



Commission Staff Report - *DRAFT*

Date: August 30, 2017

COMMISSION MEETING DATE: September 29, 2017

SUBJECT: HQ Perimeter Security Fence and Gates Project – Authorizing the General Manager to Execute a Public Works Agreement with FenceCorp Inc. and Issue Purchase Orders Associated with the Project For a Total Cost Not-to-Exceed \$401,648

AGENDA CATEGORY: Consent

FROM: Knat Holben Facilities Manager	METHOD OF SELECTION: <i>Public Works Bid</i>
Division: Administrative Services	
Department: General Services	

IMPACTED MEMBERS:		
All Members <input checked="" type="checkbox"/>	City of Lodi <input type="checkbox"/>	City of Shasta Lake <input type="checkbox"/>
Alameda Municipal Power <input type="checkbox"/>	City of Lompoc <input type="checkbox"/>	City of Ukiah <input type="checkbox"/>
Bay Area Rapid Transit <input type="checkbox"/>	City of Palo Alto <input type="checkbox"/>	Plumas-Sierra REC <input type="checkbox"/>
City of Biggs <input type="checkbox"/>	City of Redding <input type="checkbox"/>	Port of Oakland <input type="checkbox"/>
City of Gridley <input type="checkbox"/>	City of Roseville <input type="checkbox"/>	Truckee Donner PUD <input type="checkbox"/>
City of Healdsburg <input type="checkbox"/>	City of Santa Clara <input type="checkbox"/>	Other <input type="checkbox"/>
<i>If other, please specify</i>		
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RECOMMENDATION:

Staff recommends that the NCPA Commission approve Resolution XXX:17 authorizing the General Manager or his designee to enter into a Public Works Agreement with FenceCorp Inc. and to issue Purchase Orders associated with the Project for a total not-to-exceed cost of \$401,648 for construction of the NCPA Headquarters Perimeter Security Fence and Gates Project.

It is recommended that this item be included on the Commission Consent Calendar.

BACKGROUND:

The Headquarters Perimeter Security Fence and Gates Project (“the Project”) was previewed to the Commission during the fiscal year 2015 budget presentation and the approved FY15 budget included funds for the Project. The need for the Project is created by the increased focus on physical security for electric system participants, especially those maintaining a 24/7 dispatching function. The Project will provide for an additional layer of physical security at the property line, which is consistent with physical security best practices for the electric industry. Furthermore, the perimeter fence will also deter people from walking through the Headquarters property or sleeping under the eaves of the building and thereby, improve the safety of employees walking to and from their cars to access the building.

The Project was to be brought back to the Commission for consideration and approval once the project scope was defined and required procurement policies and procedures satisfied. The engineering and design work was completed and approval obtained from the City of Roseville’s Planning Commission after public hearing on March 23, 2017. Staff is ready to move forward with the Project pending Commission approval.

FISCAL IMPACT:

Staff’s initial Project cost estimate in 2015 was \$285,000. The cost of the Project is now estimated to be \$386,648, which includes the sum of \$30,471 expended to date for review by the City of Roseville, design and engineering costs, and related printing and title expenses. Based on the results of the formal bidding process, which included two rounds of public bidding and subsequent negotiations, the Project cost includes the cost for the fence construction of \$323,467, electrical work, landscaping alterations, permitting, and additional engineering work. Staff recommends adding a contingency of approximately 4% for the remaining work in the amount of \$15,000, bringing the Project cost to a total not-to-exceed amount of \$401,648.

All funding necessary for this project has been budgeted for and no new budgeted dollars are being requested.

SELECTION PROCESS:

A formal Request for Proposal (RFP) for this public works fence construction project was issued on May 18, 2017 and advertised. Bids were opened on June 9, 2017; three bids were received. One bid was responsive and two bids were deemed unresponsive. However, due to the high cost of all bids as compared to staff's expected cost estimate, in its discretion staff determined to reject all bids and redesign the Project with specific emphasis on changes to reduce the cost of the electrical component.

A second formal RFP was issued on July 13, 2017 and advertised. Bids were opened on August 4, 2017; four bids were received. Three of the bids were nonresponsive and the fourth contained flaws. Pursuant to Public Contract Code 20166, having received no bids to which the Agency could award the contract and having satisfied the public's interest with respect to the competitive bidding process, NCPA opened negotiations with all four of the bidders on August 14, 2017. The final bids were opened on August 25, 2017, as follows:

	<u>Bidder</u>	<u>Bid Price</u>
<u>Bidder #1</u>	Crusader Fence	329,700
<u>Bidder #2</u>	Golden Bay Fence	326,039
<u>Bidder #3</u>	FenceCorp Inc.	323,467

FenceCorp Inc. was determined to be the low, responsible and responsive bidder. Given the tight bid results, staff feels confident the scope of the work is clear and that minimal design changes will be necessary during the course of work. Staff recommends a minimal 4% Project contingency in the amount of \$15,000 to address any changes required should the situation arise. The Public Works Agreement does not contain any reference to a contingency.

The final bid of FenceCorp, Inc. was over \$60,000 less than the lowest bid submitted in response to the original RFP. Redesign of the Project resulted in significant savings for the Project.

All of the work associated with the Project, including electrical work, landscaping alterations, and other needed services, will be solicited and awarded in accordance with NCPA procurement policies and procedures.

ENVIRONMENTAL ANALYSIS:

The work associated with the Project is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to the provisions of Section 21084(a) as the work is included in the classes of projects that have been determined not to have a significant effect on the environment. The work associated with the Project is eligible for a Class 3 exemption provided in CEQA Guidelines Section 15303, the “New Construction” exemption, subparagraph (e), “accessory structures” that includes fences. And, the work associated with the Project is eligible for a Class 4 exemption provided in Section 15304, the “Minor Alterations to Land” exemption, for projects that do not include the removal of healthy, mature, scenic trees. Finally, the work associated with the Project is also exempt from environmental review under CEQA pursuant to Section 305 of the City of Roseville’s CEQA Implementing Procedures that apply CEQA Guidelines Section 15061(c).

COMMITTEE REVIEW:

Pending committee approvals.

Respectfully submitted,

RANDY S. HOWARD
General Manager

Attachments: (2)

- Resolution 17-xx
- Proposed Public Works Agreement

RESOLUTION 17-XX

RESOLUTION OF THE NORTHERN CALIFORNIA POWER AGENCY AUTHORIZING THE GENERAL MANAGER TO EXECUTE A CONTRACT WITH FENCECORP INC. AND ISSUE PURCHASE ORDERS ASSOCIATED WITH THE HEADQUARTERS PERIMETER SECURITY FENCE AND GATES PROJECT FOR A TOTAL COST NOT-TO-EXCEED \$401,648

(reference Staff Report #xxx:17)

WHEREAS, the need for the Headquarters Perimeter Security Fence and Gates Project (the "Project") stems from the increased focus on physical security for electric system participants and is consistent with physical security best practices for the electric industry; and

WHEREAS, the perimeter fence will also deter people from walking through the Headquarters property or sleeping under the eaves of the building and thereby, improve the safety of employees walking to and from their cars to access the building; and

WHEREAS, the Project includes the cost for fence construction, electrical work, landscaping alterations, design and engineering work, permitting, review by the City of Roseville, title and printing costs, and an approximate 4% contingency in the amount of \$15,000, for a total not-to-exceed amount of \$401,648; and

WHEREAS, a formal Request for Proposal (RFP) for the public works fence construction was issued on May 18, 2017; three bids were received. One bid was responsive and two bids were deemed unresponsive. Due to the high cost of all bids as compared to staff's expected cost estimate, staff determined to reject all bids and redesign the Project; and

WHEREAS, a second formal RFP was issued on July 13, 2017; four bids were received. Three of the bids were nonresponsive and the fourth contained flaws; and

WHEREAS, pursuant to Public Contract Code 20166, having received no bids to which the Agency could award the contract and having satisfied the public's interest with respect to the competitive bidding process, NCPA opened negotiations with all four of the bidders; and

WHEREAS, the final bids were opened on August 25, 2017 and FenceCorp Inc. was identified as the low, responsible and responsive bidder; and

WHEREAS, the work associated with the Project is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to the provisions of Section 21084(a) as the work is included in the classes of projects that have been determined not to have a significant effect on the environment; and

WHEREAS, the work associated with the Project is eligible for a Class 3 exemption provided in CEQA Guidelines Section 15303, the "New Construction" exemption, subparagraph (e), "accessory structures" that includes fences; and

WHEREAS, the work associated with the Project is eligible for a Class 4 exemption provided in Section 15304, the "Minor Alterations to Land" exemption, for projects that do not include the removal of healthy, mature, scenic trees; and

WHEREAS, the work associated with the Project is also exempt from environmental review under CEQA pursuant to Section 305 of the City of Roseville's CEQA Implementing Procedures that apply CEQA Guidelines Section 15061(c); and

WHEREAS, all funding necessary to support the Project has been budgeted for and no new budgeted dollars are being requested; and

NOW, THEREFORE BE IT RESOLVED, that the Commission of the Northern California Power Agency:

1. Finds the work associated with the Project is categorically exempt from the provisions of CEQA because work associated with the Project is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to the provisions of Section 21084(a) as the work is included in the classes of projects that have been determined not to have a significant effect on the environment; and
2. Finds the work associated with the Project is eligible for a Class 3 exemption provided in CEQA Guidelines Section 15303, the "New Construction" exemption, subparagraph (e), "accessory structures" that includes fences; and
3. Finds the work associated with the Project is eligible for a Class 4 exemption provided in Section 15304, the "Minor Alterations to Land" exemption, for projects that do not include the removal of healthy, mature, scenic trees; and
4. Finds the work associated with the Project is also exempt from environmental review under CEQA pursuant to Section 305 of the City of Roseville CEQA Implementing Procedures that apply CEQA Guidelines Section 15061(c); and
5. Authorizes the General Manager or his designee to enter into a Public Works Agreement with FenceCorp Inc. and to issue Purchase Orders associated with the Project for a total not-to-exceed cost of \$401,648 for construction of the NCPA Headquarters Perimeter Security Fence and Gates Project.

PASSED, ADOPTED and APPROVED this _____ day of _____, 2017 by the following vote on roll call:

	<u>Vote</u>	<u>Abstained</u>	<u>Absent</u>
Alameda	_____	_____	_____
BART	_____	_____	_____
Biggs	_____	_____	_____
Gridley	_____	_____	_____
Healdsburg	_____	_____	_____
Lodi	_____	_____	_____
Lompoc	_____	_____	_____
Palo Alto	_____	_____	_____
Port of Oakland	_____	_____	_____
Redding	_____	_____	_____
Roseville	_____	_____	_____
Santa Clara	_____	_____	_____
Shasta Lake	_____	_____	_____
Truckee Donner	_____	_____	_____
Ukiah	_____	_____	_____
Plumas-Sierra	_____	_____	_____

BOB LINGL
CHAIR

ATTEST: _____
CARY A. PADGETT
ASSISTANT SECRETARY

AGREEMENT

This contract ("Contract" or "Agreement") is entered into this _____ day of _____, 2017, by and between the Northern California Power Agency, a joint powers public agency organized and existing under the laws of the State of California (hereinafter referred to as "NCPA") and Fencecorp Inc., a California Corporation, with offices located at 111 N. Main St., Riverside, CA 92501, (hereinafter referred to as "Contractor"), collectively referred to as the "Parties"),

WHEREAS, NCPA intends to have constructed the HQ Perimeter Security Fence ("Project") located at NCPA's Facilities near Roseville, CA (hereinafter referred to as the "Project"), and the work required by this Contract is an integral part of this Project, and

WHEREAS, on _____, at its regularly scheduled meeting, the NCPA Commission has approved and authorized this Project by Resolution No. _____; and

WHEREAS, both Parties have a desire to perform the work described herein;

NOW THEREFORE, IT IS AGREED THAT:

SECTION 1. SCOPE OF WORK

Contractor agrees to furnish all tools, equipment, apparatus, facilities, labor, materials, transportation and utility services and incidentals necessary to fully perform and complete, in a good workmanlike manner, free from any and all liens and claims from mechanics, material suppliers, subcontractors, artisans, machinists, teamsters, freight carriers, and laborers, and in strict accordance with the Contract Documents (as defined below), including without limitation the drawings and technical specifications and plans included therein dispatched August 14, 2017, the Work of:

**Northern California Power Agency
Project Description: HQ Perimeter Security Fence
NCPA Project No.: HQ-0117**

It is understood and agreed that such tools, equipment, apparatus, facilities, labor, materials, transportation and utility services and incidentals shall be furnished, and the Work performed and completed, in accordance with the Contract Documents and subject to the approval of NCPA and NCPA's duly authorized representatives.

SECTION 2. TIME OF COMPLETION; LIQUIDATED DAMAGES

Contractor hereby agrees to commence the Work within ten (10) calendar days from the date of NCPA's "Notice to Proceed," and to diligently prosecute the same to completion within one hundred sixty-nine (169) consecutive calendar days, commencing as of the date of NCPA's Notice to Proceed. Contractor shall complete the work no later than March 31, 2018, except as adjusted by any subsequent change order. Time is of the essence in this Agreement.

This Contract is being awarded in reliance upon the completion date set forth in the Contract Documents and the dates established by schedules set forth and released by NCPA. NCPA will hold the Contractor responsible and accountable for all damages suffered by NCPA as a consequence of the Contractor's failure to meet the schedule dates, or to complete the work at the time specified, except for such excusable delays as listed in the Contract Documents.

It is agreed by the parties to this Agreement that in the case in which a portion of the work called for under Contract Documents is not completed within the times specified, damages will be sustained by NCPA, and it is and will be impractical and extremely difficult to ascertain the actual damages which

NCPA HQ Perimeter Security Fence Project
Public Works Contract
1/23/17

NCPA will sustain in the event of and by reason of such delay. It is therefore agreed that the Contractor shall pay to NCPA the sums stipulated for delays in finishing the work beyond the times of completion specified; and the Contractor agrees to pay these liquidated damages, and further agrees that NCPA may deduct the amount thereof from any moneys due or that may become due the Contractor under the Contract Documents. If such moneys are insufficient, the Contractor or its surety or sureties shall pay to NCPA any deficiency within thirty (30) days of invoice submittal by NCPA.

