Standard Specification for Blended Hydraulic Cements
ASTM D75/D75M	(2019) Standard Practice for Sampling Aggregates
ASTM D140/D140M	(2016) Standard Practice for Sampling Asphalt Materials
ASTM D946/D946M	(2020) Standard Specification for Penetration-Graded Asphalt Cement for Use in Pavement Construction
ASTM D2172/D2172M	(2017; E 2018) Standard Test Methods for Quantitative Extraction of Asphalt Binder from Asphalt Mixtures
ASTM D2487	(2017; R 2025) Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D3381/D3381M	(2018) Standard Specification for Viscosity-Graded Asphalt Binder for Use in Pavement Construction

ASTM D4791	(2019) Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D5821	(2013; R 2017) Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate
ASTM D6307	(2019) Standard Test Method for Asphalt Content of Asphalt Mixture by Ignition Method
ASTM D6373	(2023) Standard Specification for Performance Graded Asphalt Binder
ASTM D6938	(2017a) Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)
ASTM E11	(2024) Standard Specification for Woven Wire Test Sieve Cloth and Test Sieves

1.3 SUBMITTALS

Government approval is required for submittals with a "G"

classification. Submittals not having a "G" classification are for Contractor Quality Control approval. Submittals not having a "G" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Product Data

Plants, Equipment, and Tools; G,

Waybills and Delivery Tickets

Releasing Agent

SD-06 Test Reports

Initial Tests; G,

Test Section Construction Report; G, Job-Mix

Formula; G,

SD-07 Certificates

Geotextile,

manufacturer

specification;

G

1.4 QUALITY ASSURANCE

Perform sampling and testing using a laboratory approved in accordance with Section 01 45 00 QUALITY CONTROL.

1.4.1 Sampling

Take aggregate samples in accordance with ASTM D75/D75M.

1.4.2 Tests

1.4.2.1 Gradation Analyses

Perform gradation analyses in accordance with ASTM C117 and ASTM C136/C136M using sieves conforming to ASTM E11.

1.4.2.2 Compaction Tests

Perform field compaction tests in accordance with ASTM D6938 by Backscatter Method (Procedure B). Use ASTM D6938 to determine the moisture content of the aggregate drainage layer material. Check the calibration curves furnished with the moisture gauges along with compaction calibration checks as described in ASTM D6938. Make the calibration checks of both the compaction and moisture gauges using the prepared containers of material method, as described in Annex A2 of ASTM D6938, on each different type of material being tested at the beginning of a job and at intervals as directed. Submit copies of field test results within [24] hours after the tests are performed.

1.4.2.3 Soundness Test-n/a

1.4.2.4 Wear Test-n/a

1.4.2.5 Flat or Elongated Particles Tests – n/a

1.4.2.6 Fractured Faces Tests – n/a

1.4.2.7 Bitumen Content – n/a

1.4.3 Testing Frequency – at the descrition of the Contracting Officer

1.4.3.1 Initial Tests – n/a

1.4.4 Approval of Materials

Submit material sources and material test results prior to field use. Government approval is required

1.4.4.1 Aggregate

Select the aggregate source at least [60] days prior to field use in the test section. Tentative approval of the source will be based on certified test results to verify that materials proposed for use meet the contract requirements. Final approval of both the source and the material will be based on test section performance and tests for gradation, soundness, wear, flat and/or elongated particles tests and fractured faces tests. For aggregate drainage layer materials, perform these tests on samples taken from the completed and compacted drainage layer course within the test section. For bituminous or cement stabilized drainage layer material, perform these tests on aggregate samples taken prior to addition of bituminous or cementitious material and subsequent placement in the test section.

1.4.4.2 Bituminous or Cementitious Materials – n/a

1.5 ENVIRONMENTAL REQUIREMENTS

Place drainage layer material when the atmospheric temperature is above 2 degrees C 35 degrees F. Correct areas of completed drainage layer or underlying courses that are damaged by freezing, rainfall, or other weather conditions or by contamination from sediments, dust, dirt, or foreign material to meet specified requirements. ACCEPTANCE

1.5.1 Tolerances

Acceptance of the drainage layer is based on compliance with the tolerances presented in Table 1. Remove and replace any course represented by the failing tests or submit plan for approval.

TABLE 1	
Measurement	Tolerance
Grade	Plus/Minus 13 mm 1/2 inch
Smoothness	Plus/Minus 10 mm 3/8 inch
Layer Thickness	Plus/Minus 13 mm 1/2 inch
Average Job Thickness	Plus/Minus 6 mm 1/4 inch
Compaction	Based on Test Section Evaluation

1.5.2 Test Section

1.5.2.1 Data

Construct a test section to evaluate the constructability of the drainage layer including required mixing, placement, and compaction procedures as well as the ability to carry traffic. Test section data will be used to validate the required number of compaction passes given in paragraph Compaction Requirements and the field compaction requirements for full scale production.

1.5.2.2 Schedule/Evaluation

Construct the test section a minimum of [5] days prior to the start of full scale production to provide sufficient time for an evaluation of the proposed materials, equipment and testing.

1.5.2.3 Location and Size

Construct a test section as part of the production areaProvide an underlying grade or pavement structure upon which the test section is to be constructed the same as the remainder of the course. Place the test section a minimum of 10’x10’.

1.5.2.4 Initial Testing

Provide approved certified test results prior to the start of the test section to verify that the materials proposed for use in the test section meet the contract requirements.

1.5.2.5 Mixing, Placement, and Compaction

Accomplish mixing, placement, and compaction using equipment meeting the requirements of paragraph EQUIPMENT. Operate compaction equipment at speeds no greater than 2.4 km/hour 1.5 mph.

1.5.2.6 Procedure

1.5.2.6.1 General

Use the same equipment, materials, and construction techniques on the test section as proposed for use in all subsequent work. Compact the stabilized material In addition, perform a minimum of two nuclear tests per area and determine the average of the six tests for establishing the compaction range for production. If compaction is not within the required maximum variation in compaction limits after the specified number of passes, perform additional passes and gradation testing, as directed

1.5.2.6.2 RDM Aggregate Drainage Layer Tests n/a

1.5.2.6.3 Bituminous/Cement Stabilized Drainage Layer – n/a

1.5.2.7 Evaluation Subject to IOR inspection and approval

PART 2 PRODUCTS

2.1 AGGREGATES

Provide aggregates consisting of clean, sound, hard, durable, angular particles of crushed stone, crushed slag, or crushed gravel which meet the specification requirements. Slag must be an air-cooled, blast-furnace product having a dry weight of not less than 1040 kg per cubic meter 65 pcf determined by ASTM C29/C29M. Provide aggregates free of silt and clay as defined by ASTM D2487, vegetable matter, and other objectionable materials or coatings. **In California**, aggregates meeting the gradation specs of Caltrans Class II base is acceptable.

2.1.1 Aggregate Quality

Provide aggregate with a maximum soundness loss of 18 percent weighted averaged at 5 cycles when tested in magnesium sulfate or 12 percent weighted average at five cycles when tested in sodium sulfate in accordance with ASTM C88 and a maximum percentage of loss on abrasion of 40 after 500 revolutions as determined by ASTM C131/C131M. Determine the percentage of flat and/or elongated particles by ASTM D4791 Method A with the following modifications: 1) Separate the aggregates into two size fractions, particles greater than 12.5 mm 1/2 inch sieve and particles passing the 12.5 mm 1/2 inch sieve and retained on the 4.75 mm No. 4 sieve. 2) Limit thepercentage of flat and/or elongated particles in either fraction to a maximum of 20. 3) A flat particle is one having a ratio of width to thickness greater than 3; an elongated particle is one having a ratio of length to width greater than 3. 4) When the aggregate is supplied from more than one source, aggregate from each source is required to meet the specified requirements. Manufacture crushed gravel from gravel particles 90 percent of which by weight are retained on the maximum-size sieve listed in TABLE 2. In the portion retained on each sieve specified, provide crushed gravel containing at least [90] [75] percent by weight of crushed pieces having two or more freshly fractured faces with the area of each face being at least equal to 75 percent of the smallest midsectional area of the face. When two fractures are

contiguous, the angle between planes of the fractures is required to be at least 30 degrees in order to count as two fractured faces. Test for fractured faces in accordance with ASTM D5821.

2.1.2 Gradation Requirements

Provide drainage layer aggregates that are well graded within the limits specified in TABLE 2.

TABLE 2		
GRADATION OF DRAINAGE LAYER MATERIAL		
Percentage by Weight Passing Square-mesh Sieve		
Sieve Designation	Rapid Draining Material (RDM)	
37.50 mm 1-1/2 inch	100	
25.00 mm 1 inch	70-100	

TABLE 2		
19.00 mm 3/4 inch	55-100	---
12.50 mm 1/2 inch	40-80	
9.50 mm 3/8 inch	30-65	---
4.75 mm No. 4	23-50	
2.36 mm No. 8	0-25	
1.18 mm No. 16	0-5	---

NOTE 1: The values are based on aggregates of uniform specific gravity, and the percentages passing the various sieves require appropriate correction when aggregates of varying specific gravities are used.

2.1.3 Bond Breaker – n/a

2.1.3.1 Aggregate Bond Breaker – n/a

2.1.3.2 Geotextile Bond Breaker – n/a

2.2 BITUMINOUS MATERIALS – n/a

2.3 CEMENTITIOUS MATERIALS – n/a

2.4 BITUMINOUS OR CEMENT STABILIZED JOB-MIX FORMULA – n/a

2.5 EQUIPMENT, TOOLS, AND MACHINES

2.5.1 Equipment

All plants, equipment, and tools used in the performance of the work are subject to approval before the work is started. Maintain all plant, equipment, and tools in satisfactory working condition at all times.

2.5.2 Placement Equipment

Skid Steer, Track Steer loader or other front loader, etc. required for the work.

2.5.3 Compaction Equipment

Use a dual smooth 10 metric tonne short ton (min.) vibratory drum roller, which provides a maximum compactive effort without crushing the drainage layer aggregate, to compact drainage layer material.

2.5.4 Bituminous Mixing Plant – n/a

2.5.5 Cementitious Mixing Plant -n/a

2.5.6 Material Transfer Vehicle – n/a

PART 3 EXECUTION

3.1 STOCKPILING MATERIAL

Clear and level storage sites prior to stockpiling of material. Stockpile all materials in the manner and at the locations designated (see plans)Stockpile aggregates on the cleared and leveled areas to prevent segregation.
Stockpile like materials obtained from different sources in same pile. Unlike materials must be stockpiled separatly.

3.2 PREPARATION OF UNDERLYING COURSE

Clean the underlying course of all foreign materials prior to constructing the drainage layer. Do not construct the drainage layer on underlying course that is frozen. Construct the underlying course in accordance with Section 32 11 20 [. Correct ruts or soft yielding spots in the underlying courses having inadequate compaction and deviations of the surface from the requirements set forth herein by loosening and removing soft or unsatisfactory material and by adding approved material, reshaping to line, and grade, and recompacting to specified density.Do not allow traffic or other operations to disturb the finished underlying course and maintain in a satisfactory condition until the drainage layer is placed.

3.3 TRANSPORTING MATERIAL

3.3.1 Aggregate Drainage Layer Material

Transport aggregate drainage layer material to the site in a manner which prevents segregation and contamination of materials.

3.3.2 Bituminous Stabilized Material – n/a

3.3.3 Cement Stabilized Material -n/a

3.4 PLACING

3.4.1 General

Place drainage layer material on the underlying course in lifts of uniform thickness using equipment meeting the requirements of paragraph EQUIPMENT. When a compacted layer 150 mm 6 inches or less in thickness is required, place the material in a single lift. When a compacted layer in excess of 150 mm 6 inches is required, place the material in lifts of equal thickness. Limit compacted lift thickness to a maximum of 150 mm 6 inches and a minimum of 75 mm 3 inches in compacted thickness. Place and compact lifts true to the grades or levels required with the least possible surface disturbance. Where the drainage layer is placed in more than one lift, clean the previously constructed lift of loose and foreign material. Make adjustments in placing procedures or equipment as needed to obtain true grades and minimize segregation and degradation of the drainage layer material.

3.4.2 Placement of Stabilized Material -n/a

3.4.3 Placing Adjacent Stabilized Strips -n/a

3.4.4 Hand Spreading

Hand spread drainage layer material in areas where machine spreading is impractical. Spread the material uniformly in a loose layer to prevent segregation. Construct the layer so that the compacted material conforms to the required grade and thickness after compaction.

3.5 COMPACTION REQUIREMENTS

3.5.1 General

Base field compaction requirements on the results of the test section, using the materials, methods, and equipment demonstrated in the test section

3.5.2 Number of Passes

Accomplish compaction using rollers meeting the requirements of paragraph EQUIPMENT and operating at a rolling speed of no greater than 2.4 km 1.5 miles per hour. Follow the rolling pattern established during the test section. Compact each lift of drainage material with the number of passes determined from successful completion of the test section in accordance with paragraph ACCEPTANCE.

3.5.3 Compaction

In addition, maintain a minimum field dry density as specified by the Contracting Officer. If the required field dry density is not obtained, adjust the number of roller passes in accordance with paragraph DEFICIENCIES. Compact aggregate in a moisture state as determined in the test section. Avoid crushing of aggregate particles by excessive rolling. Begin compaction of bituminous stabilized material immediately when the material has cooled to 77 degrees C 170 degrees F. Not more than 30 minutes may elapse between the start of moist mixing of cement stabilized material and the start of field compaction. Complete field compaction within 60 minutes. In all places not accessible to the rollers, compact the drainage layer material with mechanical hand operated tampers.

3.6 FINISHING

Finish the top surface of the drainage layer after final compaction, as determined from the test section. Make adjustments in rolling and finishing procedures to obtain grades and minimize segregation and degradation of the drainage layer material.

3.7 CURING OF CEMENT STABILIZED MATERIAL - n/a

3.8 EDGES OF DRAINAGE LAYER - n/a

3.9 SMOOTHNESS TEST

Construct the top lift so that the surface show no deviations in excess of 10 mm 3/8 inch when tested with either a 3.05 or 3.66 m 10 or 12 foot straightedge applied parallel with and at right angles to the centerline of the area to be paved. Correct deviations exceeding 10 mm 3/8 inch in accordance with paragraph DEFICIENCIES.

3.10 THICKNESS CONTROL

Compact the drainage layer to a thickness that is within 13 mm 1/2 inch of the thickness indicated. Measure thickness at intervals providing at least one measurement for each 500 square meters yards of drainage layer. Make measurements in test holes at least 75 mm 3 inches in diameter unless the Contractor can demonstrate, for COR approval, that a steel rod pushed through the drainage layer clearly stops at the material interface. Where the measured thickness is more than 13 mm 1/2 inch deficient, correct such areas in accordance with paragraph DEFICIENCIES. Where the measured thickness is 13 mm 1/2 inch more than indicated, it will be considered as conforming to the requirements plus 13 mm 1/2 inch, provided the surface of the drainage layer is within 13 mm 1/2 inch of established grade. The average job thickness will be the average of all job measurements as specified above but within 8 mm 1/4 inch of the thickness shown on the drawings.

3.11 DEFICIENCIES

3.11.1 Grade and Thickness

Correct deficiencies in grade and thickness so that both grade and thickness tolerances are met. Do not add thin layers of material to the top surface of the drainage layer to meet grade or increase thickness. Trim the top of the drainage layer to grade and finish in accordance with paragraph FINISHING if the surface elevation is more than 13 mm 1/2 inch above the plan grade. If the elevation of the top surface of the drainage layer is 13 mm 1/2 inch or more below the required grade, scarify the

surface of the drainage layer to a depth of at least 75 mm 3 inches, add new material , and blend and recompact the layer to bring it to grade. Where the measured thickness of the drainage layer is more than 13 mm 1/2 inch deficient, correct such areas by excavating to the required depth and replace with new material to obtain a compacted lift thickness of at least 75 mm 3 inches. Control the depth of required excavation to keep the final surface elevation within grade requirements and to preserve layer thicknesses of materials below the drainage layer.

3.11.2 Density

Density will be considered deficient if the field dry density test results are below the dry density specified by the Contracting Officer. Roll the layer with 2 additional passes of the specified roller if the densities are deficient. If the dry density is still deficient, work will be stopped until the cause of the low dry densities can be determined and reported to the Contracting Officer.

3.11.3 Smoothness

Correct deficiencies in smoothness as if they are deficiencies in grade or thickness. Maintain all tolerances for grade and thickness while correcting smoothness deficiencies.

-- End of Section --

SECTION 32 12 16.16

ROAD-MIX ASPHALT PAVING

PART 1 GENERAL

1.1 LUMP SUM PAYMENT

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

AASHTO M 156	(2013; R 2017) Standard Specification for Requirements for Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures
AASHTO T 304	(2011; R 2015) Standard Method of Test for Uncompacted Void Content of Fine Aggregate
AASHTO T 329	(2015) Standard Test Method for Moisture Content of Hot Mix Asphalt (HMA) by Oven Method

ASPHALT INSTITUTE (AI)

AI MS-2	(2015) Asphalt Mix Design Methods

ASTM INTERNATIONAL (ASTM)

ASTM C29/C29M	(2017a) Standard Test Method for Bulk Density ("Unit Weight") and Voids in Aggregate
ASTM C88	(2018) Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C117	(2017) Standard Test Method for Materials Finer than 75-um (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C127	(2015) Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Coarse Aggregate
ASTM C128	(2015) Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Fine Aggregate

ASTM C131/C131M	(2020) Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C136/C136M	(2019) Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C142/C142M	(2017) Standard Test Method for Clay Lumps and Friable Particles in Aggregates
ASTM C566	(2013) Standard Test Method for Total Evaporable Moisture Content of Aggregate by Drying
ASTM D75/D75M	(2019) Standard Practice for Sampling Aggregates
ASTM D242/D242M	(2009; R 2014) Mineral Filler for Bituminous Paving Mixtures
ASTM D979/D979M	(2015) Sampling Bituminous Paving Mixtures
ASTM D2041/D2041M	(2011) Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
ASTM D2172/D2172M	(2017; E 2018) Standard Test Methods for Quantitative Extraction of Asphalt Binder from Asphalt Mixtures
ASTM D2419	(2014) Sand Equivalent Value of Soils and Fine Aggregate
ASTM D2726/D2726M	(2019) Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures
ASTM D3203/D3203M	(2017) Standard Test Method for Percent Air Voids in Compacted Asphalt Mixtures
ASTM D3665	(2012; R 2017) Standard Practice for Random Sampling of Construction Materials
ASTM D3666	(2016) Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials
ASTM D4791	(2019) Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D4867/D4867M	(2009; R 2014) Effect of Moisture on Asphalt Concrete Paving Mixtures
ASTM D5361/D5361M	(2016) Standard Practice for Sampling Compacted Asphalt Mixtures for Laboratory Testing

ASTM D5444	(2015) Mechanical Size Analysis of Extracted Aggregate
ASTM D5821	(2013; R 2017) Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate
ASTM D6307	(2019) Standard Test Method for Asphalt Content of Asphalt Mixture by Ignition Method
ASTM D6373	(2016) Standard Specification for Performance Graded Asphalt Binder

1.3 SUBMITTALS

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Placement Plan; G

SD-03 Product Data

Diamond Grinding Plan; G

Mix Design; G

Contractor Quality Control; G

SD-04 Samples

Aggregates

Asphalt Cement Binder

Warm-mix Additive

SD-06 Test Reports

Aggregates; G

QC Monitoring

SD-07 Certificates

Asphalt Cement Binder; G

Laboratory Accreditation and Validation Warm-

mix Additive

1.4 ACCEPTANCE

1.4.1 Acceptability of Work

Acquire the services of an independent commercial laboratory to perform acceptance testing. Acceptance of the plant produced mix and in-place requirements will be on a lot-to-lot basis.

The materials and the pavement itself will be accepted on the basis of production testing. The Government may make check tests from split samples to validate the results of the production testing. Testing performed by the Government does not reduce the required testing of the independent commercial laboratory. Split samples will be taken for Government testing to reduce the variability between the independent commercial laboratory and the Government's test results. When the difference between the independent commercial laboratory and the Government's test results for split samples exceed the acceptable range of two results for multilaboratory precision for the appropriate test method (i.e. ASTM) then at least one of the laboratories is determined to be in error. An evaluation of procedures and equipment in both laboratories will be made to determine the cause(s) for the differences. Develop steps to correct procedures and equipment to bring multilaboratory precision to within acceptable limits.

1.4.2 Acceptance Requirements

Provide all sampling and testing required for acceptance and payment adjustment. Where appropriate, adjustments in percent payment acceptance for individual lots of asphalt pavement will be made based on laboratory air voids, in-place density, smoothness, and grade in accordance with the following paragraphs. Surface smoothness and grade determinations will be made on the lot as a whole. Exceptions or adjustments to this will be made in situations where the mix within one lot is placed as part of both the intermediate and surface courses, thus smoothness and grade measurements for the entire lot cannot be made.

1.4.3 Pavement Lots

A standard lot for all requirements is equal to one day's production or 2,000 tons, whichever is smaller. Divide each lot into four equal sublots in order to evaluate laboratory air voids and in-place density. When operational conditions cause a lot to be terminated before the specified four sublots have been completed, use the following procedure to adjust the lot size and number of tests for the lot. Where three sublots have been completed, they constitute a lot. Where one or two sublots have been completed, incorporate them into the next lot and the total number of sublots (i.e. 5 or 6 sublots) is used for acceptance criteria. Include partial lots at the end of asphalt production into the previous lot. Complete and report all theoretical maximum density, laboratory air voids, and in-place density testing within 24 hours after construction of each lot.

1.4.4 Sublot Sampling

Take one mixture sample for each sublot in accordance with ASTM D979/D979M from a random truck or another location for determining theoretical maximum density, laboratory air voids, any additional testing the Government desires, and Contractor Quality Control. All samples will be selected randomly, using commonly recognized methods of assuring randomness conforming to ASTM D3665 and employing tables of random numbers or computer programs.

1.4.5 Additional Sampling and Testing

The Government reserves the right to direct additional samples and tests for any area which appears to deviate from the specification requirements. The cost of any additional testing will be paid for by the Government. Testing in these areas will be treated as a separate lot.

Payment Acceptance will be made for the quantity of asphalt pavement represented by these tests in accordance with the provisions of this section.

1.4.6 Theoretical Maximum Density (TMD)

Measure theoretical maximum density one time for each sublot in accordance with ASTM D2041/D2041M for purposes of calculating laboratory air voids and determining in-place density. The average TMD for each lot will be determined as the average TMD of the random sublot samples. When the TMD on both sides of a longitudinal joint is different, the average of these two TMD values will be used as the TMD needed to calculate the percent joint density.