Liquidated damages in the amount of \$100.00 per calendar day for each day of delay shall be imposed on Contractor.

SECTION 3. CONTRACT PRICE

NCPA will pay Contractor in current funds as full consideration for the full and complete performance of this Agreement the sum of: Three hundred twenty three thousand, four hundred sixty seven dollars (\$323,467.00), being Contractor's bid amount, subject to subsequent contract change order(s), for furnishing all materials and for doing all the Work contemplated under this Agreement; for all loss or damages arising out of the nature of the Work, or from the action of the elements, or from any unforeseen difficulties or obstructions which may arise or be encountered in the prosecution of the Work, until the Work is accepted by the NCPA; for all expenses incurred by or in consequences of the suspension or discontinuance of the Work; and for well and faithfully completing the Work, the whole thereof, in the manner and in accordance with the Contract Documents therefore and the requirements of NCPA under them.

SECTION 4. BONDS

Prior to execution of this Agreement, Contractor shall obtain a one hundred percent (100%) Performance Bond, a one hundred percent (100%) Payment (Labor and Materials) Bond, and a ten percent (10%) Maintenance Bond each in the form included in the Contract Documents.

SECTION 5. INSURANCE

Before beginning any work under this Contract, Contractor, at its own cost and expense, shall procure the types and amounts of insurance listed below against claims that may arise from or in connection with the performance of the work hereunder by Contractor and its agents, representatives, employees, and subcontractors. Contractor shall maintain the insurance policies required by this section throughout the term of this Contract. The cost of such insurance shall be included in the Contractor's price. Contractor shall not allow any subcontractor to commence work on any subcontract until Contractor has obtained all insurance required herein for the subcontractor(s) and provided evidence thereof to NCPA. Verification of the Contractor's required insurance shall be submitted and made part of this Contract prior to execution. The existence of insurance shall not relieve or decrease the liability of Contractor under the Contract Documents.

- 5.1. Workers' Compensation.** Contractor shall, at its sole cost and expense, maintain Statutory Workers' Compensation Insurance and Employer's Liability Insurance for any and all persons employed directly or indirectly by Contractor. The Statutory Workers' Compensation Insurance and Employer's Liability Insurance shall be provided with limits of not less than One Million Dollars (\$1,000,000.00) per accident. In the alternative, Contractor may rely on a self-insurance program to meet those requirements, but only if the program of self-insurance complies fully with the provisions of the California Labor Code. Determination of whether a self-insurance program meets the standards of the Labor Code shall be solely in the discretion of NCPA. The insurer, if insurance is provided, or the Contractor, if a program of self-insurance is provided, shall waive all rights of subrogation against NCPA and its officers, officials, employees, and volunteers for loss arising from work performed under this Contract.

5.2. Commercial General Insurance.

- 5.2.1. General requirements.** Contractor, at its own cost and expense, shall maintain commercial general liability insurance for the term of this Contract in an amount not less than one million dollars (\$1,000,000) and two million dollars (\$2,000,000.00), per occurrence, combined single limit coverage for risks associated with the work contemplated by this Contract. If a Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to the work to be performed under this Contract or the general aggregate limit shall be at least twice the required occurrence limit. Such coverage shall include but shall not be limited to, protection against claims arising from bodily injury, personal injury, including death resulting therefrom, completed operations and products liability; broad form property damage liability; coverage for the XCU hazards of explosion, collapse, and underground, and contractual liability as to the obligations assumed by the Contractor under the Contract Documents.
- 5.2.2. Minimum scope of coverage.** Commercial general coverage shall be at least as broad as Insurance Services Office Commercial General Liability occurrence form CG 0001 (current edition) covering comprehensive General Liability and Insurance Services Office form number GL 0404 covering Broad Form Comprehensive General Liability. No endorsement shall be attached limiting the coverage.

5.3 Automobile Liability Insurance.

- 5.3.1. General requirements.** Contractor, at its own cost and expense, shall maintain automobile liability insurance for the term of this Contract in an amount not less than one million dollars (\$1,000,000) and two million dollars (\$2,000,000.00), per occurrence, combined single limit coverage for risks associated with the work contemplated by this Contract. If an Automobile Liability form or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to the work to be performed under this Contract or the general aggregate limit shall be at least twice the required occurrence limit.
- 5.3.2. Minimum scope of coverage.** Automobile coverage shall be at least as broad as Insurance Services Office Automobile Liability form CA 0001 (current edition) symbol 1. No endorsement shall be attached limiting the coverage.

5.4 All Policies Requirements.

- 5.4.1. Acceptability of Insurers.** All insurance required by this section is to be placed with insurers with a Best's rating of no less than A:VII.
- 5.4.2. Verification of Coverage.** Prior to beginning any work under this Contract, Contractor shall furnish NCPA with endorsements (as to insurance referenced in Sections 5.2, 5.3 and 5.5) and certificates, with complete certified copies of all policies (if requested by NCPA), evidencing to NCPA's reasonable satisfaction, compliance with Section 5 herein. All endorsements shall show the signature of a person authorized by that insurer to bind coverage on its behalf.
- 5.4.3. Notice of Reduction in or Cancellation of Coverage.** Contractor shall provide at least thirty (30) days prior written notice of any material changes to the

insurance specified herein, including suspension, cancellation, termination, limitation, reduction in scope or amount. NCPA's receipt of such notice shall not constitute NCPA's acceptance of such material change.

- 5.4.4. Additional Insured; Primary Insurance.** An endorsement at least as broad as Insurance Services Office form number CG 20 10 (current edition) shall be attached to policies referenced in Sections 5.2, 5.3 and 5.5, stating that NCPA and its officers, employees, agents, and volunteers shall be covered as additional insureds with respect to such policies. The coverage shall contain no special limitations on the scope of protection afforded to NCPA or its officers, employees, agents, or volunteers.

Each endorsement shall state that coverage is primary insurance with respect to NCPA and its officers, officials, employees, agents and volunteers, and that no insurance or self-insurance maintained by NCPA shall be called upon to contribute to a loss under the coverage.

- 5.4.5. Deductibles and Self-Insured Retentions.** Contractor shall disclose to and obtain the written approval of NCPA for the self-insured retentions and deductibles before beginning any of the services or work called for by any term of this Contract.

During the period covered by this Contract, only upon the prior express written authorization of NCPA, Contractor may increase such deductibles or self-insured retentions with respect to NCPA, its officers, employees, agents, and volunteers. NCPA may condition approval of an increase in deductible or self-insured retention levels with a requirement that Contractor procure a bond, guaranteeing payment of losses and related investigations, claim administration, and defense expenses that is satisfactory in all respects to each of them.

- 5.4.6. Subcontractors.** Contractor shall include all subcontractors as insureds under its policies or shall furnish separate certificates and certified endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein.

- 5.4.7. Variation.** NCPA may approve a variation in writing in the foregoing insurance requirements, upon a determination that the coverage, scope, limits, and forms of such insurance are either not commercially available, or that NCPA's interests are otherwise fully protected.

- 5.4.8 Reporting.** The endorsements shall also specify that any failure or delay to comply with reporting or other provisions of the policies shall not affect coverage provided to NCPA, its officers, officials, employees, agents or volunteers.

- 5.4.9 Occurrence-basis for Coverage.** The endorsements shall also specify that coverage is on an occurrence or an accident basis, and not on a claims-made basis.

5.5 Builder's Risk. Contractor shall obtain and maintain at its own expense a builder's risk and fire insurance policy, special form including extended coverage and vandalism, and malicious mischief endorsements. The policy shall name NCPA and the Contractor as insureds. This insurance shall be in the amount of 100% of the Contract Price, and may be increased at NCPA's request to reflect change orders. In the event of partial or total destruction by fire of any or all of the Work at any time prior to completion and NCPA's acceptance of the Work, the Contractor

shall promptly reconstruct all Work so destroyed or injured at the Contractor's sole cost and expense and at no cost to NCPA.

5.6 Remedies. In addition to any other remedies NCPA may have if Contractor fails to provide or maintain any insurance policies or policy endorsements to the extent and within the time herein required, NCPA may, at its sole option exercise any of the following remedies, which are alternatives to other remedies NCPA may have and are not the exclusive remedy for Contractor's breach:

- Obtain such insurance and deduct and retain the amount of the premiums for such insurance from any sums due under the Contract;
- Order Contractor to stop work under this Contract or withhold any payment that becomes due to Contractor hereunder, or both stop work and withhold any payment, until Contractor demonstrates compliance with the requirements hereof; and/or
- Terminate this Contract.

SECTION 6. INDEPENDENT CONTRACTOR

6.1. Independent Contractor. At all times during the term of this Contract, Contractor shall be an independent contractor and shall not be an employee of NCPA. NCPA shall not have the right to control the means by which Contractor accomplishes services rendered pursuant to this Contract. Notwithstanding any other NCPA, state, or federal policy, rule, regulation, law, or ordinance to the contrary, Contractor and any of its employees, agents, and subcontractors providing services under this Contract shall not qualify for or become entitled to, and hereby agree to waive any and all claims to, any compensation, benefit, or any incident of employment by NCPA, including but not limited to eligibility to enroll in the California Public Employees Retirement System (PERS) as an employee of NCPA and entitlement to any contribution to be paid by NCPA for employer contributions and/or employee contributions for PERS benefits.

6.2. Contractor Not Agent. Except as NCPA may specify in writing, Contractor shall have no authority, express or implied, to act on behalf of NCPA in any capacity whatsoever as an agent. Contractor shall have no authority, express or implied, pursuant to this Contract to bind NCPA to any obligation whatsoever.

SECTION 7. REGISTRATION

During the term of this Agreement, Contractor warrants that it is currently registered with the Department of Industrial Relations and qualified to perform public work consistent with Labor Code section 1725.5. Contractor further warrants that any subcontractors, who are subject to Public Contract Code section 4104, are registered and qualified to perform public work consistent with Labor Code section 1725.5

SECTION 8. LAW, VENUE, AND CONFLICTS OF INTEREST

8.1. This Agreement has been executed and delivered in the State of California, and the validity, enforceability and interpretation of any of the provisions of the Contract Documents, including this Agreement, shall be determined and governed by the laws of the State of California, without regard to the choice of law doctrine.

8.2. The duties and obligations of the parties created hereunder are performable in Placer County and in that County where the NCPA Project is located. Either Placer County or the County where the Project Facility is located shall be the venue for any action or proceeding that may be brought or arise out of, in connection with or by reason of this Agreement.

8.3. Contractor may serve other clients, but none whose activities within the corporate limits of NCPA or whose business, regardless of location, would place Contractor in a "conflict of interest," as that term is defined in the Political Reform Act, codified at California Government Code Sections 81000 *et seq.*

8.4. Contractor shall not employ any NCPA official in the work performed pursuant to this Contract. No officer or employee of NCPA shall have any financial interest in this Contract that would violate Government Code Sections 1090 *et seq.*

8.5. Contractor hereby warrants that it is not now, nor has it been in the previous twelve (12) months, an employee, agent, appointee, or official of NCPA. If Contractor was an employee, agent, appointee, or official of NCPA in the previous twelve months, Contractor warrants that it did not participate in any manner in the forming of this Contract. Contractor understands that, if this Contract is made in violation of Government Code Sections 1090 *et seq.*, the entire Contract is void and Contractor will not be entitled to any compensation for services performed pursuant to this Contract, including reimbursement of expenses, and Contractor will be required to reimburse NCPA for any sums paid to the Contractor. Contractor understands that, in addition to the foregoing, it may be subject to criminal prosecution for a violation of Government Code Section 1090 and, if applicable, will be disqualified from holding public office in the State of California.

SECTION 9. CHANGE ORDERS

It is agreed that the Project Manager is the sole person authorized to execute change orders necessary to the prosecution of the Work, unless NCPA otherwise notifies Contractor in writing.

SECTION 10. EXTRA WORK

Contractor hereby agrees that it will not proceed with any extra work unless it has been authorized in writing to do so by the Project Manager prior to the commencement of such extra work.

SECTION 11. PROGRESS PAYMENTS

11.01 The Contractor shall submit to NCPA's designated representative at least 10 days before the first and/or third Monday of the month, for NCPA's approval, a request for payment. Each progress payment to the Contractor by NCPA shall be in payment for only that work performed by the Contractor during the period immediately preceding the Contractor's current request for payment.

11.02 If requested by NCPA, the Contractor shall submit time sheets to NCPA daily for approval and signature. The daily time sheets shall clearly delineate the number of worker-hours and equipment hours worked in each given area of work. If NCPA makes this request, then only those time sheets signed by NCPA will be honored for payment.

11.03 Each request for payment submitted by the Contractor shall include backup documentation in support of all quantities and costs for which payment is requested, including but not limited to all material invoices, subcontractor/vendor statements of quantities and/or services provided, equipment rental invoices and signed daily time sheets.

11.04 Work performed at the request of NCPA, which is outside the scope of work and unit prices as defined in these Contract Documents, shall be itemized separately, with back-up documentation attached, and the total cost figures for the work shall be entered on the billing form under "Other Work". Work itemization with back-up shall be submitted with the Contractor's request for payment.

11.05 Subject to Section 12 of the General Conditions, after approval by NCPA, progress payments will be made to the Contractor in the amount of ninety five percent (95%) of the approved billing. Progress payments will be made within 30 days after NCPA receives the Contractor's Request for Payment. NCPA's Progress Payment shall not constitute approval or acceptance of the Work performed.

SECTION 12. FINAL PAYMENT

12.01 Final payment will not be made to the Contractor until it has furnished evidence satisfactory to NCPA, of the Contractor's payment or provision for payment of all bills for material, labor, services, etc., incurred in connection with the performance of the Work; and at NCPA's option the written consent of the Contractor's surety to release final payment.

12.02 Final payment will further be contingent on approval of, and acknowledgment by, NCPA that the Contractor has completed all tasks and complied with all conditions of the Contract Documents. Upon approval by NCPA, the final payment will be made to the Contractor. NCPA may withhold from final payment, to the extent allowed by applicable law, amounts which in NCPA's opinion are determined to be reasonable and necessary to provide security against any losses, damages, expense, and liability covered by the Indemnification provision in the Contract Documents, and claims filed or reasonable evidence indicating probable filing of claims, damages to NCPA or third parties, liquidated damages, or other lawful bases for withholding final payment.

12.03 Final payment by NCPA, and acceptance of it by the Contractor, shall not constitute a waiver by NCPA, to any rights with respect to the Contractor's continuing obligations under the Contract Documents.

SECTION 13. DISPUTES

13.1. All questions of fact, and any and all disputes with references thereto, arising out of the performance of this Contract, or changes therein, or extra work in connection therewith, shall be submitted in writing to NCPA. NCPA will then make the final decision, which when made in writing shall be final and conclusive on the parties hereto.

13.2. Prior to initiating litigation in a court of competent jurisdiction, both Contractor and NCPA shall undergo alternative dispute procedures as outlined in Public Contract Code Sections 20104 *et seq.* The parties also expressly agree that the Alternative Dispute Resolution procedures outlined in Public Contract Code Sections 20104 *et seq.* shall apply to all claims, including those that exceed \$375,000, and that such procedures are incorporated as though fully set forth in this Contract.

13.3 Notwithstanding Sections 13.1 and 13.2, procedures for the Contractor to make claims for: (1) an extension of time, including relief from damages or penalties for delay; (2) payment by NCPA of money or damages arising from work done by, or on behalf of, the Contractor, where the underlying contract does not expressly provide for payment or payment to which the Contractor is not otherwise entitled, or (3) the payment of an amount disputed by NCPA are set forth in Section 10.03 of the General Conditions.

SECTION 14. PREVAILING WAGES

In accordance with California Labor Code Section 1771, not less than the general prevailing rate of per diem wages for work of a similar character in the locality in which the Work is to be performed, and not less than the general prevailing rate of per diem wages for holiday and overtime work fixed as provided in the California Labor Code must be paid to all workers engaged in performing the Work. In accordance

with California Labor Code Section 1770 and following, the Director of Industrial Relations has determined the general prevailing wage per diem rates for the locality in which the Work is to be performed. In accordance with California Labor Code Section 1773, NCPA has obtained the general prevailing rate of per diem wages and the general rate for holiday and overtime work in the locality in which the Work is to be performed for each craft, classification or type of worker needed to perform the project. In accordance with California Labor Code Section 1773.2, copies of the prevailing rate of per diem wages are on file at the Agency and will be made available on request. Throughout the performance of the Work the Contractor must comply with all provisions of the Contract Documents and all applicable laws and regulations that apply to wages earned in performance of the Work. Contractor assumes all responsibility for such payments and shall defend, indemnify and hold NCPA harmless from any and all claims made by the State of California, the Department of Industrial Relations, any subcontractor, any worker or any other third party with regard thereto.

SECTION 15. GUARANTEE OF WORK

Contractor hereby agrees that it will post a Maintenance Bond in the form included in the Contract Documents after final inspection by NCPA and completion of required corrections and/or repairs. Such Maintenance Bond shall guarantee Contractor's work for the period of one year after the date of recording of NCPA's Notice of Completion of the Work.

SECTION 16. RELEASE

Upon payment of undisputed amounts under this Agreement and if requested by NCPA, Contractor shall execute a Release in the form provided by NCPA. Such Release shall not apply to disputed contract claims in amounts specifically excluded by Contractor from the operation of the Release.

SECTION 17. BINDING AGREEMENT; ASSIGNMENT

Contractor, by execution of this Agreement, acknowledges that Contractor has read this Agreement and the other Contract Documents, understands them, and agrees to be bound by their terms and conditions. The Contract Documents shall inure to the benefit of and shall be binding upon the Contractor and NCPA and their respective successors and permitted assigns.

The Contractor shall not assign or transfer by operation of law or otherwise any or all of its rights, burdens, duties or obligations without the prior written consent of all sureties on all bonds required by this agreement, including but not limited to the Payment (Labor and Materials) Bond, and NCPA.

SECTION 18. CONTRACT DOCUMENTS

The full, complete and exclusive contract between the parties hereto shall consist of the following identified documents (the "**Contract Documents**"): (1) The Agreement, Workers' Compensation Insurance Certification, Performance Bond, Payment (Labor and Materials) Bond, Maintenance Bond, Escrow Agreement for Security Deposits in Lieu of Retention, General Conditions, Supplementary Conditions, and Technical Specifications and Plans, and any Addenda, and (2) any Change Orders, Field Orders, or NCPA's directives issued pursuant to and in accordance with this Agreement.

SECTION 19. INDEMNIFICATION AND ATTORNEY'S FEES

Contractor shall at its own cost, defend, hold harmless, and indemnify NCPA, its governing board, officials, commission members, officers, directors, employees, agents, and successors in interest ("Indemnitees") from and against any and all liability, damages, losses, claims, demands, actions, costs including attorney's fees and expenses ("Liabilities"), on account of injury to or death of persons or damage to any property (including property of NCPA) or delay or damage to another contractor resulting from or arising out of or in any way connected with the performance by the Contractor of this Agreement,

and Contractor will reimburse Indemnitees for all Liabilities incurred by Indemnitees in consequence of any claims, demands, and causes of action which may be brought against Indemnitees arising out of the performance by the Contractor of this Agreement. However, notwithstanding, nothing in this section or the Contract Documents generally shall be construed to require the Contractor to indemnify the Indemnitees for their sole negligence, willful misconduct, or for defects in design furnished by Indemnitees. This section and the Contract Documents shall be construed consistent with Civil Code section 2782 so as to provide the maximum indemnification permitted by applicable law to Indemnitees.

This indemnification shall be in addition to any other indemnification provisions contained in the Contract Documents.

SECTION 20. NO IMPLIED WAIVER OF BREACH

The waiver of any breach of a specific provision of this Contract does not constitute a waiver of any other breach of that term or any other term of this Contract.

SECTION 21. SUCCESSORS AND ASSIGNS

The provisions of this Contract shall inure to the benefit of and shall apply to and bind the successors and assigns of the parties.

SECTION 22. USE OF RECYCLED PRODUCTS

Contractor shall endeavor to prepare and submit all reports, written studies and other printed material on recycled paper to the extent it is available at equal or less cost than virgin paper.

SECTION 23. NONDISCRIMINATION AND EQUAL OPPORTUNITY

Contractor shall not discriminate, on the basis of a person's race, religion, color, national origin, age, physical or mental handicap or disability, medical condition, marital status, sex, or sexual orientation, against any employee, applicant for employment, subcontractor, bidder for a subcontract, or participant in, recipient of, or applicant for any services or programs provided by Contractor under this Contract. Contractor shall comply with all applicable federal, state, and local laws, policies, rules, and requirements related to equal opportunity and nondiscrimination in employment, contracting, and the provision of any services that are the subject of this Contract, including but not limited to the satisfaction of any positive obligations required of Contractor thereby.

Contractor shall include the immediately foregoing paragraph, verbatim, of this Subsection in any subcontract approved by the Contract Administrator or this Contract.

Contractor shall indemnify, defend, and hold harmless NCPA with respect to any alleged violation of this Section.

SECTION 24. ENTIRE AGREEMENT

The Contract Documents constitute the entire Agreement between the parties, and supersede any prior agreement between the parties, oral or written, including NCPA's award of the contract to Contractor, unless such agreement is expressly incorporated herein. NCPA makes no representations or warranties, express or implied, not specified in the Contract Documents.

SECTION 25. EXECUTION OF OTHER DOCUMENTS

The parties to this Agreement shall cooperate fully in the execution of any and all other documents and in the completion of any additional actions that may be necessary or appropriate to give full force and effect to the terms and intent of the Contract Documents.

SECTION 26. EXECUTION IN COUNTERPARTS

This Agreement may be executed in counterparts such that the signatures may appear on separate signature pages. A copy, or an original, with all signatures appended together, shall be deemed a fully executed Agreement.

SECTION 27. SEVERABILITY

If any provision of the Contract Documents shall be held invalid or unenforceable by a court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provision hereof.

SECTION 28. AMENDMENTS

The terms of the Contract Documents shall not be waived, altered, modified, supplemented or amended in any manner whatsoever except by written agreement signed by the parties.

SECTION 29. WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person to the individual or member of the firm, to an officer or director of the corporation, or to a manager of the LLC for whom it was intended, or if delivered at or sent by registered or certified mail to the last business address known to the party who gives the notice.

Any written notice to Contractor shall be sent to:

Mr. Robert McPherson
Fencecorp, Inc.
111 N. Main St.
Riverside, CA 92501

Any written notice to NCPA shall be sent to:

Northern California Power Agency
Attn: Knat Holben, Project Manager
651 Commerce Dr.
Roseville, CA 95678

and

Northern California Power Agency
Attn: Randy S. Howard, General Manager
651 Commerce Drive
Roseville, CA 95678

With a copy to:
Northern California Power Agency
Attn: Jane Luckhardt, General Counsel
651 Commerce Drive
Roseville, CA 95678

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SECTION 29. TERMINATION OF AGREEMENT

NCPA may terminate the Agreement as provided in the Contract Documents. The Contractor shall receive payment for all work performed to the date of termination in accordance with the provisions of the Contract Document.

SECTION 30. MONITORING BY DEPARTMENT OF INDUSTRIAL RELATIONS

This Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

IN WITNESS WHEREOF, the Northern California Power Agency has authorized the execution of this Agreement by its General Manager has caused this Agreement to be duly executed.

NORTHERN CALIFORNIA POWER AGENCY

ATTEST

By _____
RANDY S. HOWARD, General Manager

By _____
Assistant Secretary of the Commission

Date: _____

APPROVED AS TO FORM

By _____
JANE LUCKHARDT, General Counsel

CONTRACTOR:

(Name - Type or Print)

By _____
Signature (if a partnership, all partners must sign)

Official Title

Business Address

License No./Classification/Expiration Date

CORPORATE CERTIFICATE

I, _____, hereby certify that I am the Secretary of the Corporation named as Contractor in the foregoing Agreement; that _____ who signed the Agreement on behalf of the Contractor, was then _____ of such Corporation; that the Agreement was duly signed for and in behalf of such Corporation by authority of its governing body and is within the scope of its corporate powers.

(Corporate Seal)

(Secretary)

GENERAL CONDITIONS

1.00 DEFINITIONS

Whenever used in the General Conditions or in other parts of the Contract Documents, the following terms will have these meanings.

1.01 Bid - The written offer of a Bidder, executed pursuant to the Bidding Documents, to perform the Work covered by the Contract for a specific price.

1.02 Construction Manager - Construction Manager or Project Manager are interchangeable and shall mean the designated site representative of NCPA.

The Construction Manager is authorized and empowered to decide matters relating to the interpretation of the Contract Documents and the execution and progress of the Work. The authority so granted does not include unilateral decisions by the Construction Manager to expend additional sums of money, i.e., Change Orders, etc.

The Construction Manager's decision on such matters shall be final and binding upon the Contractor and NCPA, until and unless reversed or modified by procedures otherwise specified herein.

1.03 Contract Time - Construction Days stated in the Contract, or established by a definite date for completion of the Work.

1.04 Contractor - The individual, firm, joint-venture, partnership, or corporation, and such heirs, executors, administrators, successors, and assigns, or their lawful agent under Performance Bond, constituting one of the principals to the Contract and undertaken to perform the Work herein specified.

1.05 Date of Acceptance - The date certified in writing by NCPA when all requirements of the Contract Documents have been met.

1.06 Date of Completion - The date certified in writing by NCPA when the Work has been satisfactory completed in accordance with the Contract Documents.

1.07 Day - A calendar day of twenty-four hours duration starting 12:01 a.m. and finishing at midnight, including Saturdays, Sundays, and Holidays.

1.08 Jobsite - The areas in and around the Work designated by NCPA for operations by the Contractor.

1.09 Liquidated Damages - The amount prescribed in the Contract Documents to be paid to NCPA, or to be deducted from any payments due or to become due the Contractor, for each calendar day or other specified time of delay in completing the whole or any specified portion of the Work beyond the Contract Time allowed in the Contract; such compensation shall not be construed as a penalty.

1.10 Notice of Award - The Written Notice from NCPA to the successful bidder signifying NCPA's acceptance of the bid.

1.11 Notice to Proceed - The written notice from NCPA to the Contractor authorizing and directing the Contractor to proceed with the Work and establishing the date on which the Contract Time begins.

1.12 Proposal - The forms on which the written offer of the bidder is made.

1.13 Specifications - Those portions of the Contract Documents which consist of written technical descriptions of materials, equipment, construction systems, standards, and workmanship as applied to the Work.

1.14 Work - The furnishing of all labor, materials, equipment, and other incidentals necessary for the successful completion of the project and the carrying out of all the duties and obligations imposed by the Contract.

2.00 SITE CONDITIONS

2.01 The Contractor is advised to keep itself fully apprised throughout the performance of the contract of existing conditions at the site, including the status and progress of other work thereat, which may affect the performance of this contract. The Contractor shall verify all necessary measurements and elevations in the field.

3.00 COORDINATION WITH NCPA OPERATIONS

3.01 NCPA retains the right of access to and use of areas adjacent to the Work for its own and other contractors' purposes and such shall not constitute the basis for any additional claims by the Contractor.

4.00 COORDINATION WITH OTHER CONTRACTORS

4.01 NCPA may enter into certain contracts with others requiring concurrent operations at the site and within the facilities occupied and under construction by the Contractor.

4.02 It shall be the Contractor's responsibility to so schedule its Work as to afford reasonable access and opportunity for the execution of work by others and to integrate, connect, and coordinate its Work with that of others. In multiple prime contracts, the Construction Manager will be responsible for coordinating the schedule of all prime contractors.

4.03 The Contractor shall report, in writing, to the Construction Manager the improper execution, or unreadiness of work by others, upon which the Contractor's Work depends. The failure to ascertain and give written notice of the unsuitability thereof shall constitute Contractor's acceptance of others' work except as such defects may be of a latent nature, develop after completion of the Contractor's Work, and of which Contractor should not reasonably have been aware.

4.04 Acknowledgement of Security Contractor RFI

The successful bidder will acknowledge that NCPA will be contracting separately with RFI Communications and Security Systems for door access, phone and CCTV on the project. RFI will provide their own materials, supplies and management oversight. The successful bidder will be required to coordinate with RFI for installation of their portion of the project.