1.4.7 Laboratory Air Voids

Prepare one set of laboratory compacted specimens for each sublot in accordance with ASTM D6925 using the Superpave gyratory compactor. Provide three test specimens prepared from the same sample for each set of laboratory compacted specimens. Compact the specimens within 2 hours of the time the mixture was loaded into trucks at the asphalt plant. Do not reheat samples prior to compaction. Provide insulated containers as necessary to maintain the sample temperature. Measure the bulk density of laboratory compacted specimens in accordance with ASTM D2726/D2726M. Determine laboratory air voids from one set (three laboratory compacted specimens) for each sublot sample in accordance with ASTM D3203/D3203M.

1.4.7.1 Tolerance

Provide laboratory air voids with a mean absolute deviation of 1.00 percent or less from the JMF for each lot. Remove and replace lots that do not meet the laboratory air voids requirement at least 4 inches into the cold (existing) lane adjacent to the longitudinal joint, at no additional cost to the Government. The mean absolute deviation of the laboratory air void contents from the JMF air void content will be evaluated as shown in the example below.

1.4.7.2 Calculating Laboratory Air Voids

Laboratory air void calculations for each lot will use the average theoretical maximum density values obtained for the lot. Determine the average TMD in accordance with paragraph THEORETICAL MAXIMUM DENSITY (TMD). The mean absolute deviation of the laboratory air void contents (one from each sublot) from the JMF air void content will be evaluated as in the following example:

Assume that the laboratory air voids are determined from 4 sublots where one set of laboratory compacted specimens is from a single sublot. The laboratory air voids for the 4 sublots are determined to be 3.5, 3.0, 4.0, and 3.7. Assume that the target air voids from the JMF is 4.0. The mean absolute deviation is then:

Mean Absolute Deviation = (|3.5 - 4.0| + |3.0 - 4.0| + |4.0 - 4.0| + |3.7 - 4.0|)/4

Mean Absolute Deviation = (0.5 + 1.0 + 0.0 + 0.3)/4 = (1.8)/4 = 0.45

The mean absolute deviation for laboratory air voids is determined to be 0.45. It can be seen that 0.45 is less than 1.00 percent. The lot is acceptable for laboratory air voids.

1.4.8 In-place Density

Obtain one random 4-inch or 6-inch diameter core from the mat and joint of each sublot in accordance with ASTM D5361/D5361M for determining in-place density. Cut samples neatly with a diamond core drill bit. Obtain random cores that are the full thickness of the layer being placed. Select core locations randomly using the procedures contained in ASTM D3665. Locate cores for mat density no closer than 12 inches from a transverse or longitudinal joint including the pavement edge. Center all cores for joint density on the joint. Discard samples that are clearly defective as a result of sampling and take an additional random core. When the random core is less than 1 inch thick, it will not be included in the analysis. In this case, obtain another random core sample. Clean and tack coat dry core holes before filling with asphalt mixture. Fill all core holes with asphalt mixture and compact using a standard Marshall hammer to the density specified. Provide all tools, labor, and materials for cutting samples, cleaning, and filling the cored pavement. Measure in-place density in accordance with ASTM D2726/D2726M using each core obtained from the mat and joint.

1.4.8.1 Tolerance

Provide a minimum in-place mat density of 93.0 percent and a minimum in-place joint density of 90.0 percent for each lot. The average in-place mat and joint densities are expressed as a percentage of the average theoretical maximum density (TMD) for the lot. Determine the average TMD in accordance with paragraph THEORETICAL MAXIMUM DENSITY (TMD). Remove and replace lots that do not meet the in-place mat density requirement at least 4 inches into the cold (existing) lane adjacent to the longitudinal joint, at no additional cost to the Government. Remove and replace the longitudinal joint when the lot does not meet the in-place joint density, at no additional cost to the Government. Use a 10 feet wide paving lane that is centered over the joint.

1.4.9 Surface Smoothness

Use a straightedge and profilograph for measuring surface smoothness. Use the profilograph method for all longitudinal testing, except for paving lanes less than 0.25 miles in length. Use the straightedge method for transverse testing, for longitudinal testing where the length of each pavement lane is less than 0.25 miles, and at the ends of the paving limits for the project. Smoothness requirements do not apply over crowns or grade breaks. Maintain detailed notes of the testing results and provide a copy to the Government immediately after each day's testing.

1.4.9.1 Smoothness Requirements

1.4.9.1.1 Straightedge Testing

Provide finished surfaces of the pavements with no abrupt change of 1/4 inch or more when checked with an approved 12-foot straightedge. Remove and replace surface lift lots when the surface smoothness exceeds 3/8 inch, at no additional cost to the Government. High pots can be diamond ground as an alternative to remove and replace in order to meet surface smoothness requirements at individual locations.

1.4.9.1.2 Profilograph Testing

Provide finished surfaces with a Profile Index not greater than 9 inches per mile when tested with an approved California-type profilograph. Remove and replace the lot when the Profile Index exceeds the tolerance by 4.0 inches per mile or more, at no additional cost to the Government. Correct any small individual area with surface deviation which exceeds the tolerance given above by more than 5.0 inches per mile or more by diamond grinding to meet the specification requirements above or remove and replace at no additional cost to the Government.

1.4.9.2 Testing Method

After the final rolling, but not later than 24 hours after placement, test the surface of the pavement in each entire lot in a manner to reveal surface irregularities exceeding the tolerances specified above. If any pavement areas are diamond ground, retest these areas immediately after diamond grinding. The maximum area allowed to be corrected by diamond grinding is 10 percent of the total area of the lot. Test the entire area of the pavement with a profilograph. Check a number of random locations along with any observed suspicious locations primarily at transverse and longitudinal joints with the straightedge.

1.4.9.2.1 Straightedge Testing

Use the straightedge to measure abrupt changes in surface smoothness. Hold the straightedge in contact with the pavement surface and measure the maximum distance between the straightedge and the pavement surface. Determine the amount of surface irregularity by placing the freestanding (unleveled) straightedge on the pavement surface and allowing it to rest upon the two highest spots covered by its length, and measuring the maximum gap between the straightedge and the pavement surface in the area between these two high points.

1.4.9.2.2 Profilograph Testing

Perform profilograph testing using an approved California profilograph and procedures described in ASTM E1274. Provide equipment that utilizes electronic recording and automatic computerized reduction of data to indicate "must-grind" bumps and the Profile Index for the pavement. Use a "blanking band" that is 0.2 inch wide and the "bump template" spanning 1-inch with an offset of 0.4 inch. Provide profilograph operated by an approved, factory-trained operator on the alignments specified above. Provide a copy of the reduced tapes to the Government at the end of each day's testing.

1.4.9.2.3 Bumps ("Must Grind" Areas)

Reduce any bumps ("must grind" areas) shown on the profilograph trace which exceed 0.4 inch in height by diamond grinding until they do not exceed 0.3 inch when retested. Taper diamond grinding in all directions to provide smooth transitions to areas not requiring diamond grinding. The following will not be permitted: (1) skin patching for correcting low areas, (2) planing or milling for correcting high areas.

1.4.10 Plan Grade

Provide a final wearing surface of pavement conforming to the elevations and cross sections shown and not vary more than 0.05 foot from the plan

grade established and approved at site of work. Within 5 working days after completion of a particular lot incorporating the final wearing course, test the final wearing surface of the pavement for conformance with specified plan grade requirements. Match finished surfaces at juncture with other pavements with finished surfaces of abutting pavements. Deviation from the plan elevation will not be permitted in areas of pavements where closer conformance with planned elevation is required for the proper functioning of drainage and other appurtenant structures involved. For parking lots, the grade will be determined by running lines of levels at intervals of 25 feet or less longitudinally and transversely to determine the elevation of the completed pavement surface. Diamond grinding can be used to remove high spots to meet grade requirements. Skin patching for correcting low areas or planing or milling for correcting high areas will not be permitted. Maintain detailed notes of the results of the testing and provide a copy to the Government immediately after each day's testing. Remove and replace surface lift lots when individual locations exceed 0.05 foot tolerance, at no additional cost to the Government. High spots can be diamond ground as an alternative to remove and replace in order to meet plan grade requirements at individual locations.

1.4.11 Laboratory Accreditation and Validation

Provide laboratories used to develop the Job Mix Formula (JMF), perform acceptance testing, and Contractor Quality Control testing that meet the requirements of ASTM D3666. Provide laboratories with a masonry saw having a diamond blade for trimming pavement cores and samples. Perform all required test methods by an accredited laboratory. Schedule and provide payment for laboratory inspections. Additional payment or a time extension due to failure to acquire the required laboratory accreditation is not allowed. Submit a certificate of compliance signed by the manager of the laboratory stating that it meets these requirements to the Government prior to the start of construction. At a minimum, include the following certifications:

a. Qualifications of personnel; laboratory manager, supervising technician, and testing technicians.

b. A listing of equipment to be used in developing the job mix.

c. A copy of the laboratory's quality control system.

1.5 ENVIRONMENTAL REQUIREMENTS

Do not place the asphalt mixture upon a wet surface or when the surface temperature of the underlying course is less than specified in Table 3 Table 1. The temperature requirements may be waived by the Government, if requested; however, meet all other requirements including compaction.

Table 3. Table 1. Surface Temperature Limitations of Underlying Course	
Mat Thickness, inches	Degrees F
3 or greater	40
Less than 3	45

PART 2 PRODUCTS

2.1 SYSTEM DESCRIPTION

Perform the work consisting of pavement courses composed of mineral aggregate and asphalt material heated and mixed in a central mixing plant and placed on a prepared course. Provide asphalt pavement designed and constructed in accordance with this section conforming to the lines, grades, thicknesses, and typical cross sections shown on the drawings. Construct each course to the depth, section, or elevation required by the drawings and rolled, finished, and approved before the placement of the next course. Submit proposed Placement Plan indicating lane widths and longitudinal joints for each course or lift.

2.1.1 Asphalt Mixing Plant

Provide plants used for the preparation of asphalt mixture conforming to the requirements of AASHTO M 156 with the following changes:

2.1.1.1 Truck Scales

Weigh the asphalt mixture on approved scales, or on certified public scales at no additional expense to the Government. Inspect and seal scales at least annually by an approved calibration laboratory.

2.1.1.2 Inspection of Plant

Provide access to the Government at all times, to all areas of the plant for checking adequacy of equipment; inspecting operation of the plant; verifying weights, proportions, and material properties; checking the temperatures maintained in the preparation of the mixtures and for taking samples. Provide assistance as requested, for the Government to procure any desired samples.

2.1.1.3 Storage bins

The asphalt mixture can be stored in non-insulated storage bins for a period of time not exceeding 3 hours. The asphalt mixture can be stored in insulated storage bins for a period of time not exceeding 8 hours. Provide the mix drawn from bins that meets the same requirements as mix loaded directly into trucks.

2.1.2 Hauling Equipment

Provide trucks used for hauling asphalt mixture that have tight, clean, and smooth metal beds. To prevent the mixture from adhering to them, lightly coat the truck beds with a minimum amount of paraffin oil, lime solution, or other approved material. Do not use petroleum-based products as a release agent. Provide each truck with a suitable cover to protect the mixture from adverse weather, contamination, and loss of material during hauling. When necessary due to long haul distance and cold weather, provide insulated truck beds with covers (tarps) that are securely fastened.

2.1.3 Asphalt Pavers

Provide mechanical spreading and finishing equipment consisting of a self-powered paver, capable of spreading and finishing the mixture to the specified line, grade, and cross section.

Provide paver screed capable of laying a uniform mixture to meet the specified thickness, smoothness, and grade without physical or temperature segregation, the full width of the material being placed. Provide a paver with a vibrating screed to be used during all placement.

2.1.3.1 Receiving Hopper

Provide paver with a receiving hopper of sufficient capacity to permit a uniform spreading operation and a distribution system to place the mixture uniformly in front of the screed without segregation. Provide a screed that effectively produces a finished surface of the required evenness and texture without tearing, shoving, or gouging the mixture.

2.1.3.2 Automatic Grade Controls

Provide a paver equipped with a control system capable of maintaining the specified screed elevation. One of three methods can be used to control grade: stringline, laser, or computerized elevations along with GPS. For multiple layers it is acceptable to control the grade in the underlying layer and control the grade of the surface layer by applying a constant thickness over the underlying layer which has been placed to the desired grade. Slope control can also be used to control the grade of the surface for roads but is not acceptable for wide pavements such as parking lots. Provide transverse slope controller capable of maintaining the screed at the desired slope within plus or minus 0.1 percent. A ski-type device of not less than 30 ft can be used to provide improved smoothness. Use a shoe on one side of the paver to match an existing paved surface to provide a smooth joint.

2.1.4 Rollers

Provide rollers in good condition and operate at slow speeds to avoid displacement of the asphalt mixture. Provide sufficient number, type, and weight of rollers to compact the mixture to the required density while it is still in a workable condition. Do not use equipment which causes excessive crushing of the aggregate.

2.1.5 Diamond Grinding

Those performing diamond grinding are required to have a minimum of three years' experience in diamond grinding. In areas not meeting the specified limits for surface smoothness and plan grade, reduce high areas to attain the required smoothness and grade, except as depth is limited below. Reduce high areas by diamond grinding the asphalt pavement with approved equipment. Perform diamond grinding by sawing with saw blades impregnated with an industrial diamond abrasive. Assemble the saw blades in a cutting head mounted on a machine designed specifically for diamond grinding that produces the required texture and smoothness level without damage to the asphalt pavement or joint faces. Provide diamond grinding equipment with saw blades that are 1/8-inch wide, a minimum of 60 blades per 12 inches of cutting head width, and capable of cutting a path a minimum of 3 feet wide. Diamond grinding equipment that causes raveling, fracturing of aggregate, or disturbance to the underlying material will not be allowed. The maximum area corrected by diamond grinding the surface of the asphalt pavement is 10 percent of the total area of any lot. The maximum depth of diamond grinding is 1/2 inch. Provide diamond grinding machine equipped to flush and vacuum the pavement surface. Dispose of all debris from diamond grinding operations off Government property.

Prior to diamond grinding, submit a Diamond Grinding Plan for review and approval. At a minimum, include the daily reports for the deficient areas, the location and extent of deficiencies, corrective actions, and equipment. Remove and replace all pavement areas requiring plan grade or surface smoothness corrections in excess of the limits specified.

Prior to production diamond grinding operations, perform a test section at the approved location, consisting of a minimum of two adjacent passes with a minimum length of 40 feet to allow evaluation of the finish and transition between adjacent passes. Production diamond grinding operations cannot be performed prior to approval.

2.2 AGGREGATES

Notify the Government at least 7 days before sampling aggregates. Obtain samples in accordance with ASTM D75/D75M that are representative of the materials to be used for the project. Provide aggregates consisting of crushed stone, crushed gravel, crushed slag, screenings, natural sand, and mineral filler as required. The portion of material retained on the No. 4 sieve is coarse aggregate. The portion of material passing the No. 4 sieve and retained on the No. 200 sieve is fine aggregate. The portion passing the No. 200 sieve is defined as mineral filler. Submit sufficient materials to produce 200 pounds of blended mixture for mix design verification. Submit all aggregate test results and samples to the Government at least 14 days prior to start of construction. Perform job aggregate testing no earlier than 6 months before contract award.

2.2.1 Coarse Aggregate

Provide coarse aggregate consisting of sound, tough, durable particles, free from films of material that would prevent thorough coating and bonding with the asphalt material and free from organic matter and other deleterious substances. Provide coarse aggregate particles meeting the following requirements:

a. The percentage of loss not greater than 40 percent after 500 revolutions when tested in accordance with ASTM C131/C131M.

b. The sodium sulfate soundness loss not exceeding 12 percent, or the magnesium sulfate soundness loss not exceeding 18 percent after five cycles when tested in accordance with ASTM C88.

c. At least 75 percent by weight of coarse aggregate containing two or more fractured faces when tested in accordance with ASTM D5821 with fractured faces produced by crushing.

d. The particle shape essentially cubical and the aggregate containing not more than 10 percent, by weight, of flat and elongated particles (5:1 ratio of length to thickness) when tested in accordance with ASTM D4791, Method B.

e. Slag consisting of air-cooled, blast furnace slag with a compacted weight of not less than 75 lb/cu ft when tested in accordance with ASTM C29/C29M.

f. Clay lumps and friable particles not exceeding 0.3 percent, by weight, when tested in accordance with ASTM C142/C142M.

2.2.2 Fine Aggregate

Provide fine aggregate consisting of clean, sound, tough, durable particles. Provide aggregate particles that are free from coatings of clay, silt, or any objectionable material, contain no clay balls, and meet the following requirements:

a. Quantity of natural sand (noncrushed material) added to the aggregate blend not exceeding 15 percent by weight of total aggregate.

b. Individual fine aggregate sources with a sand equivalent value greater than 45 when tested in accordance with ASTM D2419.

c. Fine aggregate portion of the blended aggregate with an uncompacted void content greater than 45.0 percent when tested in accordance with AASHTO T 304 Method A.

d. Clay lumps and friable particles not exceeding 0.3 percent, by weight, when tested in accordance with ASTM C142/C142M.

2.2.3 Mineral Filler

Provide mineral filler consisting of a nonplastic material meeting the requirements of ASTM D242/D242M.

2.2.4 Aggregate Gradation

Provide a combined aggregate gradation that conforms to gradations specified in Table 4 Table 2, when tested in accordance with ASTM C136/C136M and ASTM C117, and does not vary from the low limit on one sieve to the high limit on the adjacent sieve or vice versa, but grades uniformly from coarse to fine. Provide a JMF within the specification limits; however, the gradation can exceed the limits when the allowable deviation from the JMF shown in Tables 6 and 7 Tables 4 and 5 are applied.

Table 4. Table 2. Aggregate Gradations

Sieve Size, inch	Gradation 1 Percent Passing by Mass	Gradation 2 Percent Passing by Mass	
1	---	100	
3/4	90-98	89-93	
1/2	70-90	72-85	
3/8	---	55-70	
No. 4	42-58	32-52	
No. 8	29-43	22-40	
	---	---	
No. 30	10-23	8-24	
No. 50	---	5-18	
	---	---	

Table 4. Table 2. Aggregate Gradations			
Sieve Size, inch	Gradation 1 Percent Passing by Mass	Gradation 2 Percent Passing by Mass	
No. 200	2-7	3-7	

2.3 ASPHALT CEMENT BINDER

Provide asphalt cement binder that conforms to ASTM D6373 Performance Grade (PG) 64-10. Provide test data indicating grade certification by the supplier at the time of delivery of each load to the mix plant. When warm-mix asphalt technology involves additives, grade the asphalt binder with the asphalt binder additive included. Submit copies of these certifications to the Government. The supplier is defined as the last source of any modification to the binder. The Government may sample and test the binder at the mix plant at any time before or during mix production.

2.4 MIX DESIGN

Develop the mix design. Perform Job Mix formula (JMF) and aggregates testing no earlier than 6 months before contract award. Provide asphalt mixture composed of well-graded aggregate, mineral filler if required, and asphalt material. Provide aggregate fractions sized, handled in separate size groups, and combined in such proportions that the resulting mixture meets the grading requirements of Table 4 Table 2. Do not produce asphalt pavement for payment acceptance until a JMF has been approved. Design the asphalt mixture using the Superpave gyratory compactor set at 50 gyrations. Prepare samples at various asphalt contents and compacted in accordance with ASTM D6925. Use laboratory compaction temperatures for Polymer Modified Asphalts as recommended by the asphalt binder manufacturer. Determine the Tensile Strength Ratio (TSR) of the composite mixture in accordance with ASTM D4867/D4867M. Compact the TSR specimens to an air void content of 7 percent plus or minus 1 percent. If the Tensile Strength Ratio (TSR) of the composite mixture is less than 75, reject the aggregates or treat the asphalt mixture with an anti-stripping agent. Add a sufficient amount of anti-stripping agent to produce a TSR of not less than 75. If an antistrip agent is required, provide it at no additional cost to the Government. Provide sufficient materials to produce 200 pound of blended mixture to the Government for verification of mix design at least 14 days prior to construction of test section.

2.4.1 JMF Requirements

Submit the proposed JMF in writing, for approval, at least 14 days prior to the start of the test section including, as a minimum:

a. Percent passing each sieve size.

b. Percent of asphalt cement.

c. Percent of each aggregate and mineral filler to be used.

d. Asphalt performance grade or penetration grade.

e. Number of Superpave gyratory compactor gyrations.

f. Laboratory mixing temperature.

g. Laboratory compaction temperature.

h. Temperature-viscosity relationship of the asphalt cement

i. Plot of the combined gradation on the 0.45 power gradation chart, stating the nominal maximum size.

j. Graphical plots and summary tabulation of air voids, voids in the mineral aggregate, and unit weight versus asphalt content as shown in AI MS-2. Include summary tabulation that includes individual specimen data for each specimen tested.

k. Specific gravity and absorption of each aggregate.

l. Percent natural sand.

m. Percent particles with two or more fractured faces (in coarse aggregate).

n. Fine aggregate angularity.

o. Percent flat or elongated particles in coarse aggregate.

p. Tensile Strength Ratio and wet/dry specimen test results.

q. Antistrip agent (if required).

r. List of all modifiers.

s. Percentage and properties (asphalt content, aggregate gradation, and aggregate properties) of RAP in accordance with paragraph RECYCLED ASPHALT PAVEMENT, if RAP is used.

t. Warm-mix additive or process.

Table 5. Table 3. Mix Design Criteria

Test Property			Superpave (50 gyrations)
Stability, pounds, minimum (NA for Superpave)			NA
Flow, 0.01 inch, (NA for Superpave)			NA
Air voids, percent			3-5

Table 5. Table 3. Mix Design Criteria			
Test Property			Superpave (50 gyrations)
Minimum Percent Voids in Mineral Aggregate (VMA)(2)			
Gradation 1			13.0
Gradation 2			14.0
TSR, minimum percent			75
(1) This is a minimum requirement. Provide significantly higher average during construction to ensure compliance with the specifications.			
(2) Calculate VMA in accordance with AI MS-2, based on ASTM C127 and ASTM C128 bulk specific gravity for the aggregate.			

2.4.2 Adjustments to JMF

The JMF for each mixture is in effect until a new formula is approved in writing by the Government. Should a change in sources of any materials be made, perform a new mix design and a new JMF approved before the new material is used. Make minor adjustments within the specification limits to the JMF to optimize mix volumetric properties. Adjustments to the original JMF are limited to plus or minus 4 percent on the No. 4 and coarser sieves; plus or minus 3 percent on the No. 8 to No. 50 sieves; and plus or minus 1 percent on the No. 100 sieve and No. 200 sieve. Asphalt content adjustments are limited to plus or minus 0.40 from the original JMF. If adjustments are needed that exceed these limits, develop a new mix design.