5.00 CONTROL OF WORK

5.01 The Work, from commencement to completion, shall be under the charge and control of the Contractor, except that during such period the Construction Manager retains the right to require, without additional cost to NCPA, reasonable modifications of the Contractor's Construction Schedule which, in the opinion of the Construction Manager, may be necessary to secure the safe and proper coordination of the progress of Work under this Contract. During such period of control by the Contractor, all risks in connection with the construction of the Work and the Materials to be used therein shall be borne by the

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Contractor. The Contractor shall make good and fully repair all damages to the Work or any portion thereof under the control of the Contractor by reason of any act of God or other casualty or cause whether or not the same shall have occurred by reason of the Contractor's negligence.

5 COORDINATION OF DRAWINGS AND SPECIFICATIONS

6.01 Anything mentioned in the Technical Specifications and Plans and not shown on the drawings, or shown on the drawings and not mentioned in the Technical Specifications and Plans, shall be of like effect, as if shown or mentioned in both. In any case of difference in the figures, drawings and specifications, the matter shall be promptly submitted to the Construction Manager who shall make a decision regarding the controlling document in writing. Any adjustment by the Contractor without this determination shall be at Contractor's own risk and expense.

6.02 If the Contractor, in the course of the Work, finds any discrepancy between the drawings and the physical conditions of the locality, or any errors or omissions in the drawings or in the layout as given by points and instructions, it shall be its duty to immediately inform the Construction Manager in writing. Any work done after such discovery, until authorized by NCPA will be done at the Contractor's risk.

6.03 Revised copies of all drawings and specifications pertinent to the contract will be furnished by the Construction Manager, and the Contractor shall maintain an up-to-date, completely revised set of drawings and specifications on the job site. The Contractor shall keep an accurate record of all deviations from the approved design drawings and specifications which may occur in the Work as actually constructed and shall submit to the Construction Manager prior to request for final contract payment, prints and specifications showing complete information as required for the correction of the drawings to the "Record" condition.

6.04 Additional drawings necessary for the prosecution of the Work may be furnished by the Construction Manager. The Contractor shall request any additional instructions needed and shall do no Work without drawings and instructions, except as otherwise specified herein.

6 SEPARATE CONTRACTS

7.01 NCPA reserves the right to let other contracts in connection with this Work. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work and shall properly connect and coordinate its Work with theirs.

7.02 When the Contractor's Work depends for proper execution or results upon the work of any other contractor, the Contractor shall inspect and properly report, in writing, to the Construction Manager, defects in such work by any other contractor that render it unsuitable for proper execution of its Work. Its failure to so inspect shall constitute its acceptance of the other contractor's work as fit and proper for the reception of its Work except as to latent defects which may develop in the other Contractor's work.

7 SUBCONTRACTORS

8.01 The Contractor shall perform, directly and without subcontracting, not less than fifteen percent (15%) of the Work, to be calculated on the basis of the total contract price. No part of this contract shall be subcontracted after award without the prior written approval of NCPA and compliance with all relevant law regarding subcontractor substitution for public works projects.

8.02 If the Contractor shall subcontract any part of this contract, the Contractor shall be as fully responsible to NCPA for the acts and omissions of its subcontractors and of the persons, either directly or indirectly, employed by its subcontractors as it is for the acts or omissions of persons directly employed by itself.

8.03 Subcontractors of any tier shall not subcontract any part of the Work without first obtaining the approval of the Contractor and NCPA. All requests for subcontract or sub-subcontract approval shall be

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made in writing and in the manner prescribed by NCPA.

9.00 CHANGES

9.01 NCPA may, at any time it deems necessary or desirable, require changes in the Work called for by the Contract Documents. The Construction Manager will notify the Contractor, in writing, of the details of the change. No increase in the contract price or extension of contract time will be made for a change if the Contractor does not advise the Construction Manager, in writing, within five (5) days after receipt of the notification of change, that additional costs and/or time extension will be required to make the change. Contractor shall submit to NCPA, in writing, a detailed breakdown of the additional costs and/or time extension required to make the change within 15 days of notification of change.

9.02 If Contractor advises the Construction Manager within the specified time, that additional costs will be required to make a change, no work shall commence on any change requested by the Construction Manager until there is mutual agreement on cost, or the method of determining the cost is established in writing, except as set forth in Section 10 herein.

9.03 In the event that the Contractor does not respond to the notification of change within the specified time limit, NCPA may issue a written order to the Contractor to proceed with a change, and the Contractor shall do so, without regard to whether a mutual agreement has been reached as to an amount of equitable price or time increase to which the Contractor is entitled or accounted to thereof.

9.04 Notwithstanding the foregoing, it is understood and agreed that the Construction Manager may, at any time, issue instruction to the Contractor requiring minor changes in the Work or schedule that are not inconsistent with the general intent of the Contract Documents, at no extra cost to NCPA.

10.00 CLAIMS

10.01 If the Contractor considers that:

A. Any instructions or changes issued by the Construction Manager, by drawing or otherwise, involves extra costs or time, the Contractor shall give written notice within five (5) days of such fact, and shall not proceed with the Work until receipt of NCPA's written directive to do so. Upon receipt of such a directive, the Contractor shall proceed in accordance therewith even though agreement may not have been reached as to whether the instructions require Work that is within or outside the scope of the Contract Documents, or, if outside, the amount of the equitable price or time adjustment to which the Contractor may be entitled for the performance thereof. No claim for such extra costs or time shall be allowed in the absence of the written directive and notice above specified. In the absence of either or both, the Contractor's claim for extra cost or time on account thereof shall be deemed to have been waived.

B. Any other act or omission of NCPA or the Construction Manager, or any of their agents, employees, contractors, subcontractors or suppliers, has caused or will cause the Contractor to incur extra costs or time not contemplated by the Contract Documents, the Contractor shall give the Construction Manager written notice thereof as promptly as is possible, and in no event later than five (5) days after the initial date of such acts or omissions. No claim for such extra costs or time shall be allowable in the absence of such timely written notice.

10.02 Any disputes in regard to Project shall be resolved under the disputes provisions of the Contract Documents, except for claims subject to Section 10.03.

10.03 This section shall govern any claim by the Contractor for: (1) an extension of time, including relief from damages or penalties for delay; (2) payment by NCPA of money or damages arising from work done by, or on behalf of, the Contractor, where the underlying contract does not expressly provide for payment or payment to which the Contractor is not otherwise entitled; or (3) the payment of an amount disputed by NCPA.

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Contractor may submit to NCPA a claim for any of the three above-referenced matters. Contractor shall provide NCPA with reasonable documentation necessary to support its claim. Contractor shall submit its claim by registered mail or certified mail, return receipt requested.

NCPA, within forty-five (45) days of its receipt of the claim, unless such time is extended as referenced in this section, shall conduct a reasonable review of the claim and provide Contractor with a written statement identifying what portion of the claim NCPA disputes and what portion NCPA does not dispute.

The forty-five (45) day period referenced herein may be extended by mutual agreement of NCPA and Contractor or, if the NCPA Commission's approval is necessary to provide the Contractor with such a written statement, and the Commission does not meet within the 45-day period, NCPA shall have three (3) days following the Commission's next duly noticed public meeting to provide the Contractor with the written statement.

Payment on any undisputed portion of the claim shall occur within sixty (60) days of NCPA issuing the written statement.

If NCPA does not respond within the required time period, the claim shall be deemed rejected in its entirety.

If Contractor disputes NCPA's written statement as to any portion of the claim, or if NCPA fails to respond within the specified time period, Contractor may demand in writing an informal conference to meet and confer for settlement of the dispute. Upon receipt of such demand by registered mail or certified mail, return receipt requested, NCPA shall schedule a meet and confer conference within thirty (30) days, to settle the dispute. Within ten (10) business days of the conclusion of the meet and confer conference, NCPA shall provide Contractor with a written statement identifying the portion and amount of the claim that remains in dispute, if any. If NCPA does not respond within the required time period, the entire claim shall be deemed to remain in dispute. NCPA shall pay any portion of the claim that is undisputed after the conference within sixty (60) days of NCPA issuing the written statement.

Any portion of the claim that remains disputed, as identified by the Contractor in writing, shall be submitted to nonbinding mediation. The Parties shall mutually agree on a mediator within ten (10) business days of the Contractor identifying the disputed portion of the claim in writing. If the Parties cannot agree upon a mediator, each Party shall select a mediator, and those mediators shall then select a qualified neutral third party to mediate. Each Party shall bear the fees and costs charged by its respective mediator, and the parties shall share all other fees and costs associated with the mediation equally. The parties may mutually agree, in writing, to waive mediation. If mediation is unsuccessful, civil litigation may be commenced, subject to all applicable laws and provisions of this Contract, including any obligation to arbitrate disputes. Unless otherwise agreed to by the Parties in writing, this mediation shall excuse any further obligation to mediate under Public Contract Code Section 20104.4. As used herein, "mediation" means any nonbinding process in which an independent third party assists the Parties in dispute resolution through negotiation or issuance of an evaluation.

If a subcontractor lacks legal standing to assert a claim against NCPA, the subcontractor may request that the Contractor present NCPA with a claim on behalf of the subcontractor or a lower tier subcontractor. The subcontractor shall furnish reasonable documentation to support the claim. Within forty-five (45) days of receipt of the request, Contractor shall provide subcontractor with a written statement confirming that the Contractor presented the claim to NCPA, or providing the reasons that the Contractor did not.

Upon receipt of a claim, the Parties may also mutually agree, in writing, to waive the provisions of this section and, instead, proceed directly to commencement of a civil action or binding arbitration.

Any payment not paid within the time period required by this Section shall bear interest at seven percent (7%) per annum.

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All references to days in this section are to calendar days, unless otherwise specified.

11.00 UNSATISFACTORY PROGRESS

11.01 If at any time during the performance of the Work, in the opinion of the Construction Manager, the Contractor's progress on any phase of the Work shall fall behind that necessary to enable the Contractor to complete it by the date or dates guaranteed in the Contractor's bid and the dates established by schedules included in the Contract Documents, (as adjusted for the extension of time, if any, to which the Contractor is entitled under the provisions hereof), or if the Work, tools, plant or equipment of the Contractor appears to be or is insufficient, inefficient or inappropriate to secure the quality of the Work required, the Construction Manager may order the Contractor, at no extra expense to NCPA, to take such action as the Construction Manager deems necessary in order:

A. To meet those completion dates, including but not limited to, working additional or longer shifts and employing more labor and equipment.

B. To increase the efficiency of, improve the character of, augment the number of or to substitute new tools, plant or equipment of the Contractor as the case might be so as to secure the quality of Work required.

11.02 The Contractor must conform to any such order, but the failure of the Construction Manager to so order shall not relieve the Contractor of its obligation to secure the Work within the time schedule and of the quality required by the Contract Documents.

11.03 If the progress of the work falls behind schedule, the Contractor shall submit a written recovery program, to the Construction Manager, for bringing the work back on schedule so the critical dates will be maintained. Any overtime or multiple shift operations required to meet the scheduled and guaranteed completion dates shall be provided at no additional cost to NCPA. The Contractor shall submit a recovery program, satisfactory to the Construction Manager, with its progress payment request to the Construction Manager who shall approve the recovery schedule and program prior to processing the progress payment request.

12.00 PAYMENT WITHHELD

12.01 To the extent consistent with applicable law, NCPA may withhold payment of the whole or part of any sum due or claimed by the Contractor to such extent as may be reasonable or necessary to protect NCPA from loss on account of, or provide security as to, any of the following:

A. Defective work not remedied or guarantees not met.

B. Claims filed against Contractor or reasonable evidence indicating probable filing of claims against Contractor for payment.

C. Failure of the Contractor to make sufficient payment promptly to its laborers, suppliers or subcontractors.

D. A reasonable doubt that the contract can be completed for the balance then unpaid.

E. Damage to another contractor, third parties or to NCPA.

F. Failure of the Contractor to diligently prosecute the Work and maintain satisfactory progress required to meet the contract completion dates.

G. Any losses, damages, expense, and liability covered by the Indemnification provision in the NCPA HQ Perimeter Security Fence Project Public Works Contract
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Contract Documents.

- H. Liquidated damages.
- I. Any other breach by the Contractor of its obligations under the Contract Documents.
- J. Any other lawful basis for withholding progress payments.

12.02 Payment, without interest, will be made for amounts withheld when all of the above conditions are rectified, as applicable.

12.03 If the Construction Manager deems it inexpedient to correct work damaged or not done in accordance with the Contract Documents, an equitable deduction from the contract price shall be made therefore.

13.00 SUBSURFACE EXCAVATION.

13.01 Excavation More Than Four Feet Deep. If the Work involves excavation more than four feet deep, the Contractor must promptly notify the Agency in writing before disturbing: any material that the Contractor believes may be hazardous waste, as defined in Health and Safety Code Section 25117, that is required to be removed to a Class I, Class II or Class III disposal site in accordance with provisions of existing law; any subsurface or latent physical conditions at the Work site differing from those indicated; or any unknown physical conditions at the Work site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents. The Agency will promptly investigate any such conditions for which notice is given. If the Agency finds that the conditions do materially differ, or involve hazardous waste, and would cause a decrease or increase in the cost or time of performance of the Work, the Agency will issue a change order pursuant to the provisions hereof. If a dispute arises between the Agency and the Contractor concerning whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the cost or time of performance, the Contractor will not be excused from any completion date provided in the Contract Documents, but shall proceed with all Work to be performed. The Contractor will retain all rights under contract or law pertaining to resolution of disputes and protests between contracting parties.

13.02 Excavation of Five Feet or More. In accordance with California Labor Code Section 6705, contractors performing contracts exceeding \$25,000 in cost and involving excavation five or more feet deep must submit for the Agency's acceptance, prior to excavation, a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during excavation. The detailed plan shall include any tabulated data and any design calculations used in the preparation of the plan. Excavation shall not begin until the detail plan has been reviewed and approved. If the plan varies from the shoring system standards, it must be prepared by a registered civil or structural engineer.

14.00 UTILITY RELOCATION COSTS.

14.01 In accordance with California Government Code Section 4215, the Agency assumes the responsibility for the timely removal, relocation or protection of existing main or trunkline utility facilities located on the Site if such utilities are not identified by the Agency in the Contract Documents. The Agency will compensate the Contractor for the costs of locating, repairing damage not due to the Contractor's failure to exercise reasonable care, and removing or relocating existing main or trunkline utility facilities located at the Site and not identified with reasonable accuracy in the Contract Documents. The Agency will also compensate the Contractor for the cost of equipment on the Project necessarily idled during such work. The Contractor will not be assessed liquidated damages for Work completion delays caused by the Agency's failure to provide for removal or relocation of such main or trunkline utility facilities.

14.02 Nothing in this provision or the Contract Documents will be deemed to require the Agency to indicate the presence of existing service laterals or appurtenances whenever the presence of such utilities on the Site can be inferred from the presence of other visible facilities, such as buildings, meter and junction boxes, on or adjacent to the Site; provided, however, that nothing in this provision or the Contract Documents shall relieve the Agency from identifying main or trunklines in the Contract Documents.

14.03 Nothing in this provision or the Contract Documents will preclude the Agency from pursuing any appropriate remedy against a utility for delays which are the responsibility of the utility.

14.04 Nothing in this provision or the Contract Documents will be construed to relieve a utility from any obligation as required either by law or by contract to pay the cost of removal or relocation of existing utility facilities.

14.05 If the Contractor while performing the Work discovers utility facilities not identified by the Agency in the Contract Documents, the Contractor must immediately notify the Agency and utility in writing.

14.06 Either the Agency or the utility, whichever owns existing main or trunkline utility facilities located on the Site, shall have sole discretion to effect repairs or relocation work or to permit the Contractor to perform such repairs or relocation work at a reasonable price.

15.00 USE AND POSSESSION PRIOR TO COMPLETION

15.01 NCPA shall have the right to take possession of or use any completed or partially completed part of the work. Prior to such possession or use, NCPA shall furnish the Contractor an itemized list of Work remaining to be performed or corrected on such portions of the project as are to be possessed or used by NCPA, provided that failure to list any of item of work shall not relieve the Contractor of responsibility for compliance with this Contract. Such possession or use shall not be deemed an acceptance of Work under this Contract. While NCPA has such possession or use, the Contractor, notwithstanding other provisions of this Contract, shall be relieved of responsibility of loss or damage to the Work resulting or arising out of such use or possession. If such use or possession delays the progress of the Work or causes additional expense to the Contractor, an equitable adjustment in the Contract price or time of completion will be made.

16.00 REVISIONS AND CHANGES TO CONTRACTOR'S SCOPE

16.01 For Work Covered By Unit Prices:

Work for which the Contractor has submitted unit prices in its bid shall be paid for at the unit price for each unit of work actually completed.

16.02 For Work Not Covered By Unit Prices:

Payment for work not covered by the contract Bid Item prices shall be, at the option of NCPA, either by a mutually agreed upon lump sum price or on a force account basis.

When work is to be paid for on a force account basis, the labor, materials and equipment used in the performance of such work shall be subject to the approval of NCPA, which approval will not be withheld provided the Contractor can demonstrate to the satisfaction of the Construction Manager that the work is being performed in an efficient and prudent manner.

Payment shall be made in accordance with the Contract Force Account Rates. No labor or equipment which do not have a force account rate set forth in the Contract shall be used on Force Account work until rates for such labor and equipment have been approved by the Agency.

The Contractor shall maintain its records in such manner as to provide a clear distinction between the direct costs of work paid for on a force-account basis and the costs of other operations.

On the following work day, the Contractor shall prepare and furnish to the Construction Manager report sheets in duplicate of each day's work paid for on a force-account basis. The daily report sheets shall itemize the materials used, cost of labor, the charges for equipment rental, and the costs of special items of work. The daily report sheets shall provide names or identification, and classifications of workmen, the hourly rate of pay and hours worked, and also the size, type and identification number of equipment, and hours operated. Cost shall be extended to show total cost for individual items and total cost for the day.

Material charges shall be substantiated by valid copies of vendor's invoices. Such invoices shall be submitted with the daily report sheets, or if not available, they shall be submitted with subsequent daily report sheets. Payment shall not be made for materials not substantiated by vendor's invoice.

The Construction Manager will compare NCPA records with completed daily force account work reports furnished by the Contractor and notify the Contractor of any changes or corrections found necessary. The Contractor shall make the changes or corrections found necessary by the Construction Manager; the Contractor may file a protest as provided in Paragraph 10.00, "CLAIMS". The Contractor shall be deemed to have consented to changes or corrections made by the Construction Manager if Contractor does not protest within five (5) days after the daily force account work report has been signed.

The Contractor's original cost records pertaining to work paid for on a force-account basis shall be open to inspection or audit by representatives of NCPA during the life of the Contract and for a period of not less than three (3) years after the date of acceptance thereof, and the Contractor shall retain such records for that period.

17.00 MATERIAL AND EQUIPMENT BY THE CONTRACTOR

17.01 Unless otherwise specified in writing, all materials furnished by the Contractor shall be new and both workmanship and materials shall be of good quality.

17.02 No material or equipment which is deemed by the Construction Manager to be experimental will be accepted as complying with the requirements of the Contract Documents. Equipment or material which is provided, but fails to comply with the requirements of the Contract Documents, shall be removed and replaced with complying equipment or material, at the Contractor's sole expense, provided however, that if the progress of the Work is such as to make such removal impractical, NCPA shall have the right to accept it and reduce the contract price by an amount equivalent to the difference in its value and the value of complying equipment or material. The Construction Manager may perform such factory or field tests as are deemed necessary to verify that equipment or material meets the performance standards set forth in the Contract Documents. The Contractor shall be permitted to be present during such tests.

17.03 Should equipment or material fail to meet such standards, the Contractor shall, at its own expense, modify, adjust, repair or replace same, as necessary, to assure compliance therewith and with other applicable requirements of the Contract Documents.

18.00 INSPECTION

18.01 NCPA reserves the right to conduct such inspection and by such inspectors as it sees fit and hereby requires that such inspectors shall have the right to inspect all Work as it progresses and shall have access to all data relevant to the performance of this Contract. The Contractor shall provide proper facilities for such access and inspection. If the specifications, laws, ordinances, or any public authority require any Work to be specifically done, tested or approved, the Contractor shall give the Construction Manager timely notice of its readiness for inspection. If any work shall be accomplished without approval or consent, it must, if required by the Construction Manager, be exposed for examination at the Contractor's expense.

19.00 PROTECTION OF PROPERTY AND PUBLIC LIABILITY

19.01 The Contractor shall be liable for any damages resulting from its operations. It shall be fully responsible for the protection of all persons including members of the public, employees of NCPA, other contractors or subcontractors and all public and private property including structures, sewers and utilities, above and below ground, along, beneath, above, across or near the site or sites of the Work, or other persons or property which are in any manner affected by the prosecution of the Work.

19.02 The Contractor shall furnish and maintain all necessary safety equipment including but not limited to, barriers, signs, warning lights, guards and fire protection equipment as required to provide adequate protection of persons and property.

20.00 CLIMATIC CONDITIONS

20.01 The Contractor shall take all necessary precautions to protect the Work against adverse climatic conditions.

20.02 The Construction Manager may order the Contractor to suspend any Work that may be subject to damage by climatic conditions. No extra payment will be made for any such delay due to suspension of Work.

20.03 The above stipulation shall not relieve the Contractor of its responsibility for damages done by the climatic conditions when, in the opinion of the Construction Manager, proper protection of the Work was not made.

21.00 CLEAN UP

21.01 The Contractor shall, except as otherwise specified, at all times, keep its construction and storage areas free from accumulation of weeds, waste material, rubbish, trash, or debris, including usable scrap material. Trash and combustible materials shall not be allowed to accumulate on the premises but shall be removed promptly from the site and disposed of by the Contractor.

21.02 If the Contractor does not keep the working and storage areas "broom clean," NCPA may have this work done by others and deduct the cost from any payment due the Contractor. The Contractor, upon completion of the Work, shall remove from the premises all tools, equipment, and surplus materials. All temporary structures and scaffolding erected by the Contractor in the course of the Work shall be removed and the premises left "broom clean" or its equivalent.

22.00 DELAYS AND EXTENSION OF TIME

22.01 In the event that the Contractor, in the performance of the Work, encounters delays, as a result of the total or partial suspension thereof, or interference therewith by NCPA or its other contractors, or as a result of other unforeseeable cause beyond the control and without fault or negligence of the Contractor such as acts of God, fire, flood, war, governmental priority control, rail car shortages and general strikes, the time specified in the Contractor's proposal or other applicable Contract Documents for the completion of the Work will be extended for a period properly reflecting the actual effect of such delays on the performance of the Work, provided that the Contractor, within five (5) days after the commencement of such delay, has given written notice thereof to the Construction Manager, and that determination will be governed by the disputes provisions of the Agreement. In making that determination, no extension of time will be allowed the Contractor for delays encountered in one or more phases of the Work that can be overcome by reasonable readjustments of the Contractor's planned progress on other phases of the Work.

22.02 The Contractor's sole remedy for delays that are the result of unforeseeable cause beyond the control and without fault of negligence of the Contractor, such as acts of God, fire, flood, war, governmental priority controls, rail car shortages, or general strikes shall be an extension of time as provided for herein. The Contractor shall not be entitled to any additional compensation or payment for extra costs or damages incurred by the Contractor due to hindrances of or delays to the progress of the Work from such causes.

22.03 In the event the Contractor encounters delays or extra costs as a result of the total or partial suspension of the Work or unreasonable interference therewith by NCPA or its other contractors, the Contractor shall promptly advise the Construction Manager, in writing, of such delay or cost in accordance with the provisions hereof. The Contractor shall also take immediate action upon incurring such delay or costs to minimize and mitigate the effect of such delay or cost. The Contractor shall promptly advise the Construction Manager, in writing, of the amount of the additional cost incurred due to the delay, if any, to which the Contractor believes it would be entitled. The adjustment of contract price or time to which the Contractor is entitled shall be determined in accordance with the provisions of CLAIMS, hereof.

23.00 LAWS, ORDINANCES, AND REGULATIONS

23.01 The Contractor and all persons acting by, through or under Contractor, shall comply with all applicable local public and building ordinances, all applicable laws of the State of California, and any other laws, ordinances, and regulations of any applicable governmental body in the performance of Work, and the Contractor shall protect NCPA, the Construction Manager and their agents, employees, contractors, subcontractors or suppliers, from all damages arising from violation of any of such ordinances, laws and regulations of any kind resulting from Contractor's operation in the performance of the Contract.

23.02 The Contractor agrees that it and its subcontractors will pay to the Unemployment Compensation Fund of the State of California all unemployment contributions and interest due on wages paid in the State of California to individuals in the performance of this contract.

23.03 No person under the age of eighteen years shall be employed by the Contractor at the site. No person whose age or physical condition is such as to make that person's employment dangerous to that person's health or safety, or to the health or safety of others, shall be employed on the site; provided, that this shall not operate against the employment of physically handicapped persons, otherwise employable, where such persons may be safely assigned to tasks they can ably perform.

23.04 Workers who are citizens of the U.S. or otherwise authorized to work in the U.S. shall be employed by the Contractor whenever possible for the performance of the contract, and the Contractor will maintain fair labor standards in its performance.

23.05 Neither the Contractor nor its subcontractors shall discriminate against any employee, or applicant for employment, to be employed in the performance of the contract, with respect to its hire, tenure, terms, conditions, or privilege of employment because of its race, color, religion, sex, sexual orientation, or national origin.

23.06 Pursuant to the provisions of Labor Code Sections 1770 *et seq.*, the Director of Industrial Relations for the State has ascertained the current general prevailing rate of wages for employees the relevant geographic area in the State of California.

In accordance with the California Administrative Code, Title 8, Group 3, Article 2, Section 16000, Publication of Prevailing Wage Rates by Awarding Bodies, copies of the applicable determination of the Director can be found on the web at: <http://www.dir.ca.gov/DLSR/PWD/> and may be reviewed at anytime.

Contractor shall be required to submit to NCPA during the contract period, copies of Public Works payroll reporting information per California Department of Industrial relations, Form A- 1-131 (New 2-80) concerning work performed under this contract.

The Contractor shall comply with applicable law, including Labor Code Sections 1774 and 1775. In accordance with Section 1775, the Contractor shall forfeit as a penalty to NCPA \$50.00 for each calendar day or portion thereof, for each worker paid less than the prevailing rates as determined by the Director of Industrial Relations for such work or craft in which such worker is employed for any work done under contract by Contractor or by any subcontractor under Contractor in violation of the provisions of the Labor Code and in particular, Labor Code Sections 1770 *et seq.* In addition to the penalty and pursuant to Section 1775, the difference between such prevailing wage rates and the amount paid to each worker for each calendar day or portion

thereof for which each worker was paid less than the prevailing wage rate shall be paid to each worker by the Contractor. Pursuant to Section 1773, NCPA has obtained the general prevailing rate of wages applicable to the work to be done, for straight time, overtime, Saturday, Sunday and holiday work.

23.07 The Contractor shall post all applicable job site notices required by regulation, including those set forth by the California Department of Industrial Relations.

24.00 TELEPHONES, INTERNET, AND OTHER TEMPORARY UTILITIES

24.01 The Contractor shall be responsible for all arrangements required in connection with telephone, internet, and other temporary utilities not specifically mentioned in the Contract Documents.

24.02 Locations of and reason for Contractor's temporary utility services shall be subject to approval by the Construction Manager before installation. Record drawings shall be made immediately upon installation and given to the Construction Manager.

24.03 All temporary utilities shall be removed, prior to final payment, subject to coordination and approval of the Construction Manager.

25.00 GUARANTEES

25.01 The Contractor shall and does hereby warrant that the Work provided hereunder will conform to the Contract Documents, including those relating to performance, which are a part of the Contract Documents. The Contractor shall and does hereby further warrant that the Work will be free of defects in workmanship and material.

25.02 If, within three (3) years after final payment by NCPA or date of acceptance as hereinafter defined (or such longer period of time as may be prescribed by law or by the terms of any applicable special guarantees required by the Contract Documents), any of the Work is found to be defective or not in accordance with the Contract Documents. NCPA shall so notify the Contractor in writing.