2.5 RECYCLED HOT MIX ASPHALT

coarse Not applicable to project

PART 3 EXECUTION

3.1 CONTRACTOR QUALITY CONTROL

3.1.1 General Quality Control Requirements

Submit the Quality Control Plan. Do not produce hot-mix warm-mix asphalt for payment acceptance until the quality control plan has been approved. In the quality control plan, address all elements which affect the quality of the pavement including, but not limited to:

a. Mix Design and unique JMF identification code

b. Aggregate Grading

c. Quality of Materials

d. Stockpile Management and procedures to prevent contamination

e. Proportioning including percent of warm-mix additive

f. Mixing and Transportation

g. Mixture Volumetrics

h. Moisture Content of Mixtures

i. Placing and Compaction

j. Joints

k. Surface Smoothness

l. Truck bed release agent

3.1.2 Testing Laboratory

Provide a fully equipped asphalt laboratory located at the plant or job site that is equipped with heating and air conditioning units to maintain a temperature of 75 plus or minus 5 degrees F. Provide laboratory facilities that are kept clean and all equipment maintained in proper working condition. Provide the Government with unrestricted access to inspect the laboratory facility, to witness quality control activities, and to perform any check testing desired. The Government will advise in writing of any noted deficiencies concerning the laboratory facility, equipment, supplies, or testing personnel and procedures.

When the deficiencies are serious enough to adversely affect test results, immediately suspend the incorporation of the materials into the work. Incorporation of the materials into the work will not be permitted to resume until the deficiencies are corrected.

3.1.3 Quality Control Testing

Perform all quality control tests applicable to these specifications and as set forth in the Quality Control Program. Use the independent commercial laboratory for acceptance testing in paragraph ACCEPTANCE. Use in-house capabilities or the independent commercial laboratory for quality control testing. Required elements of the testing program include but are not limited to tests for the control of asphalt content, aggregate gradation, aggregate moisture, moisture in the asphalt mixture, temperatures, VMA, and in-place density. Develop a Quality Control Testing Plan as part of the Quality Control Program.

3.1.3.1 Asphalt Content

Determine asphalt content a minimum of twice per lot (a lot is defined in paragraph PAVEMENT LOTS) using the ignition method in accordance with ASTM D6307. Use the extraction method in accordance with ASTM D2172/D2172M if the correction factor for the ignition method in ASTM D6307 is greater than 1.0. The asphalt content for the lot will be determined by averaging the test results.

3.1.3.2 Aggregate Properties

Determine aggregate gradations a minimum of twice per lot from mechanical analysis of extracted aggregate in accordance with ASTM D5444, ASTM C136/C136M, and ASTM C117. Determine the specific gravity of each aggregate size grouping for each 20,000 tons in accordance with ASTM C127 or ASTM C128. Determine fractured faces for gravel sources for

each 20,000 tons in accordance with ASTM D5821. Determine the uncompacted void content of natural sand, manufactured sand, and blended aggregate for each 20,000 tons in accordance with AASHTO T 304 Method A.

3.1.3.3 Moisture Content of Aggregate

Determine the moisture content of aggregate used for production a minimum of once per lot in accordance with ASTM C566.

3.1.3.4 Moisture Content of Asphalt Mixture

Determine the moisture content of the asphalt mixture at least once per lot in accordance with AASHTO T 329.

3.1.3.5 Temperatures

Check temperatures at least four times per lot, at necessary locations to determine the temperature at the dryer, the asphalt cement binder in the storage tank, the asphalt mixture at the plant, and the asphalt mixture at the job site.

3.1.3.6 VMA

Obtain mixture samples at least four times per lot. Calculate the VMA of each specimen in accordance with AI MS-2 based on ASTM C127 and ASTM C128 bulk specific gravity for the aggregate. Provide VMA within the limits of Table 5 Table 3.

3.1.3.7 In-Place Density

Conduct any necessary testing to ensure the specified density is achieved. A nuclear gauge or other non-destructive testing device can be used to monitor pavement density.

3.1.3.8 Additional Testing

Perform any additional testing deemed necessary to control the process.

3.1.3.9 QC Monitoring

Submit all QC test results to the Government on a daily basis as the tests are performed. The Government reserves the right to monitor any of the Contractor's quality control testing and to perform duplicate testing as a check to the Contractor's quality control testing.

3.1.4 Sampling

When directed by the Government, sample and test any material which appears to not meet specification requirements unless such material is voluntarily removed and replaced or deficiencies corrected. Perform all sampling in accordance with standard procedures specified.

3.1.5 Control Charts

For process control, establish and maintain linear control charts on both individual samples and the running average of last four samples for the parameters listed in Table 6 Table 4, as a minimum. Post the control charts as directed by the Government and maintain current at all times. Identify the following on the control charts: the project number, the test parameter being plotted, the individual sample numbers, the Action and Suspension Limits listed in Table 6 Table 4 applicable to the test parameter being plotted, and the test results. Also show target values (JMF) on the control charts as indicators of central tendency for

the cumulative percent passing, asphalt content, and laboratory air voids parameters. When the test results exceed applicable Action Limit, take immediate steps to bring the process back in control. When the test results exceed applicable Suspension Limit, halt production until the problem is solved. When the Suspension Limit is exceeded for individual values or running average values, the Government has the option to require removal and replacement of the material represented by the samples or to leave in place and base acceptance on mixture volumetric properties and in place density. Use the control charts as part of the process control system for identifying trends so that potential problems can be corrected before they occur. Make decisions concerning mix modifications based on analysis of the results provided in the control charts. In the Quality Control Plan, indicate the appropriate action to be taken to bring the process into control when certain parameters exceed their Action Limits.

Table 6. Table 4. Action and Suspension Limits for the Parameters to be Plotted on Individual and Running Average Control Charts				
	Individual Samples		Running Average of	
Parameter to be Plotted	Action Limit	Suspension Limit	Action Limit	Suspension Limit
No. 4 sieve, Cumulative percent passing, deviation for JMF target; plus or minus values	6	8	4	5
No. 30 sieve, Cumulative percent passing, deviation for JMF target; plus or minus values	4	6	3	4
No. 200 sieve, Cumulative percent passing, deviation for JMF target; plus or minus values	1.4	2.0	1.1	1.5
Asphalt content, percent deviation from JMF target; plus or minus value	0.4	0.5	0.2	0.3
Laboratory Air Voids, percent deviation from JMF target value	No specific action and suspension limits set since this parameter is used for acceptance			
In-place Mat Density, percent of TMD	No specific action and suspension limits set since this parameter is used for acceptance			
In-place Joint Density, percent of TMD	No specific action and suspension limits set since this parameter is used for acceptance			
VMA				
Gradation 1	13.5	13.0	13.3	13.0
Gradation 2	14.5	14.0	14.3	14.0

3.2 PREPARATION OF ASPHALT BINDER MATERIAL

Heat the asphalt cement material while avoiding local overheating. Provide a continuous supply of the asphalt material to the mixer at a uniform temperature. Maintain the temperature of the asphalt delivered to the mixer to provide a suitable viscosity for adequate coating of the aggregate particles. For hot-mix, do not heat unmodified asphalt to a temperature exceeding 325 degrees F when added to the aggregate. Do not heat modified asphalt to a temperature exceeding 350 degrees F when added to the aggregate. For warm-mix, do not heat asphalt binder to a temperature exceeding 270 degrees F when added to the aggregate.

3.3 PREPARATION OF MINERAL AGGREGATE

Heat and dry the aggregate prior to mixing. Provide a rate of heating and a maximum temperature that does not damage the aggregates. Do not heat the aggregate to a temperature exceeding 350 degrees F when the asphalt binder is added. Maintain the temperature no lower than is required to obtain complete coating and uniform distribution on the aggregate particles and to provide a mixture of satisfactory workability.

3.4 PREPARATION OF ASPHALT MIXTURE

Weigh or meter the aggregates and the asphalt cement and introduce into the mixer the amount specified by the JMF. Mix the combined materials until the aggregate obtains a uniform coating of asphalt binder and is thoroughly distributed throughout the mixture. The moisture content of all asphalt mixture upon discharge from the plant is not to exceed 0.5 percent by total weight of mixture as measured by AASHTO T 329.

3.5 PREPARATION OF THE UNDERLYING SURFACE

Immediately before placing the asphalt mixture, clean the underlying course of dust and debris. Apply a prime coat or tack coat in accordance with Section 32 12 13 BITUMINOUS TACK AND PRIME COATS.

3.6 TRANSPORTING AND PLACING

3.6.1 Transporting

Transport asphalt mixture from the mixing plant to the site in clean, tight vehicles. Schedule deliveries so that placing and compacting of mixture is uniform with minimum stopping and starting of the paver. Provide adequate artificial lighting for night placements. Hauling over freshly placed material will not be permitted until the material has been compacted as specified, and allowed to cool to 140 degrees F.

3.6.2 Placing

Place the mix in lifts of adequate thickness and compact at a temperature suitable for obtaining density, surface smoothness, and other specified requirements. Upon arrival, place the mixture to the full width by an asphalt paver; strike off in a uniform layer of such depth that, when the work is completed, the required thickness is obtained, and the surface conforms to the grade and contour indicated. Do not broadcast waste mixture onto the mat or recycle into the paver hopper. Collect waste mixture and dispose offsite. Regulate the speed of the paver to eliminate pulling and tearing of the asphalt mat. Begin placement of the mixture along the centerline of a crowned section or on the high side of areas with a one-way slope. Place the mixture in consecutive adjacent strips having a minimum width of 10 feet. Offset the longitudinal joint in one course from the longitudinal joint in the course immediately below by at least 1 foot; however, locate the joint in the surface course at the centerline of the pavement. Offset transverse joints in one course by at least 10 feet from transverse joints in the previous course. Offset transverse joints in adjacent lanes a minimum of 10 feet. On isolated areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the mixture can be spread and luted by hand tools.

3.7 COMPACTION OF MIXTURE

3.7.1 General

a. After placing, thoroughly and uniformly compact the mixture by rolling. Compact the surface as soon as possible without causing displacement, cracking, or shoving. Determine the sequence of rolling operations and the type of rollers used with the exception that application of more than three passes with a vibratory roller in the vibrating mode is prohibited. Maintain the speed of the roller, at all times, sufficiently slow to avoid displacement of the asphalt mixture and to be effective in compaction. Correct at once any displacement occurring as a result of reversing the direction of the roller, or from any other cause. Furnish sufficient rollers to handle the output of the plant. Continue rolling until the surface is of uniform texture, true to grade and cross section, and the required field density is obtained. To prevent adhesion of the mixture to the roller, keep the wheels properly moistened, but excessive water is not permitted. In areas not accessible to the roller, thoroughly compact the mixture with hand tampers or small compactors. Remove the full depth of any mixture that becomes loose and broken, mixed with dirt, contains check-cracking, or is in any way defective. Replace with fresh asphalt mixture and immediately compact to conform to the surrounding area. Perform this work at no expense to the Government. Skin patching is not allowed.

3.7.2 Segregation

The Government can sample and test any material that looks deficient. When the in-place material appears to be segregated, the Government has the option to sample the material and have it tested and compared to the in-place density requirements in Table 2 paragraph ACCEPTANCE. If the material fails to meet these specification requirements, remove and replace the extent of the segregated material the full depth of the layer of asphalt mixture at no additional cost to the Government. When segregation occurs in the mat, take appropriate action to correct the process so that additional segregation does not occur.

3.8 JOINTS

Construct joints to ensure a continuous bond between the courses and to obtain the required density. Provide all joints with the same texture as other sections of the course and meet the requirements for smoothness and grade.

3.8.1 Transverse Joints

Do not pass the roller over the unprotected end of the freshly laid mixture, except when necessary to form a transverse joint. When necessary to form a transverse joint, construct by means of placing a bulkhead or by tapering the course. Utilize a dry saw cut on the transverse joint full depth and width on a straight line to expose a vertical face prior to placing the adjacent lane. Remove the cutback material from the project. In both methods, provide a light tack coat of asphalt material to all contact surfaces before placing any fresh mixture against the joint.

3.8.2 Longitudinal Joints

Provide a joint that meets density and smoothness requirements for joints and has uniform texture. Cut back longitudinal joints which are irregular, damaged, uncompacted, cold (less than 175 degrees F at the time of placing adjacent lanes), or otherwise defective, a maximum of 3 inches from the top of the course with a cutting wheel to expose a clean, sound, near vertical surface for the full depth of the course. Remove all cutback material from the project. Provide a light tack coat of asphalt material to all contact surfaces prior to placing any fresh mixture against the joint.

End of Section

SECTION 32 17 23

PAVEMENT MARKINGS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

AASHTO M 249	(2012; R2016) Standard Specification for White and Yellow Reflective Thermoplastic Striping Material (Solid Form)

ASTM INTERNATIONAL (ASTM)

ASTM D4061	(2013) Standard Test Method for Retroreflectance of Horizontal Coatings
ASTM D4280	(2012) Extended Life Type, Nonplowable, Raised, Retroreflective Pavement Markers
ASTM D6628	(2003; R 2015) Standard Specification for Color of Pavement Marking Materials
ASTM E1710	(2011) Standard Test Method for Measurement of Retroreflective Pavement Marking Materials with CEN-Prescribed Geometry Using a Portable Retroreflectometer
ASTM E2177	(2011) Standard Test Method for Measuring the Coefficient of Retroreflected Luminance (RL) of Pavement Markings in a Standard Condition of Wetness
ASTM E2302	(2003; R 2016) Standard Test Method for Measurement of the Luminance Coefficient Under Diffuse Illumination of Pavement Marking Materials Using a Portable Reflectometer

1.1 SUBMITTALS

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are for Contractor Quality Control approval. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Product Data

Surface Preparation Equipment List; G,

Application Equipment List; G

Exterior Surface Preparation

Safety Data Sheets; G

media for roads; G Waterborne Paint; G

Solventborne Paint; G

Thermoplastic compound; G

Raised Pavement Markers Primers and Adhesives; G

SD-06 Test Reports

Reflective Media for Roads; G

Waterborne Paint; G

Solventborne Paint; G

High Build Acrylic Coating (HBAC); G

Thermoplastic Compound; G

Raised Pavement Markers Primers and Adhesives, G

Test Reports

SD-07 Certificates

Qualifications; G

Media for Roads Waterborne Paint

Solventborne Paint

Volatile Organic Compound, (VOC); G

Thermoplastic Compound; G

SD-08 Manufacturer's Instructions

Waterborne Paint; G

Solventborne Paint; G

Thermoplastic Compound; G

1.2 QUALITY ASSURANCE

1.2.1 Regulatory Requirements

Submit certificate stating that the proposed pavement marking paint meets the Volatile Organic Compound, (VOC) regulations of the local Air Pollution Control District having jurisdiction over the geographical area in which the project is located. Submit Safety Data Sheets for each product.

1.2.2 Qualifications

Submit documentation certifying that pertinent personnel are qualified for equipment operation and handling of applicable chemicals. The documentation should include experience on five projects of similar size and scope with references for all personnel.

1.3 DELIVERY AND STORAGE

Deliver paint materials, thermoplastic compound materials, and reflective media in original sealed containers that plainly show the designated name, specification number, batch number, color, date of manufacture, manufacturer's directions, and name of manufacturer.

Provide storage facilities at the job site, only in areas approved by the Contracting Officer, for maintaining materials at temperatures recommended by the manufacturer. Make available paint stored at the project site or segregated at the source for sampling not less than 30 days prior to date of required approval for use to allow sufficient time for testing. Notify the Contracting Officer when paint is available for sampling.

1.4 PROJECT/SITE CONDITIONS

1.4.1 Environmental Requirements

1.4.1.1 Weather Limitations for Application

Apply pavement markings to clean, dry surfaces, and unless otherwise approved, only when the air and pavement surface temperature is at least 5 degrees F above the dew point and the air and pavement temperatures are within the limits recommended by the pavement marking manufacturer. Allow pavement surfaces to dry after water has been used for cleaning or rainfall has occurred prior to striping or marking. Test the pavement surface for moisture before beginning work each day and after cleaning.

Do not commence marking until the pavement is sufficiently dry and the pavement condition has been approved by the Contracting Officer. Employ the "plastic wrap method" to test the pavement for moisture as specified in paragraph TESTING FOR MOISTURE.

1.4.1.2 Weather Limitations for Removal of Pavement Markings on Roads and Automotive Parking Areas

Pavement surface must be free of snow, ice, or slush; with a surface temperature of at least 40 degrees F and rising at the beginning of operations, except those involving shot or sand blasting or grinding. Cease operation during thunderstorms, or during rainfall, except for waterboarding and removal of previously applied chemicals. Cease waterblasting where surface water accumulation alters the effectiveness of material removal.

1.4.2 Traffic Controls

Place warning signs conforming to MUTCD near the beginning of the worksite and well ahead of the worksite for alerting approaching traffic from both directions. Place small markers along newly painted lines or freshly placed raised markers to control traffic and prevent damage to newly painted surfaces or displacement of raised pavement markers. Mark painting equipment with large warning signs indicating slow-moving painting equipment in operation.

When traffic must be rerouted or controlled to accomplish the work, provide necessary warning signs, flag persons, and related equipment for the safe passage of vehicles.

PART 2 PRODUCTS

2.1 EQUIPMENT

2.1.1 Surface Preparation and Paint Removal

2.1.1.1 Surface Preparation Equipment for Roads and Automotive Parking Areas

Submit a surface preparation equipment list by serial number, type, model, and manufacturer. Include descriptive data indicating area of coverage per pass, pressure adjustment range, tank and flow capacities, and safety precautions required for the equipment operation. Mobile equipment must allow for removal of markings without damaging the pavement surface or joint sealant. Maintain machines, tools, and equipment used in the performance of the work in satisfactory operating condition.

2.1.1.1.1 Sandblasting Equipment

Use mobile sandblasting equipment capable of producing a pressurized stream of sand and air that effectively removes paint from the surface without filling voids with debris in asphalt or tar pavements or removing joint sealants in Portland cement concrete pavements. Include with the equipment and air compressor, hoses, and nozzles of adequate size and capacity for removing paint. Equip the compressor with traps and coalescing filters that maintain the compressed air free of oil and water.

2.1.1.1.2 Waterblasting Equipment

Use mobile waterblasting equipment capable of producing a pressurized stream of water that effectively removes paint from the pavement surface without significantly damaging the pavement. Provide equipment, tools, and machinery which are safe and in good working order at all times.

2.1.1.1.3 Grinding or Scarifying Equipment

Use equipment capable of removing surface contaminates, paint build-up, or extraneous markings from the pavement surface without leaving any residue. Clean the surface by hydro blast to remove surface contaminates and ash after a weed torch is used to remove paint.

2.1.1.1.4 Chemical Removal Equipment

Use chemical equipment capable of applying and removing chemicals and paint from the pavement surface, leaving only non-toxic biodegradable residue without scarring or other damage to the pavement or joints and joint seals.

2.1.2 Application Equipment

Submit application equipment list appropriate for the material(s) to be used. Include manufacturer's descriptive data and certification for the planned use that indicates area of coverage per pass, pressure adjustment range, tank and flow capacities, and all safety precautions required for operating and maintaining the equipment. Provide and maintain machines, tools, and equipment used in the performance of the work in satisfactory operating condition or remove them from the work site. Provide mobile and maneuverable application equipment to the extent that straight lines can be followed and normal curves can be made in a true arc.

2.1.2.1 Paint Application Equipment

2.1.2.1.1 Hand-Operated, Push-Type Machines

Provide hand-operated push-type applicator machine of a type commonly used for application of water-based paint or two-component, chemically curing paint, thermoplastic, or preformed tape, to pavement surfaces for small marking projects, such as legends and cross-walks, automotive parking areas, or surface painted signs. Provide applicator machine equipped with the necessary tanks and spraying nozzles capable of applying paint uniformly at coverage specified. Hand operated spray guns may be used in areas where push-type machines cannot be used.

2.1.2.1.2 Self-Propelled or Mobile-Drawn Spraying Machines

Provide self-propelled or mobile-drawn spraying machine with suitable arrangements of atomizing nozzles and controls to obtain the specified results. Provide machine having a speed during application capable of applying the stripe widths indicated at the paint coverage rate specified herein and of even uniform thickness with clear-cut edges.

2.1.2.1.2.1 Road Marking

Provide equipment used for marking roads capable of placing the prescribed number of lines at a single pass as solid lines, intermittent lines, or a combination of solid and intermittent lines using a maximum of three different colors of paint as specified.

2.1.2.1.2.2 Hand Application

Provide spray guns for hand application of paint in areas where the mobile paint applicator cannot be used.

2.1.2.2 Thermoplastic Application Equipment

2.1.2.2.1 Thermoplastic Material

Apply thermoplastic material with equipment that is capable of providing continuous uniformity in the dimensions and reflectorization of the marking.

2.1.2.2.2 Application Equipment

a. Provide application equipment capable of continuous mixing and agitation of the material, with conveying parts which prevent accumulation and clogging between the main material reservoir and the extrusion shoe or spray gun. All parts of the equipment which come into contact with the material must be easily accessible and exposed for cleaning and maintenance. All mixing and conveying parts up to and including the extrusion shoes and spray guns must maintain the material at the required temperature with heat-transfer oil or electrical-element-controlled heat.

b. Provide application equipment constructed to ensure continuous uniformity in the dimensions of the stripe. Provide an applicator with a means for cleanly cutting off stripe ends squarely and providing a method of applying "skiplines." Provide equipment capable of applying varying widths of traffic markings.

c. Provide mobile and maneuverable application equipment allowing straight lines to be followed and normal curves to be made in a true arc. Provide equipment used for the placement of thermoplastic pavement markings of two general types: mobile applicator and portable applicator.

d. Equip the applicator with a pressurized or drop-on type bead dispenser capable of uniformly dispensing reflective glass spheres at controlled rates of flow. The bead dispenser must operate automatically to begin flow prior to the flow of binder to assure that the strip is fully reflectorized.

2.1.2.2.3 Mobile Application Equipment

Provide a truck-mounted, self-contained pavement marking machine that is capable of hot applying thermoplastic by either the extrusion or spray method.

a. Equip the unit to apply the thermoplastic marking material at temperatures according to the manufacturer's instructions, at widths varying from 3 to 12 inches, with an automatic pressurized or drop-on bead dispensing system, capable of operating continuously, and of installing a minimum of 20,000 lineal feet of longitudinal markings in an 8-hour day.

b. Equip the mobile unit with a melting kettle which holds a minimum of 6000 pounds of molten thermoplastic material; capable of heating the thermoplastic composition to temperatures as recommended by the manufacturer. Use a thermostatically controlled heat transfer liquid.Heating of the composition by direct flame is not allowed.