25.03 Promptly upon receipt of such notification, the Contractor shall, without cost to NCPA, proceed with such replacement or corrections of the Work as are necessary in order to make it comply with the Contract Documents. The Contractor shall also bear the cost of making good work of separate contractors destroyed or damaged in such replacement or correction, as well as the cost of any uncovering, disassembling, or reassembling of such separate contractors' work.

25.04 The warranty on such replacement or corrections shall be on the same terms as set forth above, and shall extend from the date of their completion.

26.00 OCCUPATIONAL SAFETY AND HEALTH

26.01 At all times during the performance of the Work, the Contractor shall exercise precaution for the protection of persons and property. The safety provisions of applicable laws, building and construction codes shall be observed. Machinery and equipment and other hazards shall be guarded in accordance with the safety provisions of the Manual of Accident Prevention in Construction, published by the Associated General Contractors of America, to the extent that such provisions are not inconsistent with applicable law or regulations.

26.02 The Contractor agrees to comply with the provisions of the Occupational Safety and Health Act of 1970 including any and all applicable amendments and the standards and regulations issued thereunder and interpretations thereof. The Contractor agrees to indemnify and hold harmless NCPA, its agents, employees, contractors, subcontractors or suppliers against all damages, including fines or penalties, suffered by them as a result of the Contractor's failure to comply with the Act of the standards issued thereunder. This indemnification shall be subject to any limits of applicable law.

26.03 The Contractor agrees to take immediate remedial action to correct any unsafe condition and when so ordered, to stop any part of the Work which NCPA deems to be unsafe until appropriate corrective measures for additional costs or damages resulting from such stoppages. Should Contractor, after due notice, fail to adopt the correct measures, NCPA may have them implemented and deduct the cost from payment otherwise due the Contractor. Failure on the part of NCPA or the Construction Manager, or their representatives to notify the Contractor of any unsafe condition or practices shall not relieve the Contract of its responsibility.

27.00 ACCIDENTS

27.01 Unless otherwise specified in the Contract Documents, the Contractor shall provide or have provided, at the site such equipment and medical facilities as are necessary to supply first aid service to its employees who may be injured in connection with the Work. The Contractor must promptly report to NCPA, in writing, all accidents whatsoever arising out of, or in connection with, the performance of the Work, whether on or adjacent to the site, which caused death, personal injuries or property damage, giving full details and statements of witnesses. In addition, if death or serious injuries or serious damages are caused, the accident shall be reported immediately by telephone or messenger to the Construction Manager.

27.02 If any claim is made by anyone against the Contractor or any subcontractor on account of any accident, the Contractor shall promptly report the facts to NCPA in writing, giving full details of the claim.

28.00 PATENTS AND ROYALTIES

28.01 If any of the Work or equipment proposed to be furnished by the Contractor is covered by claims or patents of any nature, the Contractor will be required to pay all royalties thereon.

28.02 The Contractor shall save, indemnify and hold harmless NCPA and the Construction Manager against any damages or suit for damages brought by anyone on account of claims for infringements of patents and will hold itself strictly responsible for any delay or cost resulting from its failure to fully protect NCPA and the Construction Manager against patent rights

28.03 In case the Work or equipment is in such suit held to constitute infringement and the use thereof is enjoined the Contractor shall, at its own expense, either procure for NCPA the right to continue using same, or modify it so it becomes non-fringing without affecting the quality or performance of any guarantee applicable to the original.

29.00 SUSPENSION OF WORK

29.01 NCPA may at any time, and from time to time, by written notice to Contractor, suspend Work on this Contract. The notice of suspension shall specify the date of suspension and the estimated duration of the suspension. Upon receiving any such notice of suspension, Contractor shall promptly suspend further performance of the Contract to the extent specified, and during the period of such suspension shall properly care for and protect all Work in progress and materials, supplies, and equipment Contractor has on hand for performance of the Contract. NCPA may at any time withdraw the suspension of the performance of the Contract as to all or part of the suspended performance by written notice to Contractor specifying the effective date and scope of withdrawal, and Contractor shall resume diligent performance of the work for which the suspension is withdrawn on the specified date of withdrawal.

29.02 Except where precluded elsewhere in this Contract, if the Contractor believes that any such suspension or withdrawal of suspension justifies modification of the price, the Contractor shall promptly submit a written claim for such modification of the price. Contractor's claim for modification of the price shall substantiate the Contractor's increase cost with invoices, payroll documents and other documents satisfactory to NCPA. Upon verification and approval of such additional cost, NCPA and the Contractor shall agree in writing upon an adjustment in the price based upon such verified and approved additional costs as full settlement to the Contractor for the suspension or withdrawal of the suspension. In no event

shall Contractor be entitled to any prospective profits or any damages because of such suspensions or withdrawals of suspension.

30.00 TERMINATION FOR THE CONVENIENCE OF NCPA

30.01 NCPA may, for its convenience, cancel and terminate the Contract in whole, or from time to time in part, at any time by written notice thereof to the Contractor. Upon any such cancellation and termination the Contractor agrees to waive any claims for damages, including loss or anticipated profits, on account thereof. But as the sole right and remedy of the Contract and NCPA, NCPA shall pay the Contractor in accordance with Subparagraph (B) below, provided, however, that the provisions of the Contract, which by their very nature survive acceptance of the work under the Contract, shall remain in full force and effect after such cancellation and termination to the extent provided in such provisions.

A. Upon receipt of any such notice, the Contractor shall, unless the notice directs otherwise:

1. Immediately discontinue the work on the date and to the extent specified in the notice;
2. Place no further orders or subcontracts for materials, services, or facilities, other than as may be necessary for completion of such portion of the work under the Contract as is not terminated;
3. Promptly make every reasonable effort to procure cancellation upon terms satisfactory to NCPA of all orders and subcontracts to the extent they relate to the performance of work terminated; and
4. Assist NCPA as specifically requested, in writing, the maintenance, protection and disposition of property acquired by NCPA under the Contract.

B. Upon any such termination, NCPA will pay an amount to the Contractor determined in accordance with the following (without duplication of any item):

1. All amounts due and not previously paid to the Contractor for work completed in accordance with the Contract prior to such notice;
2. The cost for work thereafter completed as specified in such notice;
3. The cost of settling and paying fair and reasonable claims arising out of the termination of work under subcontracts or orders as provided in Subparagraph (A)(3) above;
4. The reasonable costs incurred pursuant to Subparagraph (A)(4) above;
5. Any other reasonable costs incidental to such termination of work; and
6. The foregoing amounts stated in Subparagraph (B)(2), (3), (4) and (5) shall include a reasonable sum as profit for the work performed by the Contractor, as determined by NCPA.

C. If Contractor is not satisfied with the payment made hereunder, it may file a claim with NCPA for a decision pursuant to the Contract Documents. Acceptance by the Contractor of such payment shall have the same effect as acceptance of the final payment made pursuant to the Agreement.

31.00 TERMINATION FOR DEFAULT

31.01 If 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 the Contract, or any extension thereof, or fails to complete the Work within such time, NCPA may, by written notice to Contractor, terminate its right to proceed with the Work or such part of the Work as to which there has been delay. In such event, NCPA may take over the Work and prosecute the same to completion, by contract or otherwise, and may take possession of and utilize in completing the Work such materials, appliances, and plant as may be on NCPA HQ Perimeter Security Fence Project

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the site of the Work and necessary therefore. Whether or not Contractor's right to proceed with the Work is terminated, it and its sureties shall be liable for any damage to NCPA resulting from its refusal or failure to complete the Work within the specified time.

31.02 If, after notice of termination of Contractor's right to proceed under the provisions of this clause, it is determined for any reason that Contractor was not in default under the provisions of this clause, or that the delay was excusable under the provisions of this clause, the rights and obligations of the parties shall be the same as if the notice of termination had been issued pursuant hereto.

32.00 DATE OF ACCEPTANCE

32.01 For the purpose of warranty, final payments, and other provisions of this Contract, Date of Acceptance is defined as completion of the installation work covered under this Contract and the written acceptance of the work by NCPA.

32.02 NCPA may require that plant areas and systems be occupied and utilized upon substantial completion of the work. Upon occupation or utilization, NCPA shall prepare a punch list for the Contractor, reflecting all uncompleted and unacceptable items remaining. Successful operation of the areas and systems so occupied shall not be obtained until all items appearing on the punch list are resolved by, and at the expense of, the Contractor. When the punch list work is done, the Contractor shall request a final inspection by the Construction Manager. Inspection shall not be limited to the items appearing on the punch list and shall be "final" only upon the complete acceptance by NCPA and the Construction Manager.

33.00 SEVERABILITY

33.01 The invalidity, in whole or in part, of any provision hereof will not affect the validity of any other provision hereof.

34.00 CAPTIONS

34.01 The captions used in the Contract Documents are for convenience only and shall not control or affect the meaning or construction of any of the provisions thereof

35.00 ACKNOWLEDGEMENT OF CONDITIONS OF APPROVAL

35.01 The successful bidder shall comply with, and be solely responsible for compliance with, certain Conditions of Approval imposed by the City of Roseville related to the design review and tree permit approval of the Project (City of Roseville File #PL16-0345). The successful bidder shall comply with, and be responsible for compliance with, the following requirements, including, but not limited to, payment of any extra cash deposits or bonds over and above the \$10,000 deposit made by NCPA to secure the permit (item #4 in the Permit Conditions and Compliance Verification/Inspection Checklist below), and the payment of any and all fines levied against the project or owner, or forfeiture of the item #4 deposit or any portion thereof, for failure to comply.

CONDITIONS OF APPROVAL

INFILL PCL 275 - NORTHERN CALIFORNIA POWER AGENCY SECURITY FENCE & 651 COMMERCE DR
FILE # PL16-0345; PROJECT TYPE: DRP-MOD & TP

DRPMOD CONDITIONS – [Intentionally Omitted]

PRIOR TO ISSUANCE OF BUILDING PERMITS

[Items 1-10 Intentionally Omitted]

11. The fence is to be installed a minimum of 5 feet from all water meters and backflows.
(Environmental Utilities)

[Items 12-16 Intentionally Omitted]

DURING CONSTRUCTION & PRIOR TO ISSUANCE OF OCCUPANCY PERMITS:

17. Any facilities proposed for placement within public/electric utility easements shall be subject to review and approval by the Electric Department before any work commences in these areas. This includes, but is not limited to, landscaping, lighting, paving, signs, trees, walls, and structures of any type.
(Electric)

18. The required width of fire apparatus access roads shall not be obstructed in any manner, including the parking of vehicles. Minimum required widths and vertical clearances established by the Fire Code shall be maintained at all times during construction. Closure of accesses for fire apparatus by gates, barricades and other devices shall be prohibited unless approved by the Fire Chief. (Fire)

19. The project is subject to the noise standards established in the City's Noise Ordinance. In accordance with the City's Noise Ordinance project construction is exempt between the hours of seven a.m. and seven p.m. Monday through Friday, and between the hours of eight a.m. and eight p.m. Saturday and Sunday. Provided, however, that all construction equipment shall be fitted with factory installed muffling devices and that all construction equipment shall be maintained in good working order.
(Building)

[Item 20 Intentionally Omitted]

PERMIT CONDITIONS AND COMPLIANCE VERIFICATION/INSPECTION CHECKLIST

CONDITION	COMPLIANCE VERIFIED/ INSPECTED	COMMENTS
PRIOR TO ISSUANCE OF ANY PERMITS OR ANY CONSTRUCTION ON-SITE		
1. All recommendations contained in the Arborist Report (Exhibit C) shall be incorporated as part of these conditions except as modified herein. (Planning)		
2. All native oak trees shall remain in place. (Planning)		
3. No activity shall be permitted within the protected zone of any native oak tree beyond those identified by this report. Encroachment into the protected zone of Trees 401-404 & 406-412 as shown in Exhibit C and described in the staff report is permitted. (Planning)		
4. A \$10,000 cash deposit or bond (or other means of security provided to the satisfaction of the Planning Department) shall be posted to insure the preservation of all remaining trees during construction. The cash deposit or bond shall be posted in a form approved by the City Attorney. Each occurrence of a violation on any condition regarding tree preservation shall result in forfeiture of all or a portion of the cash deposit or bond. (Planning)		
5. A violation of any of the conditions of this Tree Permit is a violation of the Roseville Municipal Code, the Zoning Ordinance (Chapter 19.74) and the Tree Preservation Ordinance (Chapter 19.66). Penalties for violation of any of the conditions of approval may include forfeiture of the bond, suspension or revocation of the permit, payment of restitution, and criminal penalties. (Planning)		
DURING CONSTRUCTION		
6. The following information must be located on-site during construction activities: Arborist Report; Approved site plan/improvement plans including fencing plan; and, Conditions of approval for the Tree Permit. All construction must follow the approved plans for this tree permit without exception. (Planning)		
7. If any native ground surface fabric within the Protected Zone must be removed for any reason, it shall be replaced within forty-eight (48) hours. (Planning)		
8. Storage or parking of materials, equipment and vehicles is not permitted within the protected zone of any oak tree. Vehicles and other heavy equipment shall not be operated within the Protected Zone of any oak tree. (Planning)		
PRIOR TO ISSUANCE OF AN OCCUPANCY PERMIT		
9. Within 5 days of the completion of construction, a Certification Letter from a certified arborist shall be submitted to and approved by the Planning Department. The certification letter shall attest to all of the work (regulated activity) that was conducted in the protected zone of the tree, either being in conformance with this permit or of the required mitigation still needing to be performed. (Planning)		

10. A copy of this completed Tree Permit Compliance Verification/Inspection form shall be submitted to the Planning Department. (Planning)		
11. The approval of this Tree Permit shall expire on the same date as the Design Review Permit Modification (PL16-0345). (Planning)		

36.00 ADDENDA & REQUESTS FOR INFORMATION – All addenda and requests for information released in the two previous rounds of bidding that remain substantive to the project are incorporated below.

36.01 Encroachment Permit - The contractor will be responsible for submitting for an encroachment permit with the City of Roseville for any anticipated work that is needed within the City right of way, however, NCPA will pay the fee for the permit. The contractor is also responsible for submitting traffic control plans or any necessary documents required for the permit that the City of Roseville requests.

36.02 Access on West Side of Project - The contractor may use the existing fire road around the building for access and fence installation along the west side of the property, but may not block Fire Department access. The contractor may also travel over the open field with caution as long as they provide for fighting fires and such equipment is readily available. Except for minor foot traffic during rail and pale installation, the contractor may not access the perimeter installation on the City of Roseville side by vehicle unless they have received necessary permits and permission from the City of Roseville.

36.03 Landscaping – Minor landscaping needs (tree delimiting, brush trimming, sprinkler relocation, etc.) shall be identified by the contractor prior to digging post holes. The work shall be completed by NCPA’s landscaper and paid for by NCPA. Note, however, that all bush, grass removal and grading associated with the installation of vehicle gate #2 and the pedestrian gate shall be the responsibility of the contractor.

36.04 Spoils – Spoils may be placed anywhere in the empty field, if spread out evenly.

36.05 Staging Materials – The contractor may use any area and any size within the open field to stage materials, but must adhere to the requirements of the Tree Permit and coordinate size and location with the project manager. Fencing around a staging area is at the option of the contractor and security is allowed, although must be coordinated with the project manager. NCPA is not responsible for maintaining the security of the staging area(s).

36.06 Pipe Gate – The contractor is responsible for removing the pipe gate from its posts and placing it in the field next to the pavestone refuge area for future use by NCPA.

36.07 Tree Permit – The tree permit requires that an arborist inspect the project at different phases and submit a report of compliance to the City at project completion. NCPA will provide and pay for the arborist and their report.

36.08 Special Inspection & Testing Agreement – The City requires a Special Inspection and Testing form be filled out prior to NCPA being issued permits for the project. The special inspection and testing process applies to the observation of the installation of the post anchors on the barrier wall belonging to the City along Cirby Way. It requires a special inspector be present during the installation of the anchors to assure they are installed in accordance with the plans. The successful bidder will be responsible for contracting with a firm that is pre-approved by the City of Roseville for “Post Installed Anchors”. That firm will need to be onsite during the epoxying process for all anchors installed in the wall (drawing C5). Because the permit requires every hole to be inspected, prior to the inspector arriving, the holes shall be drilled, swept and blown so that he/she can easily inspect the hole depth, the epoxy expiration date, the

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proper mixing of the epoxy components, the installation of the anchors and anything else necessary to satisfy the City's requirements. A link to the City's website for Approved Special Inspection Agencies - 2016 appears below. (Note: not all special inspection agencies on the list are approved for post installed anchors)

<https://www.roseville.ca.us/civicax/filebank/blobdload.aspx?BlobID=33422>

36.09 Building Permit – NCPA will be responsible for acquiring and paying for permits for the project.

36.10 Roseville Electric Contact Information – Neil Bloomquist (916) 746-1662

36.11 CAT-6 Cable – The contractor shall use plenum rated CAT-6 cable inside the building for the estimated 150ft from the electrical room to the junction box located in the SW corner. At the junction box, switch to outdoor rated cable for the run from the building penetration to the gate pedestal. Use of a biscuit jack in the junction box is acceptable.

36.12 Under Driveway Raceway – The under driveway raceway shown on drawing E1 does not exist. It will be necessary to remove the 2ft x 2ft gravel stabilizer pads, trench across the driveway following the path of the existing ¾" conduit , install the new conduit and backfill and replace the stabilizer pads and gravel.

36.13 Utility Enclosures – The contractor shall use two utility enclosures (Christy Boxes) instead of one at each of the three locations identified on drawing E1; one for high voltage and one for low voltage. Refer to them as Christy box #1-A for high voltage and #1-B for low voltage. Follow that same naming convention for locations 2 & 3. Resize them accordingly to accommodate the conduit that will be running through them.

36.14 Pedestrian Gate – As described in the project book, the gate shall have a header, a closure transom, a kick plate, security screen and be prepped for the gate hardware described. Additionally, it shall have a security hood to protect the panic bar push rail.

36.15 Cable Run in Fence Rail & Under Sidewalk – The cable run called out for in the RFI shop drawings from the security enclosure at the gate operator to the enclosure at the pedestrian gate is to be run open (without conduit) in the fence rail, held in with clips and enclosed with the plastic covers available from Ameristar. From the enclosure at the pedestrian gate to the hinge side of the gate, the cable shall be run in conduit under the sidewalk.

36.16 Department of Industrial Relations (DIR) Project # – Within ten (10) calendar days following the Notice to Proceed, NCPA will register the project with the DIR and provide the Successful Bidder with a project number for themselves, their subcontractors and their suppliers.

TECHNICAL PLANS AND SPECIFICATIONS

1.0 Claims

Procedures for the Contractor to make claims for: (1) an extension of time, including relief from damages or penalties for delay; (2) payment by NCPA of money or damages arising from work done by, or on behalf of, the Contractor, where the underlying contract does not expressly provide for payment or payment to which the Contractor is not otherwise entitled, or (3) the payment of an amount disputed by NCPA are set forth in Section 10.03 of the General Conditions.

2.0 Project Book

10-Structural Portland Cement Concrete

DESCRIPTION

10-1.1 This item shall consist of plain or reinforced structural portland cement concrete (PCC), prepared and constructed in accordance with these specifications, at the locations and of the form and dimensions shown on the plans. This specification shall be used for all structural and miscellaneous concrete including signage bases.

MATERIALS

10-2.1 General. Only approved materials, conforming to the requirements of these specifications, shall be used in the work. Materials may be subject to inspection and tests at any time during their preparation or use. The source of all materials shall be approved by the Engineer before delivery or use in the work. Representative preliminary samples of the materials shall be submitted by the Contractor, when required, for examination and test. Materials shall be stored and handled to ensure preservation of their quality and fitness for use and shall be located to facilitate prompt inspection. All equipment for handling and transporting materials and concrete must be clean before any material or concrete is placed in them.

The use of pit-run aggregates shall not be permitted unless the pit-run aggregate has been screened and washed, and all fine and coarse aggregates stored separately and kept clean. The mixing of different aggregates from different sources in one storage stockpile or alternating batches of different aggregates shall not be permitted.

a. Reactivity. Fine and Coarse aggregates to be used in all concrete shall be evaluated and tested by the Contractor for alkali-aggregate reactivity in accordance with both ASTM C1260 and C1567. Aggregate and mix proportion reactivity tests shall be performed for each project.

(1) Coarse and fine aggregate shall be tested separately in accordance with ASTM C1260. The aggregate shall be considered innocuous if the expansion of test specimens, tested in accordance with ASTM C1260, does not exceed 0.10% at 28 days (30 days from casting).

(2) Combined coarse and fine aggregate shall be tested in accordance with ASTM C1567, modified for combined aggregates, using the proposed mixture design proportions of aggregates, cementitious materials, and/or specific reactivity reducing chemicals. If lithium nitrate is proposed for use with or without supplementary cementitious materials, the aggregates shall be tested in accordance with Corps of Engineers (COE) CRD C662. If lithium nitrate admixture is used, it shall be nominal 30% \pm 0.5% weight lithium nitrate in water.

(3) If the expansion of the proposed combined materials test specimens, tested in accordance with ASTM C1567, modified for combined aggregates, or COE CRD C662, does not exceed 0.10% at 28 days, the proposed combined materials will be accepted. If the expansion of the proposed combined materials test specimens is greater than 0.10% at 28 days, the aggregates will not be accepted unless adjustments to the combined materials mixture can reduce the expansion to less than 0.10% at 28 days, or new aggregates shall be evaluated and tested.

10-2.2 Coarse aggregate. The coarse aggregate for concrete shall meet the requirements of ASTM C33. The Engineer may consider and reserve final approval of other State classification procedures addressing aggregate durability.

Coarse aggregate shall be well graded from coarse to fine and shall meet the following gradation shown in the table below when tested per ASTM C136.

Gradation For Coarse Aggregate

Sieve Designation (square openings)	Percentage by Weight Passing Sieves						
	2" (50 mm)	1-1/2" (38 mm)	1" (25 mm)	3/4" (19 mm)	1/2" (12 mm)	3/8" (9 mm)	No. 4
No. 4 to 3/4 in. (4.75-19 mm)			100	90-100		20-55	0-10
No. 4 to 1 in. (4.75-25 mm)		100	90-100		25-60		0-10
No. 4 to 1-1/2 in. (4.75-38 mm)	100	95-100		35-70		10-30	0-5

10-2.2.1 Aggregate susceptibility to durability (D) cracking. Aggregates that have a history of D- cracking shall not be used.

Coarse aggregate may be accepted from sources that have a 20 year service history for the same gradation to be supplied with no durability issues.

a. Material currently being produced shall have a durability factor ≥ 95 using ASTM C666. Coarse aggregates that are crushed granite, calcite cemented sandstone, quartzite, basalt, diabase, rhyolite or trap rock are considered to meet the D-cracking test but must meet all other quality tests. Aggregates meeting State Highway Department material specifications may be acceptable with concurrence of the FAA.

b. The Contractor shall submit a current certification that the aggregate does not have a history of D- cracking and that the aggregate meets the state specifications for use in PCC pavement for use on interstate highways. Certifications, tests and any history reports must be for the same gradation as being proposed for use on the project. Certifications which are not dated or which are over one (1) year old or which are for different gradations will not be accepted. Test results will only be accepted when tests were performed by a State Department of Transportation (DOT) materials laboratory or an accredited laboratory.

10-2.3 Fine aggregate. The fine aggregate for concrete shall meet the requirements of ASTM C33.

The fine aggregate shall be well graded from fine to coarse and shall meet the requirements of the table below when tested in accordance with ASTM C136:

Gradation For Fine Aggregate

Sieve Designation (square openings)	Percentage by Weight Passing Sieves
3/8 inch (9 mm) No. 4	100
(4.75 mm) No. 16 (1.18 mm) No. 30 (0.60 mm)	95-100 45-80
No. 50 (0.30 mm) No. 100 (0.15 mm)	25-55 10-30 2-10

Blending will be permitted, if necessary, to meet the gradation requirements for fine aggregate. Fine aggregate deficient in the percentage of material passing the No. 50 mesh sieve may be accepted, if the deficiency does not exceed 5% and is remedied by the addition of pozzolanic or cementitious materials other than Portland cement, as specified in paragraph 10-2.6, Admixtures, in sufficient quantity to produce the required workability as approved by the Engineer.

10-2.4 Cement. Cement shall conform to the requirements of ASTM C150 Type II.

If aggregates are deemed innocuous when tested in accordance with paragraph 10-2.1.a.1 and accepted in accordance with paragraph 10-2.1.a.3, higher equivalent alkali content in the cement may be allowed if approved by the Engineer and FAA. If cement becomes partially set or contains lumps of caked cement, it shall be rejected. Cement salvaged from discarded or used bags shall not be used.

The Contractor shall furnish vendors' certified test reports for each carload, or equivalent, of cement shipped to the project. The report shall be delivered to the Engineer before use of the cement is granted. All test reports shall be subject to verification by testing sample materials received for use on the project.

10-2.5 Water. The water used in concrete shall be fresh, clean and potable; free from injurious amounts of oils, acids, alkalies, salts, organic materials or other substances deleterious to concrete.

10-2.6 Admixtures and supplementary cementitious material. The Contractor shall submit certificates indicating that the material to be furnished meets all of the requirements indicated below. In addition, the Engineer may require the Contractor to submit complete test data from an approved laboratory showing that the material to be furnished meets all of the requirements of the cited specifications. Subsequent tests may be made of samples taken by the Engineer from the supply of the material being furnished or proposed for use on the work to determine whether the admixture is uniform in quality with that approved.

a. Air-entraining admixtures. Air-entraining admixtures shall meet the requirements of ASTM C260 and shall consistently entrain the air content in the specified ranges under field conditions. The air- entrainment agent and any water reducer admixture shall be compatible.

b. Water-reducing admixtures. Water-reducing admixture shall meet the requirements of ASTM C494, Type A, B, or D. ASTM C494, Type F and G high range water reducing admixtures and ASTM C1017 flowable admixtures shall not be used.

c. Other chemical admixtures. The use of set retarding, and set-accelerating admixtures shall be approved by the Engineer. Retarding shall meet the requirements of ASTM C494, Type A, B, or D and set-accelerating shall meet the requirements of ASTM C494, Type C. Calcium chloride and admixtures containing calcium chloride shall not be used.

d. Lithium nitrate. The lithium admixture shall be a nominal 30% aqueous solution of Lithium Nitrate, with a density of 10 pounds/gallon (1.2 kg/L), and shall have the approximate chemical form as shown below:

<u>Constituent</u>	<u>Limit (Percent by Mass)</u>
LiNO ₃ (Lithium Nitrate)	30 ±0.5
SO ₄ (Sulfate Ion)	0.1 (max)
Cl (Chloride Ion)	0.2 (max)
Na (Sodium Ion)	0.1 (max)
K (Potassium Ion)	0.1 (max)

Provide a trained representative to supervise the lithium nitrate admixture dispensing and mixing operations.

10-2.7 Premolded joint material. Premolded joint material for expansion joints shall meet the requirements of ASTM D1751 or D1752.

10-2.8 Joint filler. The filler for joints shall meet the requirements of Item P-605, unless otherwise specified.

10-2.9 Steel reinforcement. Reinforcing shall consist of deformed bars or new billet steel with a minimum yield strength of 60,000 psi conforming to the requirements of ASTM A615, Grade 60. Epoxy coated reinforcing bars shall meet the requirements of ASTM A775.

10-2.10 Materials for curing concrete. Curing materials shall conform to one of the following specifications.

The Engineer shall select one or more of the following:

Waterproof paper	ASTM C171
Clear or white Polyethylene Sheeting	ASTM C171
White-pigmented Liquid Membrane-Forming Compound, Type 2, Class B	ASTM C309

CONSTRUCTION METHODS

10-3.1 General. The Contractor shall furnish all labor, materials, and services necessary for, and incidental to, the completion of all work as shown on the drawings and specified here. All machinery and equipment used by the Contractor on the work, shall be of sufficient size to meet the requirements of the work. All work shall be subject to the inspection and approval of the Engineer.

10-3.2 Concrete composition. The concrete shall develop a compressive strength of 3,000 psi in 28 days as determined by test cylinders made in accordance with ASTM C31 and tested in accordance with ASTM C39. The concrete shall contain not less than 470 pounds of cement per cubic yard (280 kg per cubic meter). The concrete shall contain 5% of entrained air, ±1%, as determined by ASTM C231 and shall have a slump of not more than 4 inches (100 mm) as determined by ASTM C143.