Oil and material temperature gauges must be visible at both ends of the kettle.

c. Equip mobile units for application of extruded markings with a minimum of two extrusion shoes; located one on each side of the truck, capable of marking simultaneous edge line and centerline stripes; each being a closed, oil-jacketed unit; holding the molten thermoplastic at a temperature as recommended by the manufacturer; and capable of extruding a line of 3 to 8 inches in width; and at a thickness of not less than 0.120 inch nor more than 0.190 inch, of generally uniform cross section.

d. Equip mobile units for application of spray markings with a spray gun system capable of marking simultaneous edgeline and centerline stripes. Surround (jacket) the spray system with heating oil to maintain the molten thermoplastic at a temperature of 375 to 425 degrees F, capable of spraying a stripe of 3 to 12 inches in width, and in thicknesses varying from 0.060 inch to 0.098 inch, of generally uniform cross section.

e. Equip the mobile unit with an electronic programmable line pattern control system, capable of applying skip or solid lines in any sequence, through any and all of the extrusion shoes, or the spray guns, and in programmable cycle lengths. In addition, equip the mobile unit with an automatic counting mechanism capable of recording the number of lineal feet of thermoplastic markings applied to the pavement surface with an accuracy of 0.5 percent.

2.1.2.2.4 Portable Application Equipment

Provide portable hand-operated equipment, specifically designed for placing special markings such as crosswalks, stop bars, legends, arrows, and short lengths of lane, edge and centerlines; and capable of applying thermoplastic pavement markings by the extrusion method. Equip the portable applicator with all the necessary components, including a materials storage reservoir, bead dispenser, extrusion shoe, and heating accessories, capable of holding the molten thermoplastic at the temperature recommended by the manufacturer, and of extruding a line of 3 to 12 inches in width, and in thickness of not less than 0.120 inch nor more than 0.190 inch and of generally uniform cross section.

2.1.2.3 Reflective Media Dispenser

Attach the dispenser for applying the reflective media to the thermoplastic dispenser and designed to operate automatically and simultaneously with the applicator through the same control mechanism. The bead applicator must be capable of adjustment and designed to provide uniform flow of reflective media over the full length and width of the stripe at the rate of coverage specified in paragraph APPLICATION.

2.1.2.4 Preformed Tape Application Equipment

Provide and use mechanical application equipment for the placement of preformed marking tape which is a mobile pavement marking machine specifically designed for use in applying pressure-sensitive pavement marking tape of varying widths. Equip the applicator with rollers, or other suitable compaction device to provide initial adhesion of the material with the pavement surface. Use additional tools and devices as needed to properly seat the applied material as recommended by the manufacturer.

2.2 MATERIALS

Use thermoplastic for roads. The maximum allowable VOC content of pavement markings is 150 grams per liter. Color of markings are indicated on the drawings and must conform to ASTM D6628 for roads and automotive parking areas and SAE AMS-STD-595A for airfields. Provide materials conforming to the requirements specified herein.

2.2.1 Thermoplastic Compound

2.2.1.1 Composition Requirements

Thermoplastic compound must conform to AASHTO M 249. Formulate the binder component as an alkyd resin.

2.2.1.2 Primer

a. Asphalt concrete primer: Provide thermosetting adhesive primer with a solids content of pigment reinforced synthetic rubber and synthetic plastic resin dissolved or dispersed in a volatile organic solvent for asphaltic concrete pavements. The solids content must not be less than 10 percent by weight at 70 degrees F and 60 percent relative humidity. A wet film thickness of 0.005 inch, plus or minus 0.001 inch, must dry to a tack-free condition in less than 5 minutes.

b. Portland cement concrete primer: Provide an epoxy resin primer for Portland cement concrete pavements, of the type recommended by the manufacturer of the thermoplastic composition.

2.2.2 Raised Pavement Markers Primers and Adhesives

Use either metallic or nonmetallic markers of the button or prismatic reflector type. Provide permanent color markers as specified for pavement marking, which retain the color and brightness under the action of traffic. Provide button markers with a diameter of not less than 4 inches, spaced not more than 40 feet apart on solid longitudinal lines. Make broken centerline marker spacing in segments of with gaps indicated between segments. Provide button markers with rounded surfaces presenting a smooth contour to traffic and not projecting more than 3/4 inch above level of pavement. Provide nonplowable pavement markers and adhesive epoxy conforming to ASTM D4280.

2.2.3 Reflective Media

PART 3 EXECUTION

3.1 EXAMINATION

3.1.1 Testing for Moisture

Test the pavement surface for moisture before beginning pavement marking after each period of rainfall, fog, high humidity, or cleaning, or when the ambient temperature has fallen below the dew point. Do not commence marking until the pavement is sufficiently dry and the pavement condition has been approved by the Contracting Officer or authorized representative. Employ the "plastic wrap method" to test the pavement for moisture as follows: Cover the pavement with a 12-inch by 12-inch section of clear plastic wrap and seal the edges with tape.

After 15 minutes, examine the plastic wrap for any visible moisture accumulation inside the plastic. Do not begin marking operations until the test can be performed with no visible moisture accumulation inside the plastic wrap. Re-test surfaces when work has been stopped due to rain.

3.1.2 Surface Preparation Demonstration

Prior to surface preparation, demonstrate the proposed procedures and equipment. Prepare areas large enough to determine cleanliness and rate of cleaning.

3.1.3 Test Stripe Demonstration

Prior to paint application, demonstrate test stripe application within the work area using the proposed materials and equipment. Apply separate test stripes in each of the line widths and configurations required herein using the proposed equipment. Make the test stripes long enough to determine the proper speed and operating pressures for the vehicle(s) and machinery, but not less than 50 feet long.

3.1.4 Application Rate Demonstration

During the Test Stripe Demonstration, demonstrate compliance with the application rates specified herein. Document the equipment speed and operating pressures required to meet the specified rates in each configuration of the equipment and provide a copy of the documentation to the Contracting Officer prior to proceeding with the work.

3.1.5 Retroreflective Value Demonstration

After the test stripes have cured to a "no-track" condition, demonstrate compliance with the average retroreflective values specified herein. Take a minimum of ten readings on each test stripe with a Retroreflectometer with a direct readout in millicandelas per square meter per lux (mcd/m2/lx). Perform testing in accordance with ASTM D4061, ASTM E1710, ASTM E2177, and ASTM E2302.

3.1.6 Level of Performance Demonstration

The Contracting Officer will be present at the application demonstrations to observe the results obtained and to validate the operating parameters of the vehicle(s) and equipment. If accepted by the Contracting Officer, the test stripe is the measure of performance required for this project. Do not proceed with the work until the demonstration results are satisfactory to the Contracting Officer.

3.2 EXTERIOR SURFACE PREPARATION

Allow new pavement surfaces to cure for a period of not less than 30 days before application of marking materials. Thoroughly clean surfaces have to be marked before application of the paint. Remove dust, dirt, and other granular surface deposits by sweeping, blowing with compressed air, rinsing with water, or a combination of these methods as required. Remove residual curing compounds, and other coatings adhering to the pavement by water blasting.

a. For Portland Cement Concrete pavement, grinding, light shot blasting, or light scarification, to a resulting profile equal to ICRI 03732 CSP 2, CSP 3, and CSP 4, respectively, can be used in addition to water blasting on most pavements, to either remove existing coatings, or for surface preparation.

b. Do not use shot blasting on airfield pavements due to the potential of Foreign Object

Damage (FOD) to aircraft. Scrub affected areas, where oil or grease is present on old pavements to be marked, with several applications of trisodium phosphate solution or other approved detergent or degreaser and rinse thoroughly after each application. After cleaning oil-soaked areas, seal with shellac or primer recommended by the manufacturer to prevent bleeding through the new paint. Do not commence painting in any area until pavement surfaces are dry and clean.

3.2.1 Early Painting of Rigid Pavements

Pretreat rigid pavements that require early painting with an aqueous solution containing 3 percent phosphoric acid and 2 percent zinc chloride. Apply the solution to the areas to be marked.

3.2.2 Early Painting of Asphalt Pavements

For asphalt pavement systems requiring painting application at less than 30 days, apply the paint and beads at half the normal application rate, followed by a second application at the normal rate after 30 days.

3.3 APPLICATION

Apply pavement markings to dry pavements only.

3.3.1 Thermoplastic Compound

Place thermoplastic pavement markings, free from dirt or tint, upon dry pavement. The temperature must be a minimum of 40 degrees F and rising at the time of installation. Apply all centerline, skipline, edgeline, and other longitudinal type markings with a mobile applicator. Place all special markings, crosswalks, stop bars, legends, arrows, and similar patterns with a portable applicator, using the extrusion method.

3.3.1.1 Primer

After surface preparation has been completed, prime the asphalt or concrete pavement surface with spray equipment. Allow primer materials to "set-up" prior to applying the thermoplastic composition. Allow the Portland cement concrete primer to dry in accordance with the thermoplastic manufacturer recommendations. To shorten the curing time of the epoxy resins, an infrared heating device may be used on the concrete primer.

After the primer has "set-up", apply the thermoplastic at temperatures no lower than 375 degrees F nor higher than 425 degrees F at the point of deposition. Apply all extruded thermoplastic markings at the specified width and at a thickness of not less than 0.125 inch nor more than 0.190 inch. Apply all sprayed thermoplastic markings at the specified width and the thickness designated in the contract plans. If the plans do not specify a thickness, apply centerline markings at a wet thickness of 0.090 inch, plus or minus 0.005 inch, and edgeline markings at a wet thickness of 0.060 inch, plus or minus 0.005 inch.

3.3.1.2 Reflective Media

Immediately after installation of the thermoplastic material, mechanically apply drop-on reflective glass spheres conforming to FS TT-B-1325 Type I (Gradation A) at the rate of one pound per 20 square feet such that the spheres are held by and imbedded in the surface of the molten material. Accomplish drop-on application of the glass spheres to ensure even distribution at the specified rate of coverage. If there is a malfunction of either thermoplastic applicator or reflective media dispenser, discontinue operations until deficiency is corrected.

3.3.2 Raised Pavement Markers

Align prefabricated markers carefully at the spacing indicated on the drawings and permanently fix in place by means of epoxy adhesives. To ensure good bond prior to applying adhesive, thoroughly clean all areas where markers are to be set by water blasting and use of compressed air.

3.3.3 Cleanup and Waste Disposal

Keep the worksite clean and free of debris and waste from the removal and application operations. Dispose of debris at approved sites.

3.4 FIELD QUALITY CONTROL

3.4.1 Sampling and Testing

As soon as the paint and thermoplastic materials and reflective media are available for sampling, obtain by random selection from the sealed containers, two-quart samples of each batch in the presence of the Contracting Officer. Two quarts will be for sampling and testing by the Contractor and two quarts will be for retention by the Government. Accomplish adequate mixing prior to sampling to ensure a uniform, representative sample. A batch is defined as the quantity of material processed by the manufacturer at one time and identified by number on the label. Clearly identify samples by designated name, specification number, batch number, project contract number, intended use, and quantity involved. Test samples by an approved laboratory. If a sample fails to meet specification, replace the material in the area represented by the samples and retest the replacement material as specified above. Submit certified copies of the test reports, prior to the use of the materials at the jobsite. Include in the report of test results a listing of any specification requirements not verified by the test laboratory.

3.4.2 Material Inspection

Examine material at the job site to determine that it is the material referenced in the report of test results or certificate of compliance. Provide test results substantiating conformance to the specified requirements with each certificate of compliance.

3.4.3 Dimensional Tolerances

Apply all markings in the standard dimensions provide in the drawings. New markings may deviate a maximum of 10 percent larger than the standard dimension. The maximum deviation allowed when painting over an old marking is up to 20 percent larger than the standard dimensions.

3.4.4 Bond Failure Verification

Inspect newly applied markings for signs of bond failure based on visual inspection and comparison to results from Test Stripe Demonstration paragraph.

3.4.5 Reflective Media and Coating Application Verification

Use a wet film thickness gauge to measure the application of wet paint. Use a microscope or magnifying glass to evaluate the embedment of glass beads in the paint. Verify the glass

bead embedment with approximately 50 percent of the individual bead spheres embedded and 50 percent of the individual bead spheres exposed.

3.4.6 Retroreflective Markings

Collect and record readings for white and yellow retroreflective markings at the rate of one reading per 1000 linear feet. The minimum acceptable average for white markings is 200 millicandelas per square meter per lux (mcd/m2/lx) (measured with Retroreflectometer). The minimum acceptable average for yellow markings is 175 millicandelas per square meter per lux (mcd/m2/lx). Compute readings by averaging a minimum of 10 readings taken within the area at random locations. Re-mark areas not meeting the retroreflective requirements stated above.

3.4.7 Material Bond Verification and Operations Area Cleanup for Airfields

Vacuum sweep the aircraft operating area before it is opened for aircraft operations to preclude potential foreign object damaged to aircraft engines. Visually inspect the pavement markings and the material captured by the vacuum. Verify that no significant loss of reflective media has occurred to the pavement marking due to the vacuum cleaning.

End of Section

APPENDIX I – SUBMITTALS

List of Required Submittals										
Project:	Camp San Luis Obispo - CSTI Improvemments									
SPEC. SECTION	DESCRIPTION OF ITEM TO BE SUBMITTED	DATA	SHOP DWG	SAMPLE	TEST REPORT	CERTIFICATE	GUARANTEE	HAS REQUIREMENT BEEN MET?	DATE	REVIEWER
	DIVISION 1 -General Requirements									
01 32 00	Scheduling									
	SD-01 Preconstruction Submittals									
	Conctruction Schedule	X								
01 33 00	Submittals									
	SD-01 Preconstruction Submittals									
	Submittal Register	X								
	Certificate of Insurance	X				X				
	Schedule of Values	X								
01 35 29	Occupational Safety & Health Requirements									
	SD-01 Preconstruction Submittals									
	Accident Prevention Plan	X								
	Activity Hazard Analysis	X								
	SD-06 Test Reports									
	Incident Reports	X								
	Accident Reports	X								
	Citations and Violations	X								
01 35 43	Environmental Requirements									
	SD-03 Project Data									
	SWWP Plan	X								
	Concrete Wash Out Plan	X								

List of Required Submittals										
Project:	Camp San Luis Obispo - CSTI Improvemments									
SPEC. SECTION	DESCRIPTION OF ITEM TO BE SUBMITTED	DATA	SHOP DWG	SAMPLE	TEST REPORT	CERTIFICATE	GUARANTEE	HAS REQUIREMENT BEEN MET?	DATE	REVIEWER
01 70 00	Contract Closeout									
	SD-10 Close Out Submittals									
	As-Builts	X								
	Shop Drawings	X								
	Warranties	X								
	Maintenance Data	X								
	RFIs	X								
	Contract Modifications	X								
01 74 19	Construction Waste Management Plan									
	SD-01 Preconstruction Submittals		X			X				
	Construction Waste Management Plan									
01 78 00	Close Out Submittals									
	SD-10 Close out Documents									
	As-Built Drawings	X								
	As-Built Specifications	X								
	Product Data	X	X							
	Warranties	X				X	X			
01 78 23	SD-09 Operation and Maintenance Data									
	Operations Manual	X	X		X					
	Occupant Notification					X				
	Hazard Abatement					X				
	Clearance Certification					X				

List of Required Submittals										
Project:	Camp San Luis Obispo - CSTI Improvemments									
SPEC. SECTION	DESCRIPTION OF ITEM TO BE SUBMITTED	DATA	SHOP DWG	SAMPLE	TEST REPORT	CERTIFICATE	GUARANTEE	HAS REQUIREMENT BEEN MET?	DATE	REVIEWER
	SD-11 Closeout Submittals									
	Hazardous Waste Manifest					X				
	Weight Tickets					X				
	SD-7 Certificates Materials and Equipment									
	Bolts					X				
	SD-09 Operation and Maintenance Data									
	Plumbing System						X			
	DIVISION 2 - Existing Conditions									
02 41 00	Demolition									
	SD-1 Preconstruction Submittals									
	Salvage & Removal Procedures	X								
	Receipts	X								
	DIVISION 3 - CONCRETE									
03 30 00	Cast in Place Concrete									
	SD-2 Shop Drawings									
	Mix Design		X							
	SD-3 Product Data									
	Material	X								

List of Required Submittals										
Project:	Camp San Luis Obispo - CSTI Improvemments									
SPEC. SECTION	DESCRIPTION OF ITEM TO BE SUBMITTED	DATA	SHOP DWG	SAMPLE	TEST REPORT	CERTIFICATE	GUARANTEE	HAS REQUIREMENT BEEN MET?	DATE	REVIEWER
	DIVISION 32 - EXTERIOR IMPROVEMENTS									
32 05 33	Landscape Establishement									
	SD-3 Product Data									
	Fertilizer	X								
	Mulch	X								
	SD-07 Certificates									
	Plant Quantities	X								
	Maintennace Inspcetion Report	X								
	SD-10 Maintenance & Operation Data									
	Maintenance Data	X								
32 12 16.16	Road Mix Asphalt Paving									
	SD-2 Shop Drawings									
	Placement Plan	X								
		X								
	SD-03 Product Data									
	Mix Design	X								
	Diamond Grinding	X								
	SD-06 Test Reports									
	Aggregates			X						
	QC Monitoring	X								

List of Required Submittals										
Project:	Camp San Luis Obispo - CSTI Improvemments									
SPEC. SECTION	DESCRIPTION OF ITEM TO BE SUBMITTED	DATA	SHOP DWG	SAMPLE	TEST REPORT	CERTIFICATE	GUARANTEE	HAS REQUIREMENT BEEN MET?	DATE	REVIEWER
32 12 16.16	Road Mix Asphalt Paving (Cont.)									
	SD-07 Certificates									
	Asphalt Cemnet Binder					X				
	Laboratory Accredidation					X				
32 17 23	Pavemnet Markings									
	SD-3 Product Data									
	Application Equipment List	X								
	Media for Roads	X								
	Safety Data Sheets	X								
	Raised Pavement Markers & Adhesive	X								
	Waterbourne Paint	X								
	Thermoplastic Compound	X								
	SD-06 Test Reports									
	Reflective Media for Roads				X					
	Waterbourne Paint				X					
	Raised Pavement Markers & Adhesive				X					
	Thermoplastic Compound				X					
	SD-07 Certificates									
	Installer Qualifications					X				
	Waterbourne Paint					X				
	Raised Pavement Markers & Adhesive					X				

List of Required Submittals										
Project:	Camp San Luis Obispo - CSTI Improvemments									
SPEC. SECTION	DESCRIPTION OF ITEM TO BE SUBMITTED	DATA	SHOP DWG	SAMPLE	TEST REPORT	CERTIFICATE	GUARANTEE	HAS REQUIREMENT BEEN MET?	DATE	REVIEWER
32 80 00	Irrigation Systems									
	SD-3 Product Data									
	Irrigation Products	X								
	SD-10 Maintenance & Operation Data									
	Maintenance Data	X								
32 92 19	Seeding									
	SD-3 Product Data									
	Wood Celluose Mulch	X								
	Fertilizer	X								
	SD-06 Test Reports									
	Topsoil Composition test				X					
	SD-07 Certificates									
	State Certification & Seed Approval					X				
	SD-08 Manufacturer's Field Reports									
	Erosion Control Materials				X					
32 92 19	Exterior Plants									
	SD-1 Preconstruction Submittals									
	State Contractor's License	X								
	Dates for Planting									

List of Required Submittals										
Project:	Camp San Luis Obispo - CSTI Improvemments									
SPEC. SECTION	DESCRIPTION OF ITEM TO BE SUBMITTED	DATA	SHOP DWG	SAMPLE	TEST REPORT	CERTIFICATE	GUARANTEE	HAS REQUIREMENT BEEN MET?	DATE	REVIEWER
32 92 19	Exterior Plants (Cont.)									
	SD-3 Product Data									
	Wood Celluose Mulch	X								
	Plants	X								
	Fertilizer	X								
	SD-06 Test Reports									
	Percolation Test				X					
	SD-07 Certificates									
	Nursery Certifications					X				
	SD-10 Operation & Maintenance Data									
	Plant Maintenance Manuals	X								

ABBREVIATIONS

A

AB	ANCHOR BOLT
ADJ	ADJACENT
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AP	ACCESS PANEL
APPROX	APPROXIMATE
ASSY	ASSEMBLY
AUX	AUXILIARY

B

BCE	BARE COPPER WIRE
BD	BOARD
BLDG	BUILDING
BLK	BLOCK

C

CAP	CAPACITY
CERT	CERTIFIED
CFM	CUBIC FEET PER MINUTE
CI	CAST IRON
CIP	CAST-IN-PLACE
CJ	CONTROL JOINT
CL	CENTERLINE
CLG	CEILING
CLR	CLEAR
CM	CONTRACTS MANAGER
CMD	CALIFORNIA MIL. DEPT.
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CPP	CORRUGATED PLASTIC PIPE
CONC	CONCRETE
CONST	CONSTRUCTION
CTR	CENTER
CW	COLD WATER

D

DBL	DOUBLE
DED	DEDICATED
DEG	DEGREE
DEMO	DEMOLISH, DEMOLITION
DTL	DETAIL
DF	DRINKING FOUNTAIN
DFT	DRY FILM THICKNESS
DIA	DIAMETER
DIM	DIMENSION
DN	DOWN
DS	DOWN SPOUT
DWG	DRAWING

E

EA	
ELECT	
EMERG	EMERGENCY
(E)	EXISTING
EXIST	EXISTING
EJ	EXPANSION JOINT
EXT	EXTERIOR

F

FD	FLOOR DRAIN
FF	FINISHED FLOOR
FT	FEET
FTG	FOOTING

G

GA	GAUGE
GALV	GALVANIZED
GYP	GYPSUM

H

HDPE	HIGH DENSITY POLYETHYLENE
HT	HEIGHT
HTG	HEATING
HVAC	HEATING/VENTILATING/ AIR CONDITIONING

I

IN	INCHES
INSUL	INSULATION
INT	INTERIOR

J

JT	JOINT

L

L	LENGTH
LB	POUND

M

MAS	MASONRY
MAX	MAXIMUM
MECH	MECHANICAL
MFG	MANUFACTURER
MIN	MINIMUM

N

(N)	NEW
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE

O

OC	ON CENTER
OH	OVERHEAD

P

PNL	PANEL
P.O.C.	POINT OF CONNECTION
PRV	POWER ROOF VENTILATOR
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH

Q

QTY	QUANTITY

R

RAD	RADIUS
RD	ROOF DRAIN
REBAR	REINFORCING BAR
RECPT	RECEPTACLE
REQ'D	REQUIRED
REV	REVISION/REVISED

S

SC	SOLID CORE
SCHED	SCHEDULE
SECT	SECTION
SHT	SHEET
SIM	SIMILAR
SPEC	SPECIFICATIONS
SS	STAINLESS STEEL
SSPWC	STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION
SQ	SQUARE
STL	STEEL

T

T&G	TONGUE AND GROVE
TBD	TO BE DETERMINED0
TEL	TELEPHONE
THK	THICK
TYP	TYPICAL

U

UNO	UNLESS NOTED OTHERWISE
UR	URINAL
UTIL	UTILITY

V

VAR	VARIABLE, VARIES
VB	VAPOR BARRIER
VERT	VERTICAL
VTR	VENT THRU ROOF

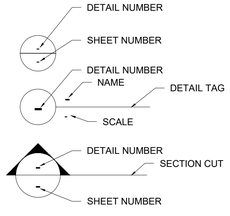
W

WC	WATER CLOSET
WD	WOOD
WP	WEATHER PROOF
WT	WEIGHT
W/	WITH

Y

YD	YARD

LEGEND



BUILDING CODE INFORMATION

BUILDING CONSTRUCTION TYPE	N/A
OCCUPANCY CLASSIFICATION	U
NUMBER OF STORIES	N/A
ACTUAL BUILDING HEIGHT	N/A
BUILDING AREA	N/A
AREA OF PROJECT	N/A
ALLOWABLE AREA PER CBC	N/A
AREA / HEIGHT	N/A
FIRE SPRINKLED	N/A
FIRE ALARM	N/A

BUILDING CODES

2025 CALIFORNIA BUILDING CODE

GENERAL NOTES

1. CONTRACTOR SHALL VISIT SITE AND VERIFY ALL DIMENSIONS AND CONDITIONS OF WORK AREA PRIOR TO ORDERING OR FABRICATING ANY MATERIALS.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE TO UTILITIES INCURRED DURING THE PROGRESS OF WORK OF THIS PROJECT. THIS DAMAGE INCLUDES, BUT IS NOT LIMITED TO DAMAGE TO ELECTRICAL RUNS, SEWER, GAS OR WATER PIPING AND CABLE TV WIRES/CABLES. INSPECT ALL SURFACES OF ALL AREAS OF THE WORK PRIOR TO INITIATING ANY TASKS WHICH MAY RESULT IN SUCH DAMAGE.
3. CONTRACTOR SHALL REVIEW THE PLANS AND SPECIFICATIONS PRIOR TO STARTING ANY WORK ON THIS PROJECT. ANY ERRORS AND/OR OMISSIONS, ERRORS IN DIMENSIONS OR ANY CONDITION WHICH WILL NOT PERMIT CONSTRUCTION OF THE WORK SHOWN ON THESE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT MANAGER. CONTRACTOR SHALL NOT BEGIN WORK UNTIL PROJECT MANAGER HAS CLARIFIED ALL SUCH CONCERNS TO THE SATISFACTION OF ALL PARTIES.
4. ALL MATERIAL DEMOLISHED AS PART OF THE WORK OF THIS PROJECT SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND ALL LOCAL, STATE AND FEDERAL REGULATIONS.
5. CONTRACTOR IS RESPONSIBLE TO PROVIDE ADEQUATE PUBLIC SAFETY AND TRAFFIC CONTROL, SAFE VEHICULAR AND PEDESTRIAN ACCESS SHALL BE PROVIDED AT ALL TIMES DURING CONSTRUCTION.
6. THE SCOPE OF WORK DOES NOT ALLEVIATE CONTRACTOR OF HIS/HER RESPONSIBILITY FOR REVIEWING THE CONSTRUCTION DOCUMENTS AND UNDERSTANDING THE EFFORT REQUIRED TO COMPLETE THE PROJECT.
7. CONTRACTOR SHALL COORDINATE WITH PROJECT MANAGER TO COORDINATE THE FOLLOWING
   - 7.1. LAY DOWN AREA
   - 7.2. ACCESS; TEMPORARY ROADS AND SHAKE OUT AREA
   - 7.3. STAGING
8. ALL ACCESS SHALL BE DONE IN A SAFE MANNER AND WITHIN THE OPERATIONAL LIMITS OF THE EQUIPMENT AND PERSONNEL.
9. DO NOT SCALE DRAWINGS.
10. PROVIDE CONSTRUCTION BARRIERS TO PROTECT PERSONNEL.
11. REPAIR ALL EXISTING SURFACES DAMAGED TO ACCOMMODATE NEW CONSTRUCTION.

SCOPE OF WORK

THE WORK SHALL CONSIST OF:

1. REMOVE EXISTING ROADWAYS AS SHOWN FOR NEW.
2. WORK SHALL CONSIST OF THE FOLLOWING ROADS
   - 2.1. YUBA AVENUE
   - 2.2. CONTRA COSTS AVENUE
   - 2.3. YOLO AVENUE
   - 2.4. PLACE AVENUE
   - 2.5. LASSEN AVENUE
   - 2.6. EL DORADO AVENUE
3. FINAL ROADWAYS SHALL BE CENTER STRIPED (SOLID LINE) AND STOP SIGNS PLACED AT ALL LOCATIONS SHOWN ON PLANS HEREIN.
4. DRAINAGE AREAS/CHANNELS SHALL BE CLEARED, SCRAPED AND GRADED AND FINALLY SEEDED.
5. NEW 12"Ø GALVANIZED IRON CULVERT AND HEAD WALLS SHALL BE CONSTRUCTED AT EACH ROAD CROSSING.
6. CONTRACTOR SHALL IDENTIFY IN THEIR SUMITTED BIDS TEH FOLLOWING
   - 6.1. BASE BID ITEMS
   - 6.2. ALTERNATE BID ITEMS

SHEET INDEX

TABLE OF CONTENTS

SHEET NUMBER	SHEET TITLE
G1	GENERAL SHEET
C1	NOTES_ABBR_INSPECTIONS
C2	TYPICAL DETAILS
C3	PLAN SHEET

CALIFORNIA NATIONAL GUARD

VICINITY MAP



LOCATION MAP

SCALE: NONE

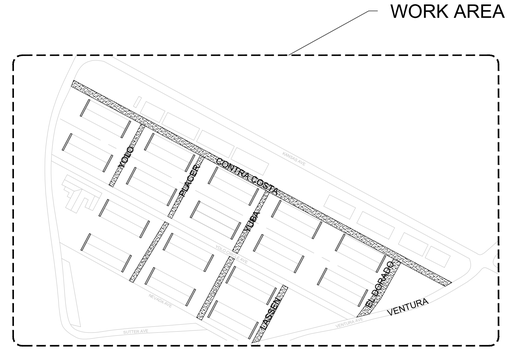


California Military Department



06S2504 CAMP SLO PAVING

SAN LUIS OBISPO, CALIFORNIA 93405



SITE PLAN

SCALE: NONE



VICINITY MAP

SCALE: NONE



CMD

California Military Department
Architecture & Engineering Section
State of California

10601 BEAR HOLLOW DRIVE
RANCHO CORDOVA, 95670



Issue

No.	Date	Description
1	10.20.25	35% CD
2	10.23.25	65% CD
3	10.27.25	95% CD
4	7.9.26	95% CD - INTERMEDIATE

Project
CAMP SLO - PAVING

ADDRESS, CAMP SLO
CITY, SAN LUIS OBSIPO
ZIP 93405

Supervisor	Designed	Drawn
NG	AR	AR

DSA App No.	SFM Permit No.
N/A	N/A

Sheet Title
GENERAL_SHEET

Project Number
06S2504

Reference North

Sheet Scale
AS_SHOWN

Sheet Number
G1

1 OF 4

RELATIVE BORDER SCALE IN INCHES 0 1 2 3

CIVIL SYMBOLS

GRID LINES

SECTION CALL OUT (AS SHOWN)

ELEVATION

STEP IN ELEVATION

INTERIOR ELEVATION (AS SHOWN)

EXTERIOR ELEVATION (AS SHOWN)

FULL SECTION (AS SHOWN)

VIEW NAME (AS SHOWN)

CENTERLINE

CIVIL ABBREVIATIONS

&	AND
@	AT
Ø	DIAMETER
A	**A**
AB	ANCHOR BOLT(S)
ADDL	ADDITIONAL
ARCH	ARCHITECTURAL
B	**B**
BM	BEAM
BOT, BOTT	BOTTOM
C	**C**
CONT	CONTINUOUS
CP	COMPLETE PENETRATION
CTR	CENTER
CTRD	CENTERED
D	**D**
DIA	DIAMETER
E	**E**
(E)	EXISTING
EA	EACH
F	**F**
FW	FIELD WELD
L	**L**
L	ANGLE
LSB	LOW STRENGHT BOLT
M	**M**
MB	MACHINE BOLT
MECH	MECHANICAL
MEP	MECHANICAL/ELECTRICAL/PLUMBING
MIN	MINIMUM
N	**N**
NA, N/A	NOT APPLICABLE, NOT AVAILABLE
NIC	NOT IN CONTRACT
NO, #	NUMBER
NTS	NOT TO SCALE
O	**O**
OH	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
P	**P**
PERP	PERPENDICULAR
S	**S**
SAD	SEE ARCHITECTURAL DRAWINGS
SED	SEE ELECTRICAL DRAWINGS
SIM	SIMILAR
SLH	SHORT LEG HORIZONTAL
SLV	SHORT LEG VERTICAL
SQ	SQUARE
T	**T**
T24	TITLE 24 CALIFORNIA BUILDING CODE
T&B	TOP AND BOTTOM
T.O.	TOP OF
THRU	THROUGH
TYP	TYPICAL
U	**U**
UON	UNLESS OTHERWISE NOTED
V	**V**
VERT	VERTICAL
VIF	VERIFY IN FIELD
W	**W**
w/	WITH
w/in	WITHIN
w/o	WITHOUT
X	**X**
x	BY

CIVIL MATERIALS SHADE TYPE

NEW EXIST

NATIVE SOIL (EARTH)

COMPACTED SOIL (RE-COMPACTED EARTH)

GRAVEL ROCK FILL (AGGREGATE BASE)

CONCRETE

ASPHALT DETAILS

ASPHALT PLAN

NOTES:

1. GHOSTED/DULLED GRAPHICS SHADES MAY REFLECT EXISTING MATERIALS, CONDITIONS, ETC.
2. GHOSTED/DULLED GRAPHIC SHADES MAY ALSO REFLECT THE NEED TO SHOW MATERIALS AT LIGHTER COLOR AS TO NOT PULL ATTENTION FROM THE PERTINENT ASPECTS OF A DRAWING DETAIL.
3. ANY DISCREPANCY BETWEEN NEW, EXISTING OR IN-PLACE, RE-USED MATERIALS IMPACTING CONTRACTOR RESPONSIBILITY SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE PROJECT MANAGER.

STATEMENT OF SPECIAL INSPECTIONS

1. THE CALIFORNIA MILITARY DEPARTMENT (CMD) SHALL EMPLOY A TESTING AND INSPECTION AGENCY/BODY, ONE OR MORE SPECIAL INSPECTORS TO PROVIDE INSPECTION DURING CONSTRUCTION, WHERE REQUIRED PER SPECIFICATIONS.
2. "TESTING AND INSPECTION AGENCY" SHALL BE APPROVED BY CMD TO PERFORM THE SPECIFIC TESTING AND INSPECTION PROGRAM FOR THIS PROJECT. AGENCY SHALL BE INDEPENDENT; OF CMD-J9, CONTRACTORS(S), ETC., AND DEMONSTRATE TO CMD THE USE OF ADEQUATE TESTING EQUIPMENT AND EMPLOYMENT OF QUALIFIED PERSONNEL FOR INSPECTION OF THE PARTICULAR TYPE OF MATERIAL, CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTIONS.
3. SPECIAL INSPECTOR(S) SHALL PROVIDE WRITTEN DOCUMENTATION TO THE CMD DEMONSTRATING RELEVANT EXPERIENCE AND TRAINING. INSPECTOR QUALIFICATION AND CERTIFICATIONS FOR SUCH INSPECTIONS SHALL BE CURRENT AND MAINTAINED IN GOOD STANDING OVER DURING OF PROJECT. SPECIAL INSPECTION(S) SHALL BE APPROVED BY CMD.
4. APPROVAL ITEMS SHALL BE SUBMITTED TO AND ACCEPTED BY THE ENGINEER OF RECORD AND BUILDING AUTHORITY. CONTRACTOR(S) ARE RESPONSIBLE FOR ALL LABELING, INSPECTION AND TESTING, IDENTIFICATION METHODS.
5. CONTRACTOR(S) ARE RESPONSIBLE FOR COORDINATING INSPECTION TIMES, MATERIALS AND AREAS OF REVIEW FOR INSPECTIONS.
6. JOB SITE VISITS BY ENGINEER (OBSERVATION) OR BUILDING OFFICIAL DO NOT CONSTITUTE AND ARE NOT A SUBSTITUTE FOR INSPECTION BY SPECIAL INSPECTOR(S). OBSERVATION FREQUENCY AND EXTENT PER SPECIFICATIONS.
7. INSPECTION OF FABRICATION ITEM(S) SHALL BE CARRIED OUT BY SPECIAL INSPECTOR AT SITE OF FABRICATION, UNLESS WORK DONE ON PREMISES OF FABRICATION APPROVED FOR SUCH WORK WITH SPECIAL INSPECTION BY THE BUILDING AUTHORITY. AT COMPLETION OF FABRICATION, OFFSITE FABRICATOR SHALL SUBMIT CERTIFICATE OF COMPLIANCE TO CMD STATING WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.
8. ALL INSPECTION REPORTS SHALL BE SUBMITTED TO CMD. THE FINAL REPORTS BY THE SPECIAL INSPECTOR(S) MUST CERTIFY THAT THE FINAL IN PLACE PRODUCT COMPLIES WITH THE APPROVED CONTRACT DOCUMENTS: APPROVED PLANS, SPECIFICATIONS.
9. CONTINUOUS SPECIAL INSPECTION CONSISTS OF FULL TIME INSPECTION, PERIODIC INSPECTION CONSISTS OF PART TIME OR INTERMITTENT INSPECTION. HIERARCHY DEFINITIONS SHALL BE AS FOLLOWS:
   - 9.1. BUILDING AUTHORITY - CMD/J9
   - 9.2. 2025 CALIFORNIA BUILDING CODE
   - 9.3. UFC - USGS DESIGN GUIDES
   - 9.4. INTERNATIONAL BUILDING CODE
   - 9.5. MATERIAL SPECIFIC CODES
10. CMD INSPECTOR OF RECORD (IOR) IN COORDINATION WITH CONTRACTORS(S) SHALL DETERMINE NUMBER OF INSPECTIONS NECESSARY (SUBJECT TO BUILDING AUTHORITY APPROVAL) TO ADEQUATELY PERFORM INSPECTION PROGRAM.
11. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE/PERFORM/ENFORCE: INSPECTIONS, OVERSEE REQUIRED SUBMITTALS, ENSURE TESTING AND INSPECTION OPERATIONS ARE PERFORMED TO THE SATISFACTORY EXTEND OF THE SPECIAL INSPECTION PROGRAM.

INSPECTION OF CONCRETE CONSTRUCTION

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
1. INSPECTION OF REINFORCING STEEL AND PLACEMENT		X
2. VERIFIED USE OF DESIGN MIX		X
3. AT TIME OF CONCRETE PLACEMENT SAMPLE FOR STRENGTH TESTS, PERFORM SLUMP, AIR TESTS AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	
4. INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION.	X	
5. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.		X
6. VERIFICATION OF IN-SITU CONCRETE STRENGTH PRIOR TO REMOVAL OF SHORES AND FORMS.		X
7. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF CONCRETE MEMBER BEING FORMED.		X

INSPECTION OF SOILS

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
1. VERIFY MATERIALS BELOW CONCRETE AREAS ARE ADEQUATE	X	
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND MATERIAL		X
3. VERIFY USE OF PROPER LIFT THICKNESS	X	X
4. PRIOR TO PLACEMENT OF FILL, INSPECT SUBGRADE AND VERIFY PROPER PREPARATION		X

CONCRETE

1. THE MINIMUM 28-DAY COMPRESSIVE STRENGTH AND TYPE OF CONCRETE SHALL BE AS FOLLOWS:
   - 1.1. EXTERIOR CONCRETE
     - 1.1.1. SLAB WORK 150 PCF f'c = 4000 PSI F3
     - 1.1.2. HEADWALLS 150 PCF f'c = 4000 PSI F3
2. ALL CONCRETE SHALL BE READY-MIX CONCRETE AND SHALL BE BATCHED, MIXED AND DELIVERED TO THE SITE IN CONFORMANCE WITH ASTM C94. ALL WORK GOVERNING: DESIGN, REINFORCING, PLACING AND CURING OF STRUCTURAL CONCRETE SHALL ADHERE TO THE REQUIREMENT OF"AMERICAN CONCRETE INSTITUTE" (ACI) 318, 30 AND 117-LATEST EDITIONS.
3. CONTRACTOR SHALL SUBMIT MIX DESIGNS FOR REVIEW BY TESTING LABORATORY AND CMD. DO NOT PLACE CONCRETE PRIOR TO REVIEW OF MIX DESIGNS.
4. ALL CEMENTITIOUS MATERIALS SHALL BE INCLUDED IN CALCULATING WATER/CEMENT RATION OF CONCRETE MIX.
5. CONCRETE MIX DESIGN AND TESTING SHALL MEET THE REQUIREMENTS OF THE CBC. ALL CONCRETE MIXES SHALL BE DESIGNED, STAMPED AND SEALED BY A LICENSED CALIFORNIA CIVIL ENGINEER, REPRESENTING BATCH PLANT.
6. PORTLAND CEMENT SHALL BE TYPE III AND SHALL CONFORM TO ASTM C150, LOW ALKALI.
7. CONCRETE SUPPLIER SHALL FURNISH CERTIFICATION STATEMENT TO CMD THAT CEMENT HAS BEEN TESTED IN COMPLIANCE WITH THE REQUIREMENTS OF ASTM C150 AND PROPOSED ADMIXTURES MEET CLASSIFICATION OF ASTM C618.
8. AGGREGATES IN NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTSM C33.
9. UNLESS OTHERWISE NOTED, WATER USED IN MIX SHALL BE CLEAN AND POTABLE CONFORMING TO ASTM C1602.
10. CALCIUM CHLORIDE OR ADMIXTURES CONTAINING CHLORIDE SHALL NOT BE USED. DO NOT USE CONCRETE CONTAINING CHLORIDES.
11. CONTROLLED LOW-STRENGTH MATERIAL (CLSM) LEAN CONCRETE, WHERE SPECIFICALLY INDICATED, SHALL CONTAIN A MINIMUM OF 2 SACKS OF CEMENT PER CUBIC YARD OF CONCRETE.
12. CONTRACTOR SHALL SUBMIT ALL PROPOSED LOCATIONS OF CONSTRUCTION JOINTS FOR REVIEW BY THE CMD PRIOR TO STARTING CONSTRUCTION. SEE SLAB-ON-GRADE AND CIVIL SUBMITTAL NOTES.
13. DIMENSIONS ARE TO THE FACE OF MAIN BARS, TIES, ETC., AND DENOTE CLEAR COVERAGE. THE MINIMUM CONCRETE COVER SHALL BE AS FOLLOWS UON.
    - 13.1. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH .....3"
    - 13.2. CONCRETE EXPOSED TO EARTH OR WEATHER BUT PLACED INFORMS:
      - 13.2.1. #5 BARS, W31 OR D31 WIRE AND SMALLER .....1-1/2"
      - 13.2.2. #6 BARS AND LARGER .....2"
14. FORMS SHALL BE PROPERLY CONSTRUCTED, CONFORM TO CONCRETE SHAPE AS SHOWN. SUFFICIENTLY TIGHT TO PREVENT LEAKAGE, SUFFICIENTLY STRONG AND BRACED TO MAINTAIN SHAPE AND ALIGNMENT UNTIL NO LONGER NEED TO SUPPORT CONCRETE.
15. FORMS AND SHORING SHALL NOT BE REMOVED UNTIL CONCRETE HAS ATTAINED SUFFICIENT STRENGTH TO WITHSTAND ALL LOADS IMPOSED WITHOUT EXCESSIVE STRESS, CREEP OR DEFLECTION.,
16. ALL ITEMS TO BE CAST IN CONCRETE SUCH AS REINFORCING STEEL, DOWELS, BOLTS, ANCHOR RODS, PIPES, SLEEVES, EMBEDS, ETC., SHALL BE SECURELY TIED IN POSITION BEFORE CONCRETE PLACEMENT.
17. REINFORCING SHALL BE CLEANED OF LOOSE RUST, OIL, MUD, DIRT, MILL SCALE, ICE OR OTHER COATINGS PRIOR TO CONCRETE PLACEMENT.
18. ALL DEBRIS; NAILS, MISC. WOOD SCRAP, FOAM, ETC. SHALL BE REMOVED PRIOR TO CONCRETE PLACEMENT.
19. ALL CONSTRUCTION JOINT SURFACES SHALL BE CLEANED AND LAITANCE REMOVED. JOINTS SHALL BE WETTED AND STANDING WATER OR ICE REMOVED PRIOR TO CONCRETE PLACEMENT.
20. CONTRACTOR SHALL NOTIFY THE EOR/IOR AT LEAST 48 HOURS (2-CALENDAR WEEK DAYS) PRIOR TO PLACEMENT OF CONCRETE.
21. OBTAIN APPROVAL FROM ALL AFFECTED TRADES PRIOR TO PLACING CONCRETE.
22. CONCRETE SHALL BE CONVEYED FROM MIXER TO PLACE OF FINAL DEPOSIT BY METHODS THAT WILL PREVENT SEPARATION OF MATERIALS. CONCRETE SHALL BE DEPOSITED IN FINAL POSITION IN A MANNER TO AVOID SEGREGATION.
23. UNLESS OTHERWISE NOTED, EXPOSED CORNERS OF SLABS, CONCRETE, ETC. SHALL BE FORMED WITH A 3/4" CHAMFER OR TOOLED EDGE (1/2" RADIUS).
24. ALL CONCRETE SHALL BE THOROUGHLY CONSOLIDATED, WORKED AROUND REINFORCING AND EMBEDDED ITEMS AND INTO CORNERS OF FORMS.
25. CONCRETE SHALL BE MAINTAINED ABOVE 50°F AND IN A MOIST CONDITION FOR A MINIMUM 7 DAYS AFTER PLACEMENT, UNLESS APPROVED BY CMD. SEE SLAB-ON-GRADE NOTES FOR ADDITIONAL INFORMATION.
26. COLD WEATHER AND HOT WEATHER MEASURES SHALL BE EMPLOYED TO PROTECT CONCRETE DURING PLACEMENT AND CURING.

SLAB-ON-GRADE

1. SEE CONCRETE GENERAL NOTES FOR ADDITIONAL INFORMATION.
2. ALL CONCRETE PLACEMENT AND CURING OPERATIONS SHALL BE PERFORMED IN ACCORDANCE WITH ACI 302.1, ACI 318 AND ACI 360 LATEST EDITIONS.
3. UNLESS AN ALTERNATIVE IS ACCEPTED BY THE EOR, SLAB SHALL MOIST CURE. WET CURE SYSTEM SHALL CONSIST OF BURLAP AND SPRINKLED SYSTEM FOR A MINIMUM OF 14 DAYS.
4. SLAB WORK JOINT SPACING SHALL NOT EXCEED 12'-0 SPACING.
   - 4.1. JOINTS SHALL MATCH EXISTING ADJACENT TO FULLEST POSSIBLE EXTENT (TOOLED OR CUT), ESTABLISH WITH CMD SITE PERSONNEL.
5. SAWCUT TO BE MADE WITHIN 8 HRS OF SETTING CONCRETE, IF APPLICABLE

REINFORCING STEEL

1. REINFORCING GRADES FOR CONCRETE:
   - 1.1. ALL BARS EXCEPT FOR THOSE TO BE WELDED ASTM 615, GR 60 (ALL BARS SHALL BE DEFORMED UON)
2. ALL REINFORCEMENT SHALL BE CLEARLY MARKED TO FACILITATE IDENTIFICATION DURING FINAL IN-PLACE INSPECTION.
3. ALL REINFORCEMENT SHALL BE BENT COLD PRIOR TO PLACEMENT IN FORMWORK, REINFORCEMENT EMBEDDED IN SUBSTRATE SHALL NOT BE BENT.
4. REINFORCEMENT SHALL BE TIED OR SECURED IN PLACE BY MANUFACTURED BAR POSITIONERS PRIOR TO CONCRETE PLACEMENT. CONTRACTOR PROVIDE ALL ACCESSORIES TO SUPPORT REINFORCING IN POSITIONS SHOWN.
5. ALL DOWELS, ANCHOR BOLTS, EMBEDS, HOLD DOWNS AND OTHER HARDWARE SET IN CONCRETE SHALL BE TIED IN PLACE PRIOR TO PLACEMENT OF CONCRETE. "WET SETTING" NOT PERMITTED.
6. MAINTAIN MINIMUM CLEAR FROM FACE OF CONCRETE TO EDGE OF ALL REINFORCEMENT AS REQUIRED IN AMERICAN CONCRETE INSTITUTE (ACI) 318 - LATEST EDITION.
7. REINFORCEMENT SHALL BE PLACED IN ACCORDANCE WITH THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI) " MANUAL OF STANDARD PRACTICE" - LATEST EDITION.
8. SPLICES IN ADJACENT BARS SHALL NOT BE CLOSER THAN 24" CLEAR MEASURED ALONG THE LENGTH OF THE BAR (STAGGER ALL SPLICES). LAP #4 BARS MIN 24", #5 BARS MIN 30" UON.
9. REINFORCING SPACING SHOWN ARE MAXIMUM ON CENTER AND ALL REINFORCING IS CONTINUOUS, UON.
10. REINFORCING STEEL SHALL BE KEPT CLEAN AND FREE OF RUST, DIRT, OIL, ETC AND OTHER MATERIALS THAT MAY IMPAIR BOND ABILITY OF REINFORCING.
11. CHAIRS OR SPACERS FOR REINFORCING SHALL BE NON FERROUS OR PLASTIC COATED WHEN RESTING ON EXPOSED SURFACES.

HOT MIX ASPHALT (HMA) NOTES

1. RECLAIMED ASPHALT IS NOT ALLOWED FOR THIS PROJECT UNDER ANY CIRCUMSTANCES
2. SHALL BE HMA MIX CONFORMING TO PERFORMANCE GRADE 64-10.
3. FINAL IN PLACE HMA DENSITY SHALL EXCEED 94% MAX THEORETICAL DENSITY AND JOINT DENSITIES SHALL EXCEED 92.5%, AS DETERMINED BY CMD APPOINTED SPECIAL INSPECTOR.
4. TACK COATS SHALL BE APPLIED TO CLEAN, DUST FREE AREAS IMMEDIATELY BEFORE PLACEMENT OF ASPHALT.
5. PRIME COATS SHALL BE APPLIED TO STABLE BASE AND ALLOWED TO CURE PER MANUFACTURER RECOMMENDATIONS BEFORE PLACEMENT OF ASPHALT.

GENERAL NOTES

1. FOR METHODS AND MATERIAL NOT SHOWN, CBC 2025 REQUIREMENTS SHALL GOVERN. WORK AND CONSTRUCTION SHALL COMPLY WITH ALL OTHER APPLICABLE BUILDING CODES, GEOGRAPHIC REPORTS, REGULATORY AND SAFETY REQUIREMENTS.
2. TYPICAL DETAILS AND NOTES SHALL APPLY UNLESS SPECIFICALLY SHOWN OR NOTED OTHERWISE. DETAILS NOT FULLY SHOWN SHALL BE OF THE SAME NATURE AS SHOWN FOR SIMILAR CONDITION.
3. DRAWINGS AND SPECIFICATIONS SHALL BE CONSIDERED PART OF THE CONTRACT DOCUMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEW AND COORDINATION OF DRAWINGS AND SPECIFICATIONS PRIOR TO THE START OF CONSTRUCTION. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACT MANAGER PRIOR TO THE START OF CONSTRUCTION, ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR CODE REQUIREMENTS SHALL BE CORRECTED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
   - 3.1. DEFICIENCIES BROUGHT FORTH BY IOR/INSPECTOR(S) ON BEHALF OF THE BUILDING OFFICIAL RELATING TO REGULATIONS; METHOD OF CONSTRUCTION (PHASES OF CONTROL), CODE REQUIREMENTS - DO NOT CONSTITUTE POTENTIAL CHANGES; CHANGE ORDER(S), ADDENDUMS, AMENDMENTS, ETC.
4. CONTRACT DOCUMENTS REPRESENT FINISHED CONSTRUCTION ITEMS. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE PRODUCTS, CONSTRUCTION ITEMS DURING CONSTRUCTION. MEASURES INCLUDE, BUT ARE NOT LIMITED TO , BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT AND MATERIALS. OBSERVATION VISITS TO THE SITE BY THE EOR/IOR DO NOT INCLUDE INSPECTION OF THESE ITEMS.
5. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE TO DESIGN AND PROVIDE ADEQUATE BRACING AND FORM WORK, ETC., AS REQUIRED FOR THE PROTECTION OF LIFE AND PROPERTY DURING THE CONSTRUCTION OF THIS PROJECT. ADJOINING PUBLIC AND PRIVATE PROPERTIES SHALL BE PROTECTED FROM DAMAGE DURING DEMOLITION AND/OR CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR EMPLOYING ADEQUATE MEASURES OF PROTECTION OF PERSONNEL, STRUCTURES AND PROPERTIES DURING EXCAVATION, GRADING, ETC.
6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH THE "CONSTRUCTION SAFETY ORDERS" ISSUED BY TITLE 8/CALIFORNIA CODE OF REGULATIONS/OFFICE OF INDUSTRIAL SAFETY RELATIONS/DIVISION OF INDUSTRIAL SAFETY, LATEST EDITION, AND OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT. EOR, CMD DO NOT ACCEPT ANY RESPONSIBILITY FOR CONTRACTOR'S FAILURE TO COMPLY WITH THE REQUIREMENTS.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WORK OF ALL TRADES AND SHALL CHECK AND VERIFY ALL DIMENSION BEFORE PREPARING SHOP DRAWINGS, FABRICATION, OR CONSTRUCTION.
8. DIMENSIONS RELATED TO EXISTING CONDITIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR. CONTRACTOR SHALL NOTIFY CMD OF CONFLICTS BETWEEN THE CONTRACT DRAWINGS, OR EXISTING CONDITIONS DIFFER FROM CONDITIONS SHOWN ON DRAWING PRIOR TO THE COMMENCEMENT OF WORK.
9. CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED.

EXCAVATION, GRADING AND FILL

1. ENGINEER OF RECORD IS NOT RESPONSIBLE FOR ANY GEOTECHNICAL ASPECT OF PROJECT.
2. ALL SITE WORK, BUILDING PAD PREPARATION, TRENCHING, COMPACTION OF OVER EXCAVATION OR FILL AND BACKFILL OPERATIONS SHALL COMPLY WITH APPLICABLE BUILDING CODE REQUIREMENTS.
3. UNLESS OTHERWISE SHOWN, SOIL BACK FILL SHALL BE FREE OF ORGANIC MATERIAL, CONSTRUCTION DEBRIS, ETC. AND PLACED IN LIFTS AND COMPACTED.
4. UNLESS RECOMMENDATION STATED OTHERWISE, ALL FILL MATERIALS SHALL BE PLACED IN SUCH A MANNER TO PROVIDE A DRY DENSITY OF 90% OR GREATER, UON.
5. UNLESS OTHERWISE NOTED BY GEOTECHNICAL EVALUATION OR SHOWN ON CIVIL DRAWINGS, SITE GRADING SHALL BE CONSTRUCTED AT A MINIMUM GRADIENT OF 1V:20H FOR A MINIMUM OF 10 FEET FROM FACE OF ALL STRUCTURES.
6. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL EXCAVATION PROCEDURES INCLUDING LAGGING, SHORING AND PROTECTION OF ADJACENT PROPERTY, STRUCTURES, STREETS AND UTILITIES. ALL WORK AND CONSTRUCTION SHALL COMPLY WITH APPLICABLE BUILDING CODES.
7. SUBSURFACE SOIL PREPARATION
   - 7.1. ALL EXISTING UNDOCUMENTED FILL SHALL BE REMOVED AND RE-COMPACTED. ALL TOP SOILS SHALL BE REMOVED AS REQUIRED, IF APPLICABLE.
   - 7.2. OFFSITE FILL MATERIAL SHALL BE APPROVED BY THE EOR/IOR PRIOR PLACEMENT.
8. CONTRACTOR SHALL ENACT MEASURES TO PROTECT ALL UTILITY LINES, UNDERGROUND SERVICE AREAS, ETC. ENCOUNTERED DURING EXCAVATION AND BACKFILLING INCLUDING BUT NOT LIMITED TO
   - 8.1. GROUND PENETRATING RADARS; GPR, HDR, DUAL-F, ETC.
9. OFFSITE FILL MATERIAL TO BE CLASS II MATERIAL, 3/4" ROCK. MATERIAL SHALL BE COMPACTED TO 95% DRY DENSITY. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

STRUCTURAL OBSERVATIONS

1. "STRUCTURAL OBSERVATION" SHALL BE DEFINED AS THE VISUAL OBSERVATION OF ELEMENTS.
2. STRUCTURAL OBSERVATIONS ARE FOR GENERAL CONFORMANCE TO THE APPROVED CONTRACT DOCUMENTS.
3. CONTRACTOR, CONTRACT MANAGER, ENGINEER OR RECORD SHALL SCHEDULE OBSERVATIONS PRIOR TO CONSTRUCTION.
4. AT A MINIMUM, THE FOLLOWING CONSTRUCTION STAGES REQUIRE OBSERVATION BY THE EOR
   - 4.1. SLABWORK REINFORCING/CONSTRUCTION JOINTS/TEMPERATURE PROTECTION
5. STRUCTURAL OBSERVATION SHALL NOT BE CONSIDERED TO REPLACE SPECIAL INSPECTION IN ANY FORM. SITE VISITS, OBSERVATION VISITS DO NOT RELIEVE THE CONTRACTOR(S) FROM THE RESPONSIBILITY TO COMPLY WITH THE INSPECTIONS REQUIRED IN THE SPECIAL INSPECTION PROGRAM.

CIVIL SUBMITTALS

1. REVIEW OF SHOP DRAWINGS AND SUBMITTAL TO THE ENGINEER OF RECORD (EOR) IS FOR GENERAL COMPLIANCE WITH THE CONTRACT DOCUMENTS.
2. FABRICATION NOT TO BEGIN UNTIL THE SUBMITTAL HAS BEEN REVIEWED BY THE EOR.
3. SHOP DRAWINGS SHALL BE SUBMITTED TO THE EOR FOR REVIEW PRIOR TO FABRICATION. THE CONTRACTOR WILL REMAIN RESPONSIBLE FOR ALL ERRORS OF DETAILING, FABRICATION AND FOR CORRECT FITTING OF ALL ITEMS INCLUDING COORDINATION WITH OTHER TRADES.
   - 3.1. SHOP DRAWINGS SHALL BE SUBMITTED TO THE EOR IN COMPLIANCE WITH THE APPROVED SPECIFICATIONS.
   - 3.2. REPRODUCTION OF PLANS AND DETAILS FOR SHOP DRAWINGS IS PROHIBITED. SUBCONTRACTOR/FABRICATOR IS TO PROVIDE INDEPENDENTLY CREATED DRAWINGS BASED ON THE PLANS AND DETAILS.
4. SHOP DRAWINGS AND SUBMITTALS DO NOT CONSTITUTE CHANGE ORDERS. ANY PROPOSED CHANGES TO THE DOCUMENTS MUST BE SUBMITTED IN WRITING AS A REQUEST FOR SUBSTITUTION TO THE EOR FOR APPROVAL.
5. THE FOLLOWING LIST SUMMARIZES THE RELEVANT SUBMITTALS FOR THIS PROJECT. REFER TO THE SPECIFICATIONS FOR A COMPLETE LIST AND ADDITIONAL REQUIREMENTS.
   - 5.1. GENERAL
     - 5.2.1. QUALIFICATION DATA FOR APPROVED INSTALLERS AND FABRICATORS.
     - 5.2.2. PROVIDE PRODUCT DATA FOR AL MANUFACTURER PRODUCTS AND ACCESSORIES USED.
   - 5.3. DEFORMED BAR REINFORCEMENT
     - 5.3.1. MANUFACTURER'S PRODUCT DATA, SPECIFICATIONS AND INSTALLATION PROCEDURES FOR PRORIETARY MATERIALS AND REINFORCEMENT.
     - 5.3.2. STEEL PRODUCER'S CERTIFICATES OF MILL ANALYSIS, TENSILE AND BEND TESTS.
     - 5.3.3. SHOP DRAWINGS FOR FABRICATION, BENDING AND PLACEMENT
   - 5.4. CAST-IN-PLACE CONCRETE (CIP)
     - 5.4.1. DESIGN MIX FOR EACH CONCRETE MIX
     - 5.4.2. MATERIAL TEST REPORTS
     - 5.4.3. MATERIAL CERTIFICATES FOR CEMENT, AGGREGATES AND ADMIXTURES.
     - 5.4.4. MANUFACTURER'S PRODUCT DATA FOR WATERSTOPS, BONDING AGENTS, VAPOR RETARDERS, JOINT FILLERS, CURING MATERIALS AND FLOOR TREATMENTS
     - 5.4.5. SHOP DRAWINGS FOR PROPOSED LOCATION OF ADDITIONAL CONSTRUCTION, CONTROL JOINTS, SLIP CONTROL JOINTS AND WEAKENED PLANE JOINTS NOT SHOWN ON THE PLANS.
   - 5.5. JOINT LAYOUT
     - 5.5.1. SLAB WORK
   - 5.6. ASPHALT
     - 5.6.1. MIX
   - 5.7. ROCK MATERIALS
     - 5.7.1. CLASS 2 BASE (CLASS II AB)

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CALIFORNIA MILITARY DEPARTMENT
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California Military Department
Architecture & Engineering Section
State of California

10601 BEAR HOLLOW DRIVE
RANCHO CORDOVA, 95670

REGISTERED PROFESSIONAL ENGINEER
ANTONIO J. ROSSETTI
NO. S 5846
EXP 12/31/26
STRUCTURAL
STATE OF CALIFORNIA

Issue		
No.	Date	Description
1	10.20.25	35% SD
2	10.23.25	65% SD
3	10.27.25	95% CD
4	7.9.26	95% CD - INTERMEDIATE

Project
CAMP SLO - PAVING

ADDRESS, CAMP SLO
CITY, SAN LUIS OBSIPO
ZIP 93405

Supervisor	Designed	Drawn
NG	AR	AR

DSA App No.	SFM Permit No.
N/A	N/A

Sheet Title
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Project Number
06S2504

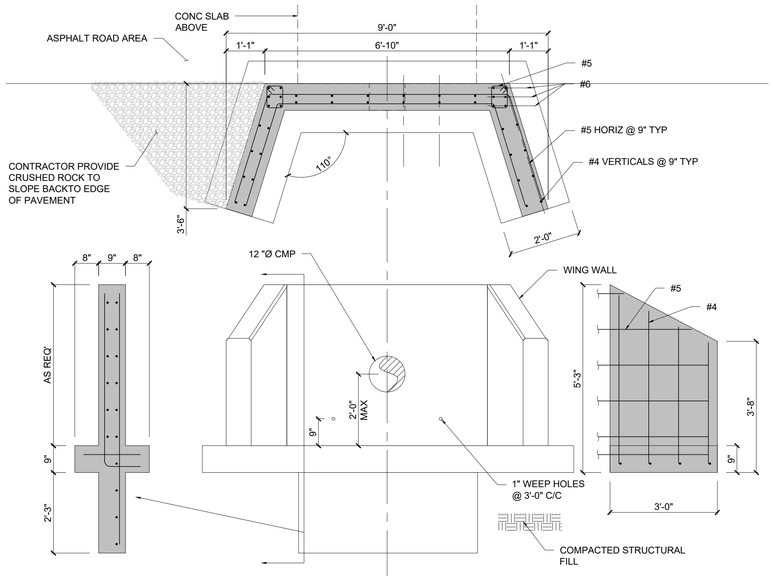
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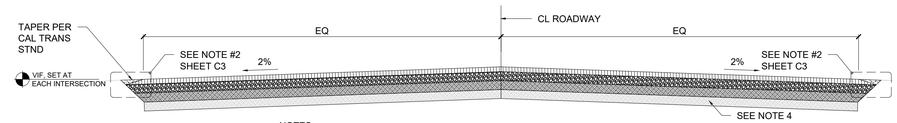
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RELATIVE BORDER SCALE IN INCHES 0 1 2 3



7 DRAINAGE HEADWALL

1/2" = 1'-0"

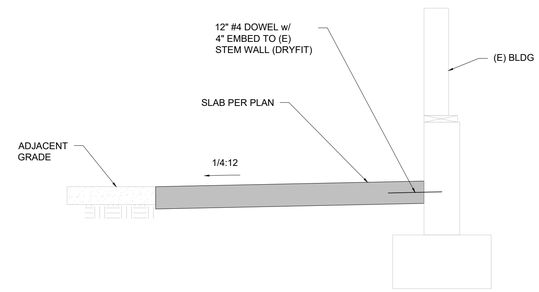


NOTES:

1. FINAL ROAD CROSS SECTION SHALL BE COMPOSED OF THE FOLLOWING
   - 1.1. 3.25" ASPHALT
   - 1.2. 6" CLASS 2 BASE @ 95% RC
   - 1.3. 6" STABILIZED AND/OR RECOMPACED NATIVE EARTH TO 95%
   - 1.4. ROAD WIDTH PER PLAN
2. CONTRACTOR SHALL PROVIDE ALL FILL AND STRUCTURAL BASE TO COMPLETE THE ABOVE CROSS SECTION.
3. CONTRACTOR SHALL PROVIDE ALL SUITABLE MATERIALS TO PROVIDE STABILIZED SHOULDERS AND CUT-INS REQUIRED TO MEET CALTRANS EDGE DETAILS. IT IS UNDERSTOOD NUMEROUS CONDITIONS WILL BE ENCOUNTERED IN THIS PROJECT.
4. CONTRACTOR SHALL INCLUDE IN BID A LINE ITEM FOR DEGRADED SOILS ENCOUNTERED DURING CONSTRUCTION.
   - 4.1. REMOVAL OF DEFECTIVE SOILS AND PROVIDE ALL FILL TO PREPARE STABLE SUBGRADES FOR PREPARATION OF THE ABOVE SECTION TO A VALUE NOT TO EXCEED 500 CY.
   - 4.2. CONTRACTOR MAY ASSUMED SPOILS SITE LOCATION WILL BE ON SITE AT LOCATION DIRECTED BY SITE DPW (SPOILS AREA)

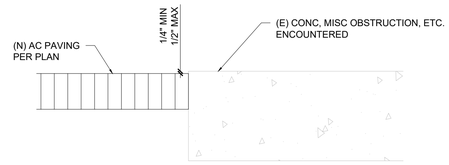
8 PAVEMENT CROSS SECTION

1/4" = 1'-0"



9 SLAB WALK PATH

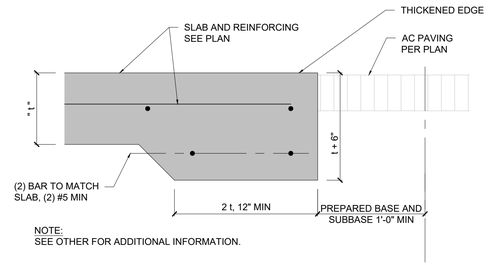
3/4" = 1'-0"



NOTE:
SEE OTHER FOR ADDITIONAL INFORMATION.

1 FINISH WORK AT OBSTACLES

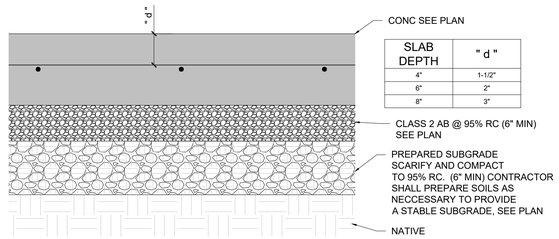
1 1/2" = 1'-0"



NOTE:
SEE OTHER FOR ADDITIONAL INFORMATION.

2 CONC APPROACH SLAB

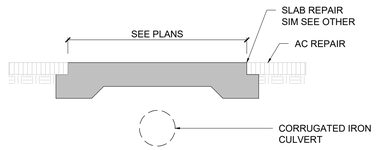
1 1/2" = 1'-0"



SLAB DEPTH	" d "
4"	1-1/2"
6"	2"
8"	3"

3 CONC SLAB SECTION - VEHICLE USE

1 1/2" = 1'-0"

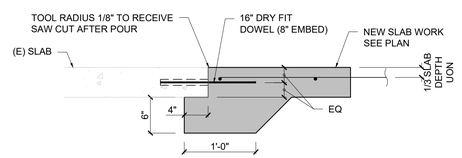


NOTES:

1. COMPLY WITH EROSION AND SEDIMENTATION CONTROLS AS SHOWN IN SPECIFICATIONS.
2. COMPLY WITH ALL TREE AND VEGETATION PROTECTION MEASURES AS OUTLINED IN SPECIFICATIONS.
3. THESE DRAWINGS ARE BEING RELEASED WITHOUT A TOPO ELEVATION SHEET, CONTRACTOR SHALL SUBMIT ROUGH SKETCHES IN THIS AREA FOR REVIEW AND APPROVAL BY COR/PM.
4. SEE OTHER FOR ADDITIONAL INFORMATION.

4 CULVERT AREA

1/2" = 1'-0"



5 SLAB REPAIR

1" = 1'-0"

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DETAILS

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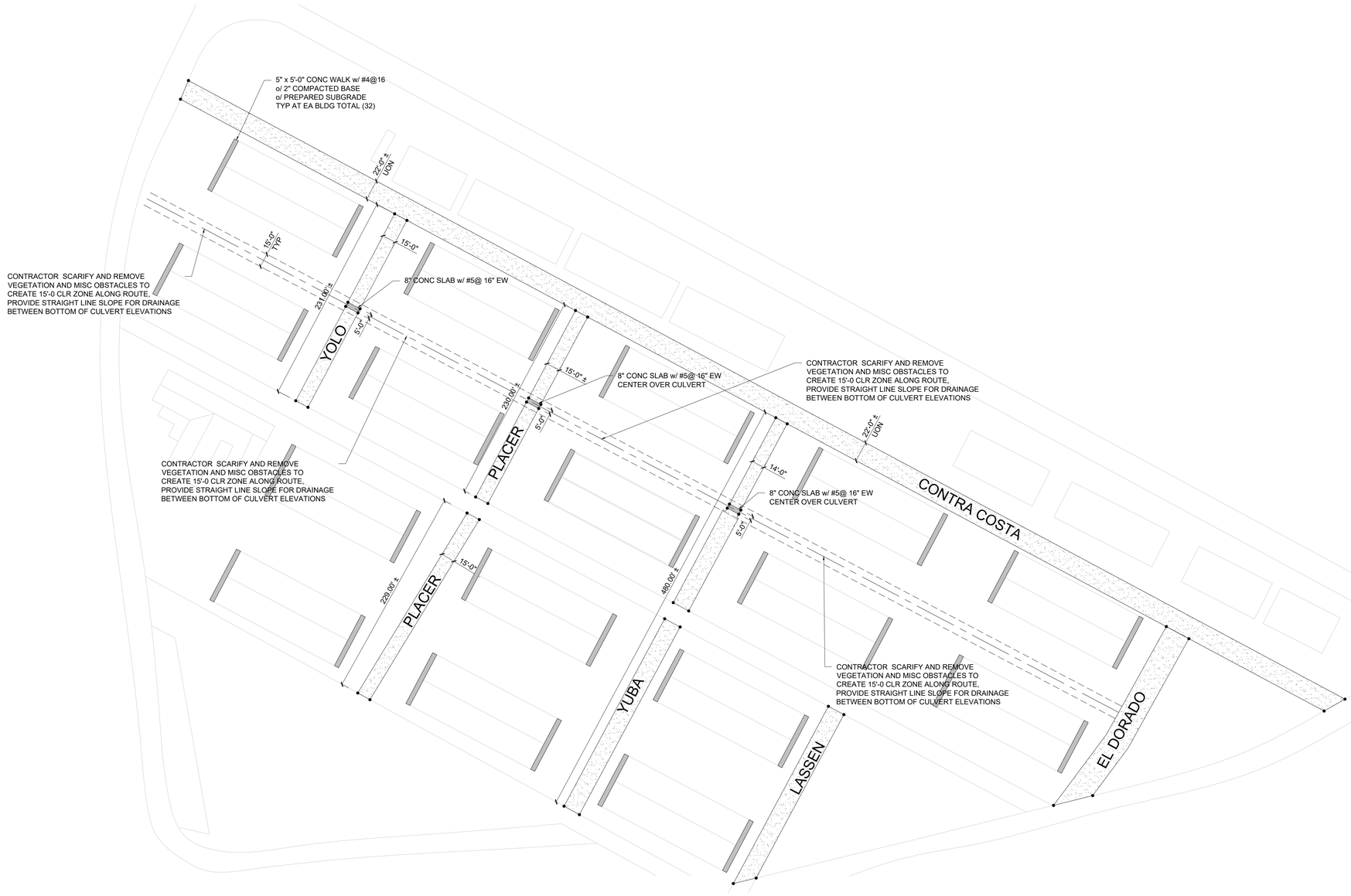
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RELATIVE BORDER SCALE IN INCHES
0 1 2 3

SITE NOTES
1. NO GRADING PLANS HAS BEEN ISSUED. CONTRACTOR IS EXPECTED TO MATCH EXISTING ELEVATIONS TO FULLEST EXTENT.
2. ● ESTABLISH STRAIGHT LINE ELEVATIONS BETWEEN LOCATIONS,EDGE OF ROAD UON.
3. ALL ROADS SHOWN SHALL RECEIVE CENTER STRIP WITH THERMOPLASTIC SOLID STRIPING.
4. FOLLOWING ROADS SHALL ALSO RECEIVE VEHICLE "STOP" SIGNS
   - 4.1. CONTRA COSTA AVENUE 3
   - 4.2. YOLO AVENUE 6
   - 4.3. YUBA AVENUE 4
   - 4.4. EL DORADO AVENUE 2
   - 4.5. LASSEN AVENUE 2
   - 4.6. PLACER 4
5. STOP SIGN SHALL BE PLACED
   - 5.1. SIZE, SHAPE, DEPTH, EMBED, POLE PER LOCAL COUNTY STANDARD.



1 ROAD WORK AREAS
1"=60.0'

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Sheet Title
PLAN_SHEET

Project Number
06S2504

Reference North

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RELATIVE BORDER SCALE IN INCHES 0 1 2 3

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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01 45 00

CMD Amended September 2025

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SECTION 01 45 00

QUALITY CONTROL FOR MINOR CONSTRUCTION

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety -- Safety and Health Requirements Manual

ASTM D3740	(2012a) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Using Design and Construction
ASTM E329	(2018) Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection

1.2 SUBMITTALS

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

QC Plan; G-BO (Governments Building Official)

1.3 INFORMATION FOR THE CONTRACTING OFFICER

Prior to commencing work on construction, the Contractor can obtain a single copy set of the current report forms from the Contracting Officer. The report forms will consist of the Contractor Production Report, Contractor Production Report (Continuation Sheet), Contractor Quality Control (CQC) Report, CQC Report (Continuation Sheet), Preparatory Phase Checklist, Initial Phase Checklist, Rework Items List, and Testing Plan and Log.

Deliver the following to the Contracting Officer:

a. CQC Report: Original and one copy, by 10:00 AM the next working day after each day that work is performed;

b. Contractor Production Report: Original and one copy by 10:00 AM the next working day after each day that work is performed;

c. Preparatory Phase Checklist: Original attached to the original CQC Report and one copy attached to each copy;

d. Initial Phase Checklist: Original attached to the original CQC Report and one copy attached to each copy;

e. Field Test Reports: One copy, within two working days after the test is performed, attached to the CQC Report;

f. QC Meeting Minutes: One copy, within two working days after the meeting;and

g. QC Certifications: As required by the paragraph entitled "QC Certifications."

1.4 QC PROGRAM REQUIREMENTS

Establish and maintain a QC program as described in this section. The QC program consists of a QC Manager, a QC plan, a Coordination and Mutual Understanding Meeting, QC meetings, three phases of control, submittal review and approval, testing, and QC certifications and documentation necessary to provide materials, equipment, workmanship, fabrication, construction and operations which comply with the requirements of this contract. The QC program must cover on-site and off-site work and must be keyed to the work sequence. No work or testing may be performed unless the QC Manager is on the work site.

1.4.1 Preliminary Work Authorized Prior to Acceptance

The only work that is authorized to proceed prior to the acceptance of the QC plan is mobilization of storage and office trailers, temporary utilities, and surveying. Written consent is provide by the contracting officer to mobilize prior to acceptance.

1.4.2 Acceptance

Acceptance of the QC plan is required prior to the start of construction. The Contracting Officer reserves the right to require changes in the QC plan and operations as necessary, including removal of personnel, to ensure the specified quality of work. The Contracting Officer reserves the right to interview any member of the QC organization at any time in order to verify the submitted qualifications.

1.4.3 Notification of Changes

Notify the Contracting Officer, in writing, of any proposed change, including changes in the QC organization personnel, a minimum of seven calendar days prior to a proposed change. Proposed changes must be subject to the acceptance by the Contracting Officer.

1.5 QC ORGANIZATION

1.5.1 QC Manager

1.5.1.1 Duties

Provide a QC Manager at the work site to implement and manage the QC program.

The QC Manager shall be a stand-alone position and have no other duties.

Exception: Building Official (BO) may allow the QC Manager to share duties with the Superintendent or safety officer on projects with a contract value under one million dollars or on single trade, non-complex projects of any value. However, at no time will one person hold more than two duties. This option is at the discretion of the BO. Contractors may request this option during pre-bid RFI’s for bidding purposes.

The QC Manager is required to attend the Coordination and Mutual Understanding Meeting, conduct the QC meetings, perform the three phases of control, perform submittal review and approval, ensure testing is performed and provide QC certifications and documentation required in this contract. The QC Manager is responsible for managing and coordinating the three phases of control and documentation performed by others.

1.5.1.2 Qualifications

An individual with a minimum of 5 years combined experience as a superintendent, inspector, QC Manager, project manager, or construction manager on similar size and type construction contracts which included the major trades that are part of this contract with the technical competency and ability to inspect the work of others. The individual must be familiar with the requirements of the EM 385-1-1 and have experience in the areas of hazard identification and safety compliance.

1.5.1.3 Construction Quality Management Training

In addition to the above experience and education requirements, the QC Manager must have completed the course Construction Quality Management for Contractors and will have a current certificate.

1.5.2 Alternate QC Manager Duties and Qualifications

Designate an alternate for the QC Manager to serve in the event of the designated QC Manager's absence. The period of absence may not exceed two weeks at one time, and not more than 30 workdays during a calendar year. The qualification requirements for the Alternate QC Manager must be the same as for the QC Manager.

1.6 QC PLAN

Submit a QC plan within 15 calendar days after receipt of Notice of Award.

1.6.1 Requirements

Provide, for acceptance by the Contracting Officer, a QC plan submitted in a three-ring binder that covers both on-site and off-site work and includes the following with a table of contents listing the major sections identified with tabs.

I. QC ORGANIZATION: A chart showing the QC organizational structure and its relationship to the production side of the organization. The QC Manager must report to an officer of the firm and not be subordinate to the Project Superintendent or the Project Manager. The QC Manager, Project Superintendent and Project Manager must work together effectively. Although the QC Manager is the primary individual responsible for quality control, all individuals will be held responsible for the quality of work on the job.

II. NAMES AND QUALIFICATIONS: In resume format, for each person in the QC organization. Include the CQM for Contractors course certification requiredby the paragraph entitled "Construction Quality Management Training".

III. DUTIES, RESPONSIBILITY AND AUTHORITY OF QC PERSONAL: Of each person in the QC organization.

IV. OUTSIDE ORGANIZATIONS: A listing of outside organizations such as architectural and consulting engineering firms that will be employed by the Contractor and a description of the services these firms will provide.

V. APPOINTMENT LETTERS: Letters signed by an officer of the firm appointing the QC Manager and Alternate QC Manager and stating that they are responsible for managing and implementing the QC program as

described in this contract. Include in this letter the QC Manager's authority to direct the removal and replacement of non-conforming work.

VI. SUBMITTAL PROCEDURES AND INITIAL SUBMITTAL REGISTER: Procedures for reviewing, approving and managing submittals. Provide the name(s) of the person(s) in the QC organization authorized to review and certify submittals prior to approval.

VII. TESTING LABORATORY INFORMATION: Testing laboratory information required by the paragraphs "Accredited Laboratories" or "Testing Laboratory Requirements", as applicable.

VIII. TESTING PLAN AND LOG: A Testing Plan and Log that includes the tests required, referenced by the specification paragraph number requiring the test, the frequency, and the person responsible for each test.

IX. PROCEDURES TO COMPLETE REWORK ITEMS: Procedures to identify, record, track and complete rework items.

X. DOCUMENTATION PROCEDURES: Use Government formats.

XI. LIST OF DEFINABLE FEATURES: A Definable Feature of Work (DFOW) is a task, which is separate and distinct from other tasks, has the same control requirements and work crews. The list must be cross-referenced to the Contractor's Construction Schedule and the specification sections. For projects requiring a Progress Chart, the list of definable features of work must include but not be limited to all items of work on the schedule. For projects requiring a Network Analysis Schedule, the list of definable features of work must include but not be limited to all critical path activities.

XII. PROCEDURES FOR PERFORMING THREE PHASES OF CONTROL: For each DFOW provide Preparatory and Initial Phase Checklists. Each list must include a breakdown of quality checks that will be used when performing the quality control functions, inspections, and tests required by the contract documents. The preparatory and initial phases must be conducted with a view towards obtaining quality construction by planning ahead and identifying potential problems.

XIII. PERSONNEL MATRIX: Not Applicable.

XIV. PROCEDURES FOR COMPLETION INSPECTION: See the paragraph entitled "COMPLETION INSPECTIONS".

XV. TRAINING PROCEDURES AND TRAINING LOG: Not Applicable.

1.7 COORDINATION AND MUTUAL UNDERSTANDING MEETING

During the Pre-Construction conference meeting and prior to the start of construction, discuss the QC program required by this contract. The purpose of this meeting is to develop a mutual understanding of the QC details, including documentation, administration for on-site and off-site work, and the coordination of the Contractor's management, production and the QC personnel. At the meeting, the Contractor will be required to explain how three phases of control will be implemented for each DFOW. Contractor's personnel required to attend must include the QC Manager, project manager, and superintendent. Minutes of the meeting will be prepared by the QC Manager and signed by both the Contractor and the Contracting Officer. The Contractor must provide a copy of the signed minutes to all attendees. Repeat the coordination and mutual understanding meeting when a new QC Manager is appointed.

1.8 QC MEETINGS

After the start of construction, the QC Manager must conduct QC meetings

once every week at the work site with the superintendent and

the foreman responsible for the ongoing and upcoming work. The QC Manager must prepare the minutes of the meeting and provide a copy to the Contracting Officer within two working days after the meeting. As a minimum, the following must be accomplished at each meeting:

a. Review the minutes of the previous meeting;

b. Review the schedule and the status of work and rework;

c. Review the status of submittals;

d. Review the work to be accomplished in the next two weeks and documentation required;

e. Resolve QC and production problems (RFIs, etc.);

f. Address items that may require revising the QC plan; and

g. Review Accident Prevention Plan (APP).

1.9 THREE PHASES OF CONTROL

The three phases of control must adequately cover both on-site and off-site work and must include the following for each DFOW.

1.9.1 Preparatory Phase

Notify the Contracting Officer at least two work days in advance of each preparatory phase. Conduct the preparatory phase with the superintendent and the foreman responsible for the definable feature of work. Document the results of the preparatory phase actions in the daily CQC Report and in the QC checklist. Perform the following prior to beginning work on each definable feature of work:

a. Review each paragraph of the applicable specification sections;

b. Review the contract drawings;

c. Verify that appropriate shop drawings and submittals for materials and equipment have been submitted and approved. Verify receipt of approved factory test results, when required;

d. Review the testing plan and ensure that provisions have been made to provide the required QC testing;

e. Examine the work area to ensure that the required preliminary work has been completed;

f. Examine the required materials, equipment and sample work to ensure that they are on hand and conform to the approved shop drawings and submitted data;

g. Review the APP and appropriate Activity Hazard Analysis (AHA) to ensure that applicable safety requirements are met, and that required Safety Data Sheets (SDS) are submitted; and

h. Discuss specific controls used and the construction methods and the approach that will be used to provide quality construction by planning ahead and identifying potential problems for each DFOW.

1.9.2 Initial Phase

Notify the Contracting Officer at least two work days in advance of each initial phase. Conduct the Initial Phase with the foreman responsible for that DFOW. Observe the initial segment of the work to ensure that it complies with contract requirements. Document the results of the Initial Phase in the daily CQC Report and in the QC checklist. Perform the following for each DFOW:

a. Establish the quality of workmanship required;

b. Resolve conflicts;

c. Ensure that testing is performed by the approved laboratory; and

d. Check work procedures for compliance with the APP and the appropriate AHA to ensure that applicable safety requirements are met.

1.9.3 Follow-Up Phase

Perform the following for on-going work daily, or more frequently as necessary, until the completion of each DFOW and document in the daily CQC Report and in the QC checklist:

a. Ensure the work is in compliance with contract requirements;

b. Maintain the quality of workmanship required;

c. Ensure that testing is performed by the approved laboratory;

d. Ensure that rework items are being corrected; and

e. Assure manufacturers representatives have performed necessary inspections, if required.

1.9.4 Additional Preparatory and Initial Phases

Additional preparatory and initial phases must be conducted on the same DFOW if the quality of on-going work is unacceptable, if there are changes in the applicable QC organization, if there are changes in the on-site production supervision or work crew, if work on a DFOW is resumed after substantial period of inactivity, or if other problems develop.

1.9.5 Notification of Three Phases of Control for Off-Site Work

Notify the Contracting Officer at least two weeks prior to the start of the preparatory and initial phases.

1.10 SUBMITTAL REVIEW AND APPROVAL

Procedures for submission, review, and approval of submittals are described in Section 01 33 00 SUBMITTAL PROCEDURES.

1.11 TESTING

Except as stated otherwise in the specification sections, perform sampling and testing required under this contract.

1.11.1 Accreditation Requirements

Construction materials testing laboratories must be accredited by a laboratory accreditation authority and will be required to submit a copy of the Certificate of Accreditation and Scope of Accreditation. The laboratory's scope of accreditation must include the appropriate ASTM standards (i.e.; E 329, C 1077, D 3666, D 3740, E 543) listed in the technical sections of the specifications. Laboratories engaged in Hazardous Materials Testing must meet the requirements of OSHA and EPA. The policy applies to the specific laboratory performing the actual testing, not just the "Corporate Office."

1.11.2 Laboratory Accreditation Authorities

Laboratory Accreditation Authorities include the National Voluntary Laboratory Accreditation Program (NVLAP) administered by the National Institute of Standards and Technology, the American Association of State Highway and Transportation Officials (AASHTO), International Accreditation Services, Inc. (IAS), U. S. Army Corps of Engineers Materials Testing Center (MTC), the American Association for Laboratory Accreditation (A2LA), the Washington Association of Building Officials (WABO) (Approval authority for WABO is limited to projects within Washington State), and the Washington Area Council of Engineering Laboratories (WACEL) (Approval authority by WACEL is limited to projects within the NAVFAC WASH and Public Works Center Washington geographical area).

1.11.3 Capability Check

The Contracting Officer retains the right to check laboratory equipment in the proposed laboratory and the laboratory technician's testing procedures, techniques, and other items pertinent to testing, for compliance with the standards set forth in this contract.

1.11.4 Test Results

Cite applicable Contract requirements, tests or analytical procedures used. Provide actual results and include a statement that the item tested or analyzed conforms or fails to conform to specified requirements. If the item fails to conform, notify the Contracting Officer immediately. Conspicuously stamp the cover sheet for each report in large red letters "CONFORMS" or "DOES NOT CONFORM" to the specification requirements, whichever is applicable. Test results must be signed by a testing laboratory representative authorized to sign certified test reports. Furnish the signed reports, certifications, and other documentation to the Contracting Officer.

1.12 QC CERTIFICATIONS

1.12.1 Contractor Quality Control Report Certification

Each CQC Report must contain the following statement: "On behalf of the Contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report."

1.12.2 Invoice Certification

Furnish a certificate to the Contracting Officer with each payment request, signed by the QC Manager, attesting that as-built drawings are current and attesting that the work for which payment is requested, including stored material, is in compliance with contract requirements.

1.12.3 Completion Certification

Upon completion of work under this contract, the QC Manager must furnish a certificate to the Contracting Officer attesting that "the work has been completed, inspected, tested and is in compliance with the contract."

1.13 COMPLETION INSPECTIONS

1.13.1 Punch-Out Inspection

Near the completion of all work or any increment thereof established by a completion time stated in the Contract clause "Commencement, Prosecution, and Completion of Work," or stated elsewhere in the specifications, the QC Manager must conduct an inspection of the work and develop a punch list of items which do not conform to the approved drawings and specifications. Include in the punch list any remaining items of the "Rework Items List", which were not corrected prior to the Punch-Out inspection. The punch list must include the estimated date by which the deficiencies will be corrected. A copy of the punch list must be provided to the Contracting Officer. The QC Manager or staff must make follow-on inspections to ascertain that all deficiencies have been corrected. Once this is accomplished, the Contractor must notify the Government that the facility is ready for the Government "Pre-Final Inspection".

1.13.2 Pre-Final Inspection

The Government and QC manager will perform this inspection to verify that the facility is complete and ready to be occupied. A Government pre-final punch list may be developed as a result of this inspection. The QC Manager must ensure that all items on this list are corrected prior to notifying the Government that a "Final" inspection with the customer can be scheduled. Any items noted on the "Pre-Final" inspection must be corrected in a timely manner and must be accomplished before the contract completion date for the work or any particular increment thereof if the project is divided into increments by separate completion dates.

1.13.3 Final Acceptance Inspection

The QC Manager, the superintendent, or other Contractor management personnel and the Contracting Officer will be in attendance at this inspection. Additional Government personnel may be in attendance. The final acceptance inspection will be formally scheduled by the Contracting Officer based upon results of the "Pre-Final Inspection". Notice must be given to the Contracting Officer at least 14 days prior to the final inspection. The notice must state that all specific items previously identified to the Contractor as being unacceptable will be complete by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for the Contracting Officer to bill the Contractor for the Government's additional inspection cost in accordance with the contract clause "Inspection of Construction".

1.14 DOCUMENTATION

Maintain current and complete records of on-site and off-site QC program operations and activities. The forms identified under the paragraph "INFORMATION FOR THE CONTRACTING OFFICER" must be used. Reports are required for each day work is performed. Account for each calendar day throughout the life of the contract. Every space on the forms must be filled in. Use N/A if nothing can be reported in one of the spaces. The superintendent and the QC Manager must prepare and sign the Contractor Production and CQC Reports, respectively. The reporting of work must be identified by terminology consistent with the construction schedule. In the "remarks" section in this report which will contain pertinent information including directions received, problems encountered during construction, work progress and delays, conflicts or errors in the drawings or specifications, field changes, safety hazards encountered, instructions given and corrective actions taken, delays encountered and a record of visitors to the work site. For each remark given, identify the Schedule Activity No. that is associated with the remark.

1.14.1 Quality Control Validation

Establish and maintain the following in a series of three ring binders. Binders must be divided and tabbed as shown below. These binders must be readily available to the Government's Quality Assurance Team during all business hours.

a. All completed Preparatory and Initial Phase Checklists, arranged by specification section.

b. All milestone inspections, arranged by Activity/Event Number.

c. A current up-to-date copy of the Testing and Plan Log with supporting field test reports, arranged by specification section.

d. Copies of all contract modifications, arranged in numerical order. Also include documentation that modified work was accomplished.

e. A current up-to-date copy of the Rework Items List.

f. Maintain up-to-date copies of all punch lists issued by the QC Staff on the Contractor and Sub-Contractors and all punch lists issued by the Government.

1.14.2 As-Built Drawings

The QC Manager is required to review the as-built drawings, required by Section 01 78 00 CLOSEOUT SUBMITTALS, are kept current on a daily basis and marked to show deviations, which have been made from the Contract drawings. Ensure each deviation has been identified with the appropriate modifying documentation, e.g. PC number, modification number, RFI number, etc. The QC Manager must initial each deviation or revision. Upon completion of work, the QC Manager must submit a certificate attesting to the accuracy of the as-built drawings prior to submission to the Contracting Officer.

1.15 NOTIFICATION ON NON-COMPLIANCE

The Contracting Officer will notify the Contractor of any detected non-compliance with the foregoing requirements. The Contractor must take immediate corrective action. If the contractor fails or refuses to correct the non-compliant work, the Contracting Officer will issue a non compliance notice. Such notice, when delivered to the Contractor at the

work site, must be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor must make no part of the time lost due to such stop orders the subject of claim for extension of time, for excess costs, or damages.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

COMPLETION INSPECTIONS

PROCEDURES FOR INSPECTION

3.1 All Inspections including Special Inspections will be requested by the contractors QC manager to the governments Inspector of Record(IOR)/QA. Inform the IOR no less then 48 hours prior to the time inspection is requested via the system of record used to manage the project(Procore, Bim360, Email etc). QC shall perform quality control inspection prior to requesting inspection from the government. The following documents shall accompany all inspection requests to be valid.

a. Map and location of the work that is to be inspected
b. Preparatory Phase Checklist
c. Initial Phase Checklist
d. Pictures of the work (a reasonable amount to illustrate the work)
e. Specification sections for the work being inspected
f. A written and signed inspection request on company letterhead from the QC stating "the work has been completed, was inspected and is in compliance with the contract documents"

-- End of Section –

Company Letterhead

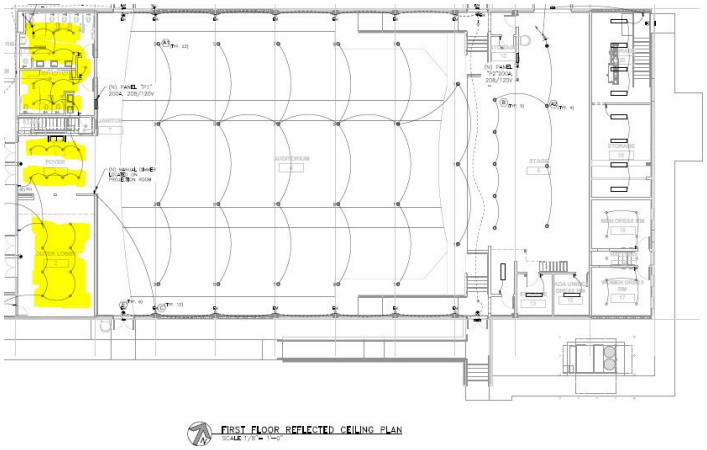
From: QC Name

Date: (Todays Date)

TO: CA Mil Dept.- IOR Name

Request inspection on: Date / Time

Details: Request government inspection of the rough electrical lighting located in the front lobby, restrooms, and outer lobby. Work to be inspected is highlighted on the map below.



Below are photographs of the work to be inspected

Photo 1	Photo 2	Photo 3

Specification section attached gcm

Preparatory Phase checklist attached gcm

Initial Phase checklist attached gcm

Electrical Subcontractor verifies work is ready for inspection _____ Signature _____

"QC Verification statement:" The work has been completed, was inspected and is in compliance with the contract documents _____ Signature _____

PREPARATORY PHASE CHECKLIST

(CONTINUED ON SECOND PAGE)

CONTRACT NO	DEFINABLE FEATURE OF WORK	SPEC SECTION	DATE
		SCHEDULE ACT NO.	INDEX #

PERSONNEL PRESENT

GOVERNMENT REP NOTIFIED ____ HOURS IN ADVANCE: YES ☐ NO ☐

NAME	POSITION	COMPANY/GOVERNMENT

SUBMITTALS

REVIEW SUBMITTALS AND/OR SUBMITTAL REGISTER. HAVE ALL SUBMITTALS BEEN APPROVED? YES ☐ NO ☐

IF NO, WHAT ITEMS HAVE NOT BEEN SUBMITTED?

ARE ALL MATERIALS ON HAND? YES ☐ NO ☐

IF NO, WHAT ITEMS ARE MISSING?

CHECK APPROVED SUBMITTALS AGAINST DELIVERED MATERIAL. (THIS SHOULD BE DONE AS MATERIAL ARRIVES.)

COMMENTS:

MATERIAL STORAGE

ARE MATERIALS STORED PROPERLY? YES ☐ NO ☐

IF NO, WHAT ACTION IS TAKEN?

SPECIFICATIONS

REVIEW EACH PARAGRAPH OF SPECIFICATIONS.

DISCUSS PROCEDURE FOR ACCOMPLISHING THE WORK.

CLARIFY ANY DIFFERENCES.

PRELIMINARY WORK & PERMITS

ENSURE PRELIMINARY WORK IS CORRECT AND PERMITS ARE ON FILE.

IF NOT, WHAT ACTION IS TAKEN?

TESTING

IDENTIFY TEST TO BE PERFORMED, FREQUENCY, AND BY WHOM.

WHEN REQUIRED?

WHERE REQUIRED?

REVIEW TESTING PLAN.

HAS TEST FACILITIES BEEN APPROVED?

SAFETY

ACTIVITY HAZARD ANALYSIS APPROVED? YES ☐ NO ☐

REVIEW APPLICABLE PORTION OF EM 385-1-1.

MEETING COMMENTS

COMMENTS DURING MEETING.

OTHER ITEMS OR REMARKS

OTHER ITEMS OR REMARKS:

QC MANAGER DATE

INITIAL PHASE CHECKLIST

SPEC SECTION	DATE

CONTRACT NO	DEFINABLE FEATURE OF WORK	SCHEDULE ACT NO.	INDEX #

PERSONNEL PRESENT

GOVERNMENT REP NOTIFIED ____ HOURS IN ADVANCE: YES ☐ NO ☐

NAME	POSITION	COMPANY/GOVERNMENT

PROCEDURE COMPLIANCE

IDENTIFIY FULL COMPLIANCE WITH PROCEDURES IDENTIFIED AT PREPARATORY. COORDINATE PLANS, SPECIFICATIONS, AND SUBMITTALS.

COMMENTS:

PRELIMINARY WORK

ENSURE PRELIMINARY WORK IS COMPLETE AND CORRECT. IF NOT, WHAT ACTION IS TAKEN?

WORKMANSHIP

ESTABLISH LEVEL OF WORKMANSHIP.

WHERE IS WORK LOCATED?

IS SAMPLE PANEL REQUIRED? YES ☐ NO ☐

WILL THE INIITAL WORK BE CONSIDERED AS A SAMPLE? YES ☐ NO ☐

(IF YES, MAINTAIN IN PRESENT CONDITION AS LONG AS POSSIBLE AND DESCRIBE LOCATION OF SAMPLE)

RESOLUTION

RESOLVE ANY DIFFERENCES.

COMMENTS:

CHECK SAFETY

REVIEW JOB CONDITIONS USING EM 385-1-1 AND JOB HAZARD ANALYSIS

COMMENTS:

OTHER

OTHER ITEMS OR REMARKS

QC MANAGER DATE

CONTRACTOR QUALITY CONTROL REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE

REPORT NO

PHASE | CONTRACT NO | CONTRACT TITLE

PREPARATORY

WAS PREPARATORY PHASE WORK PREFORMED TODAY? YES ☐ NO ☐

IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.

Schedule Activity No.	Definable Feature of Work	Index #

INITIAL

WAS INITIAL PHASE WORK PREFORMED TODAY? YES ☐ NO ☐

IF YES, FILL OUT AND ATTACH SUPPLEMENTAL INITIAL PHASE CHECKLIST.

Schedule Activity No.	Definable Feature of Work	Index #

FOLLOW-UP

WORK COMPLIES WITH CONTRACT AS APPROVED DURING INITIAL PHASE? YES ☐ NO ☐

WORK COMPLIES WITH SAFETY REQUIREMENTS? YES ☐ NO ☐

Schedule Activity No.	Description of Work, Testing Performed & By Whom, Definable Feature of Work, Specification Section, Location and List of Personnel Present

REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)

Schedule Activity No.	Description

REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)

Schedule Activity No.	Description

REMARKS (Also Explain Any Follow-Up Phase Checklist Item From Above That Was Answered "NO"), Manuf. Rep On-Site, etc.

Schedule Activity No.	Description

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

AUTHORIZED QC MANAGER AT SITE DATE

DATE

REWORK ITEMS LIST

Contract No. and Title: Enter Contract # and Title Here

Contractor: Enter Contractor's Company Name Here

NUMBER	DATE IDENTIFIED	DESCRIPTION	CONTRACT REQUIREMENT (Spec. Section and Par. No., Drawing No. and Detail No., etc.)	ACTION TAKEN BY QC MANAGER	RESOLUTION	DATE COMPLETED

TESTING PLAN AND LOG

CONTRACT NUMBER Enter Contract # Here			PROJECT TITLE AND LOCATION Enter Contract Title and Location Here							CONTRACTOR Enter Contractor's Company Name Here	
SPECIFICATION SECTION AND PARAGRAPH NUMBER	ITEM OF WORK	TEST REQUIRED	ACCREDITED/ APPROVED LAB		SAMPLED BY	TESTED BY	LOCATION OF TEST		DATE COMPLETED	DATE FORWARDED TO CONTR. OFF.	REMARKS
			YES	NO			ON SITE	OFF SITE			

RESPONSIBILITIES/AUTHORITY OF THE QC MANAGER

1. Appointing letter to the QC manager shall detail his/her authority and responsibility to act for the contractor and outline his/her duties, responsibilities and authority. He/she shall have no job-related responsibilities other than QC unless specifically permitted in the specification.

2. He/she shall be on the site at all times during progress of the work, with complete authority to take any action necessary to ensure conformance with the contract requirements. In the event of his/her absence, approved backup shall be on the site.

3. Authority to immediately stop any segment of work which does not comply with the contract plans and specifications and direct the removal and replacement of any defective work.

4. Conduct daily inspection of work performed for compliance with plans and specifications.

5. Certify daily that all materials and equipment delivered/installed in the work comply with contract plans and specifications. Certify daily that all work performed on the construction site and off the construction site conforms to plans and specifications. Report any deficiencies and remedial action planned and taken.

6. Supervise and coordinate the inspection and tests made by the members of the Quality Control Organization, including subcontractors.

7. Assure QC staff is adequate to meet its responsibilities.

8. Maintain a copy of the Building Official approved QC Plan on file at the jobsite complete with up-to-date approved revisions/filled-in log of submittals. Maintain at the jobsite an up-to-date QC Submittal Register (provided in the specification) showing the status of all submittals required by the contract.

9. Maintain at the jobsite a testing plan showing status of all tests required by the contracts. Ensure that all tests required are performed and report the results of same. Indicate whether test results show the item tested conforms to contract requirements or not.

10. Authority to remove any individual from the site who fails to perform his/her work in a skillful and workmanlike manner or his/her work does not comply with the contract plans and specifications.

11. QC manager does not have authority to deviate from plans and specifications without prior approval, in writing, from the ROICC.

12. Ensure that the contractor's Quality Control Organization is adequately staffed with qualified personnel to perform all the detailed inspections and testing specified in the plans and specifications.

13. Maintain at the jobsite the up-to-date QC Rework Items List.

ATTACHMENT A

Section 01 30 10 – Administrative Requirements

COLLABORATION SOFTWARE

1. SUMMARY
    a. Contractor shall utilize web-based construction project management collaboration software commonly known as Procore (www.procore.com) to submit, track, distribute and fully collaborate on project documentation and action items. Wherein this specification references Procore it shall mean the California Military Department (CMD) Procore account.
    b. The intent of utilizing a web-based construction management application is to reduce cost and schedule risk, improve quality and safety, and maintain a healthy team dynamic by improving information flow, reducing non-productive activities, reducing rework and decreasing turnaround times.
2. SOFTWARE USAGE (including but not limited to)
    a. Daily Log
        i. Using the Daily log tool within Procore, Contractor shall provide a separate daily log entry for the Superintendent, Site Safety and Health Officer and Quality Control team (as defined elsewhere in this contract). Should contractor already have an established process for documenting Daily work activities, Safety and QCM, the CMD may, at its sole discretion, permit the use of some or all of the contractors' reports provided they are uploaded daily into Procore Daily log tool as directed by the Department.
        ii. Contractor shall upload pictures daily when work is performed. A reasonable number of pictures shall be taken to illustrate the work of the project but in any event no less than 10 photos daily, if work is interior and exterior there shall be 10 of each area of work. Photos shall be made available to the entire project team, loaded directly into the Procore platform, using the “Photos” tool and provided relevant naming convention to permit search features at a later date. These uploads shall be in addition to those required in the Section 01 30 00 (if addressed) and elsewhere in the contract.
    b. Directory
        i. Contractor shall input and update (as required) the Procore project directory to include all key project team members. As directed by the CMD, subcontractors may not be required to participate within the Procore project. Should CMD require participation of subcontractors withing Procore, participation will be at no additional cost or expense.
    c. Deficiency Tracking
        i. Contractor shall respond promptly to deficiencies and observations identified in PROCORE and do so in accordance with the terms and conditions of this contract.
    d. Documents
        i. Contractor will, as directed by the Department, utilize the Procore “Documents” storage location for miscellaneous project documents. Contractor shall not upload documents unless directed by the Department. Documents loaded shall have a naming convention of title/subject to permit search functions of the Procore system.
        ii. Contractor shall use proper version control and check out files, without compromising access to all previous revisions.

e. Drawings

    i. Project Drawings will be located in the Drawings tool of Procore. Any drawing revisions will be made in Procore and it shall be contractors' sole responsibility to stays abreast of any changes including contract modifications. Contractor shall, as directed by the Department, maintain the contractually required “as built” drawings in the Procore.

f. Invoicing

    i. If requested by the Department, the Contractor shall utilize Procore Invoicing tool for invoice submission. Invoicing shall be submitted as further defined in this contract using AIA forms uploaded as attachments to each submission.

g. Inspections

    i. Contractor shall utilize the Procore platform as directed by CMD for all project inspection requests. Inspection process shall be as defined elsewhere the contract documents.

h. Meetings

    i. Contractor shall utilize Procore Meetings tool to create, edit and post meeting minutes. Prior Meeting minutes shall remain accessible through the duration of the project. At the sole discretion of the department, the contractor may be permitted to utilize existing meeting practices if they meet the intent of the government, in which case contractor shall ensure a record copy of any such meeting is posted in Procore as directed by the department.

    ii. Contractor will record and distribute meeting minutes and action items via the Meetings tool within the Procore software.

i. Mobile Accessibility

    i. Contractor shall provide at least one mobile (Apple or Android) tablet or computer (phone is not acceptable) with the Procore App installed for the use of Contractor’s team for the duration of the project. Contractor is responsible for ensuring a reliable internet connection for the device.

j. Photos

    i. Contractor shall utilize Procore Photos tool or other tools as directed to upload and view photos from web and mobile.

    ii. Contractor shall utilize Procore to markup or comment on photos to clarify the intent of RFI’s etc.

k. Punchlist

    i. All punch list items will be managed through the Procore software.

    ii. Contractor shall utilize Procore to create and manage punch list items utilizing mobile products and link them to specific locations on the drawings.

    iii. Punchlist items will be created by the Contractor while walking with the CMD and applicable consultants.

    iv. Contractor shall utilize Procore to distribute punch list items and to mark them as resolved with photographic proof of resolution as required.

    v. Unless otherwise agreed in writing, Punchlist Items may not be closed while a representative from the CMD or applicable consultant acting on behalf of CMD is not present.

l. Requests for Information (RFIs)

i. Contractor shall utilize the RFI tool within Procore to create and process RFIs with assignees, due dates and attachments.

ii. Contractor shall fully complete the RFI tool request form, posting the RFI to the drawing(s) and link all relevant specifications, photos, etc. in the Procore RFI tool whenever submitting RFI's to the CMD. Failure to do so will result in rejection of the review and be deemed a review by the CMD as defined elsewhere in the contract documents.

iii. If project includes design, drawings will be provided to the CMD in accordance with the following requirements:

https://support.procore.com/faq/how-can-i-improve-the-accuracy-of-ocr-on-my-drawings

m. Schedule

i. Contractor shall provide native files as required by Procore and as defined elsewhere in the contract documents. Procore accepts typical scheduling software such as Microsoft Project, Primavera P3, or Primavera P6.

n. Specifications

i. Project Specifications will be uploaded into Procore. Any project revisions will be made in Procore and it shall be the contractors' sole responsibility to stays abreast of any changes including contract modifications.

o. Submittals

i. Contractor shall maintain the submittal register in Procore of all submittals as directed by the CMD.

ii. Contactor shall submit all submittals through the Procore "Submittals" tool utilizing the multi-step approval workflows predefined by the CMD and in accordance with the terms provided elsewhere in the contract documents.

iii. Contractor shall fill out the submittals completely. A failure to do so will result in automatic rejections and be deemed a "review" as provided elsewhere in the contract.

3. TECHNOLOGY

a. Contractor shall have PDF and the Microsoft suite software as they are a requirement of Procore. Attachments to RFIs, Submittals, Meetings, etc. should be uploaded in PDF as required by Procore.

4. TRAINING AND SUPPORT

a. Contractor shall designate a minimum of one primary and one backup staff person to administer the contractors' Procore responsibilities of this project. Those personnel will be trained as defined below and shall not rely on the CMD staff for training.

b. The Contractor shall ensure adequate training of all staff utilizing the Procore software. Selected staff must complete all required training necessary to fully function in the system and on this project. Training is offered in the form of self-paced learning videos as well as interactive webinars. Training is free and can be found at:

https://education.procore.com/page/procore-certification-general-contractor-client

c. The contractor shall host a kickoff meeting with the CMD and applicable team members at the beginning of the project to discuss how the software will be used, routing & naming protocols, etc. Project Subcontractors should not be part of the Procore platform unless otherwise directed by the Department.

5. PROCEDURES
    a. RFIs and Submittals
        i. The Contractor will be responsible for submitting all RFIs and Submittals through the Procore software tools and assigning them to the appropriate parties using predetermined workflows. All data fields shall be filled out completely and routed as defined in the project kickoff/Job Start meeting.
        ii. All project team members including Architects / Engineers / Consultants etc. are responsible for posting all responses to these items via the Procore software, including uploading all relevant attachments.
        iii. The Contractor will, as directed by CMD, distribute responses to all affected subcontractors and confirm agreement with the response by “close and distribute” action on the item.
    b. Construction Documentation
        i. The Contractor will construct pursuant to Drawings, Specifications and Documents in the software and ensure that the current version of all applicable construction documentation is available to the entire team within Procore software.
        ii. The Contractor will ensure that all RFIs which modify the current drawings are posted/linked to the drawings and available in the Procore software immediately upon response from the department.
6. COST
    a. The Contractor’s bid proposal shall be inclusive of full utilization of the Procore software costs. The program is hosted by the CMD and no adjustment to the contract will be made for utilization.

ENVIRONMENTAL DETERMINATION

Project Name: CSLO – Repave Roads in 1300 Area

Project Description:
The project will repave the existing roads; Contra Costa; Nevada Ave; Placer Ave; Yolo Ave; and Yuba Ave in the 1300 area, see figure below.

Each road will be repaved to meet Caltrans specifications for patching, paving, edge repair and road shoulder work. The road repairs will grind existing asphalt to a depth of 9”; 6" of Class 2 Base will be added as needed re-grade to original design to match existing crown; then compacted to 95% to accept one 3.25” asphalt lift. The roads will be painted with dashed center lines and stop lines. Traffic control and Flagmen will be provided for all construction work.

Date: 24 February 2025

Project specific conditions needed? YES

This project has been reviewed in accordance with the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) and determined to qualify for CEQA Categorical Exemption (CE) Class 1(c): restoration of deteriorated roadways, and NEPA Categorical Exclusion (CX) G2: Routine maintenance of existing roadways.

A NEPA Record of Environmental Consideration is NOT REQUIRED.
This determination is **CONDITIONAL.** The following conditions **MUST** be implemented for the project to qualify for the CE and CX. **Failure to comply with these conditions will invalidate this environmental review and violate NEPA and CEQA.**

PROJECT CONDITIONS:

☒ **Dust Control:**
Dust will be controlled throughout the construction period by using watering or other approved dust control measures, and by phasing soil disturbances to minimize the area of soil disturbed at any one time. Construction shall not occur in high winds (i.e., winds that render watering or other dust control ineffective).

☒ **Report Project Solid Waste:**
In order to meet state and federal requirements (CA AB 75; Executive Order 13514), the proponent and project contractor shall keep record of all project waste generated, by weight, to include total project waste generated and total project waste diverted. The proponent shall ensure that copies of all waste tickets or weights of project waste be reported to the CA ARNG Environmental Directorate solid Waste Program Manager at the conclusion of project activities: email: **brian.a.pierskalla.nfg@mail.mil**

ENVIRONMENTAL DETERMINATION

Project Name: **CSLO – Repave Roads in 1300 Area**

Project Proponent (Signature/Date): David Ruiz Digitally signed by David Ruiz Date: 2025.02.24 13:49:53 -08'00'

David Ruiz
Major, Director of Public Works
805.594.6605 Office

Determined by (Signature/Date): BRYCESON.DOUGLAS.A.1260632503 Digitally signed by BRYCESON.DOUGLAS.A.1260632503 Date: 2025.02.24 15:27:08 -08'00'

Douglas Bryceson
Branch Chief, Environmental Programs
916.854.1474 Office