10-3.3 Acceptance sampling and testing. Concrete for each structure will be accepted on the basis of the compressive strength specified in paragraph 10-3.2. The concrete shall be sampled in accordance with ASTM C172. Concrete cylindrical compressive strength specimens shall be made in accordance with ASTM C31 and tested in accordance with ASTM C39. The Contractor shall cure and store the test specimens under such conditions as directed by the Engineer. The Engineer will make the actual tests on the specimens at no expense to the Contractor.

10-3.4 Qualifications for concrete testing service. Perform concrete testing by an approved laboratory and inspection service experienced in sampling and testing concrete. Testing agency must meet the requirements of ASTM C1077 or ASTM E329.

10-3.5 Proportioning and measuring devices. When package cement is used, the quantity for each batch shall be equal to one or more whole sacks of cement. The aggregates shall be measured separately by weight. If aggregates are delivered to the mixer in batch trucks, the exact amount for each mixer charge shall be contained in each batch compartment. Weighing boxes or hoppers shall be approved by the Engineer and shall provide means of regulating the flow of aggregates into the batch box so the required, exact weight of aggregates is obtained.

10-3.6 Consistency. The consistency of the concrete shall be determined by the slump test specified in ASTM C143.

10-3.7 Mixing. Concrete may be mixed at the construction site, at a central point, or wholly or in part in truck mixers. The concrete shall be mixed and delivered in accordance with the requirements of ASTM C94.

10-3.8 Mixing conditions. The concrete shall be mixed only in quantities required for immediate use. Concrete shall not be mixed while the air temperature is below 40°F (4°C) without permission of the Engineer. If permission is granted for mixing under such conditions, aggregates or water, or both, shall be heated and the concrete shall be placed at a temperature not less than 50°F (10°C) nor more than 100°F (38°C). The Contractor shall be held responsible for any defective work, resulting from freezing or injury in any manner during placing and curing, and shall replace such work at his expense.

Retempering of concrete by adding water or any other material shall not be permitted.

The rate of delivery of concrete to the job shall be sufficient to allow uninterrupted placement of the concrete.

10-3.9 Forms. Concrete shall not be placed until all the forms and reinforcements have been inspected and approved by the Engineer. Forms shall be of suitable material and shall be of the type, size, shape, quality, and strength to build the structure as shown on the plans. The forms shall be true to line and grade and shall be mortar-tight and sufficiently rigid to prevent displacement and sagging between supports. The surfaces of forms shall be smooth and free from irregularities, dents, sags, and holes. The Contractor shall be responsible for their adequacy.

The internal form ties shall be arranged so no metal will show in the concrete surface or discolor the surface when exposed to weathering when the forms are removed. All forms shall be wetted with water or with a non-staining mineral oil, which shall be applied immediately before the concrete is placed. Forms shall be constructed so they can be removed without injuring the concrete or concrete surface. The forms shall not be removed until at least 30 hours after concrete placement for vertical faces, walls, slender columns, and similar structures. Forms supported by falsework under slabs, beams, girders, arches, and similar construction shall not be removed until tests indicate the concrete has developed at least 60% of the design strength.

10-3.10 Placing reinforcement. All reinforcement shall be accurately placed, as shown on the plans, and shall be firmly held in position during concrete placement. Bars shall be fastened together at intersections. The reinforcement shall be supported by approved metal chairs. Shop drawings, lists, and bending details shall be supplied by the Contractor when required.

10-3.11 Embedded items. Before placing concrete, all embedded items shall be firmly and securely fastened in place as indicated. All embedded items shall be clean and free from coating, rust, scale, oil, or any foreign matter. The concrete shall be spaded and consolidated around and against embedded items. The embedding of wood shall not be allowed.

10-3.12 Placing concrete. All concrete shall be placed during daylight hours, unless otherwise approved. The concrete shall not be placed until the depth and condition of foundations, the adequacy of forms and falsework, and the placing of the steel reinforcing have been approved by the Engineer. Concrete shall be placed as soon as practical after mixing, but in no case later than one (1) hour after water has been added to the mix. The method and manner of placing shall avoid segregation and displacement of the reinforcement. Troughs, pipes, and chutes shall be used as an aid in placing concrete when necessary. The concrete shall not be dropped from a height of more than 5 feet (1.5 m). Concrete shall be deposited as nearly as practical in its final position to avoid segregation due to rehandling or flowing. Do not subject concrete to procedures which

cause segregation. Concrete shall be placed on clean, damp surfaces, free from running water, or on a properly consolidated soil foundation.

10-3.13 Vibration. Vibration shall follow the guidelines in American Concrete Institute (ACI) Committee 309, Guide for Consolidation of Concrete. Where bars meeting ASTM A775 or A934 are used, the vibrators shall be equipped with rubber or non-metallic vibrator heads. Furnish a spare, working, vibrator on the job site whenever concrete is placed. Consolidate concrete slabs greater than 4 inches (100 mm) in depth with high frequency mechanical vibrating equipment supplemented by hand spading and tamping. Consolidate concrete slabs 4 inches (100 mm) or less in depth by wood tampers, spading, and settling with a heavy leveling straightedge. Operate internal vibrators with vibratory element submerged in the concrete, with a minimum frequency of not less than 6000 cycles per minute when submerged. Do not use vibrators to transport the concrete in the forms. Penetrate the previously placed lift with the vibrator when more than one lift is required. Use external vibrators on the exterior surface of the forms when internal vibrators do not provide adequate consolidation of the concrete. Vibrators shall be manipulated to work the concrete thoroughly around the reinforcement and embedded fixtures and into corners and angles of the forms. The vibration at any point shall be of sufficient duration to accomplish compaction but shall not be prolonged to where segregation occurs. Concrete deposited under water shall be carefully placed in a compact mass in its final position by means of a tremie or other approved method and shall not be disturbed after placement.

10-3.14 Construction joints. If the placement of concrete is suspended, necessary provisions shall be made for joining future work before the placed concrete takes its initial set. For the proper bonding of old and new concrete, provisions shall be made for grooves, steps, reinforcing bars or other devices as specified. The work shall be arranged so that a section begun on any day shall be finished during daylight of the same day. Before depositing new concrete on or against concrete that has hardened, the surface of the hardened concrete shall be cleaned by a heavy steel broom, roughened slightly, wetted, and covered with a neat coating of cement paste or grout.

10-3.15 Expansion joints. Expansion joints shall be constructed at such points and dimensions as indicated on the drawings. The premolded filler shall be cut to the same shape as the surfaces being joined. The filler shall be fixed firmly against the surface of the concrete already in place so that it will not be displaced when concrete is deposited against it.

10-3.16 Defective work. Any defective work discovered after the forms have been removed, which in the opinion of the Engineer cannot be repaired satisfactorily, shall be immediately removed and replaced at the expense of the Contractor. Defective work shall include deficient dimensions, or bulged, uneven, or honeycomb on the surface of the concrete.

10-3.17 Surface finish. All exposed concrete surfaces shall be true, smooth, and free from open or rough areas, depressions, or projections. All concrete horizontal plane surfaces shall be brought flush to the proper elevation with the finished top surface struck-off with a straightedge and floated. Mortar finishing shall not be permitted, nor shall dry cement or sand-cement mortar be spread over the concrete during the finishing of horizontal plane surfaces.

The surface finish of exposed concrete shall be a rubbed finish. If forms can be removed while the concrete is still green, the surface shall be wetted and then rubbed with a wooden float until all irregularities are removed. If the concrete has hardened before being rubbed, a carborundum stone shall be used to finish the surface. When approved, the finishing can be done with a finishing machine.

10-3.18 Curing and protection. All concrete shall be properly cured and protected by the Contractor. The concrete shall be protected from the weather, flowing water, and from defacement of any nature during the project. The concrete shall be cured by covering with an approved material as soon as it has sufficiently hardened. Water-absorptive coverings shall be thoroughly saturated when placed and kept saturated for at least three (3) days following concrete placement. All curing mats or blankets shall be sufficiently weighted or tied down to keep the concrete surface covered and to prevent the surface from being exposed to air currents. Wooden forms shall be kept wet at all times until removed to prevent opening of joints and drying out of the

concrete. Traffic shall not be allowed on concrete surfaces for seven (7) days after the concrete has been placed.

10-3.19 Drains or ducts. Drainage pipes, conduits, and ducts that are to be encased in concrete shall be installed by the Contractor before the concrete is placed. The pipe shall be held rigidly so that it will not be displaced or moved during the placing of the concrete.

10-3.20 Cold weather placing. When concrete is placed at temperatures below 40°F (4°C), the Contractor shall provide satisfactory methods and means to protect the mix from injury by freezing. The aggregates, or water, or both, shall be heated to place the concrete at temperatures between 50°F and 100°F (10°C and 38°C).

Calcium chloride may be incorporated in the mixing water when directed by the Engineer. Not more than pounds (908 grams) of Type 1 nor more than 1.6 pounds (726 grams) of Type 2 shall be added per bag of cement. After the concrete has been placed, the Contractor shall provide sufficient protection such as cover, canvas, framework, heating apparatus, etc., to enclose and protect the structure and maintain the temperature of the mix at not less than 50°F (10°C) until at least 60% of the designed strength has been attained.

10-3.21 Hot weather placing. Concrete shall be properly placed and finished with procedures previously submitted. The concrete-placing temperature shall not exceed 20°F when measured in accordance with ASTM C1064. Cooling of the mixing water and aggregates, or both, may be required to obtain an adequate placing temperature. A retarder meeting the requirements of paragraph 10-2.6 may be used to facilitate placing and finishing. Steel forms and reinforcement shall be cooled prior to concrete placement when steel temperatures are greater than 120°F (50°C). Conveying and placing equipment shall be cooled if necessary to maintain proper concrete-placing temperature. Submit the proposed materials and methods for review and approval by the Engineer, if concrete is to be placed under hot weather conditions.

10-3.22 Filling joints. All joints that require filling shall be thoroughly cleaned, and any excess mortar or concrete shall be cut out with proper tools. Joint filling shall not start until after final curing and shall be done only when the concrete is completely dry. The cleaning and filling shall be done with proper equipment to obtain a neat looking joint free from excess filler.

METHOD OF MEASUREMENT

10-4.1 No separate measurements or payment will be made for Portland cement concrete, the cost of which is considered incidental to other items of work.

BASIS OF PAYMENT

10-5.1 No separate measurements or payment will be made for Portland cement concrete, the cost of which is considered incidental to other items of work.

TESTING REQUIREMENTS

ASTM C31	Standard Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C138	Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
ASTM C143	Standard Test Method for Slump of Hydraulic-Cement Concrete
ASTM C231	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C666	Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing
ASTM C1017	Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete
ASTM C1064	Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete
ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM C1260	Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)
ASTM C1567	Standard Test Method for Determining the Potential Alkali-Silica Reactivity of Combinations of Cementitious Materials and Aggregates (Accelerated Mortar-Bar Method)
ASTM E329	Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection
U.S. Army Corps of Engineers (USACE) Concrete Research Division (CRD) C662	Determining the Potential Alkali-Silica Reactivity of Combinations of Cementitious Materials, Lithium Nitrate Admixture and Aggregate (Accelerated Mortar-Bar Method)

MATERIAL REQUIREMENTS

ASTM A184	Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement
ASTM A185	Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A704	Standard Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement
ASTM A706	Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement
ASTM A775	Standard Specification for Epoxy-Coated Steel Reinforcing Bars

ASTM A934	Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars
ASTM A1064	Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
ASTM C33	Standard Specification for Concrete Aggregates
ASTM C94	Standard Specification for Ready-Mixed Concrete
ASTM C150	Standard Specification for Portland Cement
ASTM C171	Standard Specification for Sheet Materials for Curing Concrete
ASTM C172	Standard Practice for Sampling Freshly Mixed Concrete
ASTM C260	Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C309	Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C494	Standard Specification for Chemical Admixtures for Concrete
ASTM C595	Standard Specification for Blended Hydraulic Cements
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM D1751	Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Asphalt Types)
ASTM D1752	Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction
ACI 305R	Hot Weather Concreting
ACI 306R	Cold Weather Concreting
ACI 309R	Guide for Consolidation of Concrete

END OF ITEM 10

20-Striping

DESCRIPTION

20-1.1 This item shall consist of A transverse marking such as (1) a limit line, (2) a stop line, or (3) a word, symbol, shoulder, parking stall, or railroad-grade-crossing marking, prepared and constructed in accordance with these specifications, at the locations and of the form and dimensions shown on the plans.

MATERIALS

20-2.1 General. A completed traffic stripe must:

1. Have clean, well-defined edges without running or deformation
2. Be uniform
3. Be straight on a tangent alignment and on a true arc on a curved alignment

The width of a completed traffic stripe must not deviate from the width shown by more than 1/4 inch on a tangent alignment and 1/2 inch on a curved alignment.

The length of the gaps and individual stripes that form a broken traffic stripe must not deviate by more than 2 inches from the lengths shown. The gaps and stripes must be uniform throughout the entire length of each section of broken traffic stripe so that a normal striping machine can repeat the pattern and superimpose successive coats on the applied traffic stripe.

A completed pavement marking must have well-defined edges without running or deformation.

20-2.2 Paint

The paint for traffic stripes and pavement markings must comply with the specifications for the paint type and color shown in following table:

Paint Specifications

Paint type	Color	Specification
Waterborne traffic line	White, yellow, and black	State Specification PTWB-01R2
Acetone-based	White, yellow, and black	State Specification PT-150VOC(A)
Waterborne traffic line for the international symbol of accessibility and other curb markings	Blue, red, and green	Federal Specification TT-P-1952E

The color of painted traffic stripes and pavement markings must comply with ASTM D6628.

CONSTRUCTION METHODS

20-3.1 General. The Contractor shall furnish all labor, materials, and services necessary for, and incidental to, the completion of all work as shown on the drawings and specified here. All machinery and equipment used by the Contractor on the work, shall be of sufficient size to meet the requirements of the work. All work shall be subject to the inspection and approval of the Engineer.

Establish the alignment for traffic stripes and the layouts for pavement markings with a device or method that will not conflict with other traffic control devices.

Protect existing retroreflective pavement markers during work activities.

Remove existing pavement markers that are coated or damaged by work activities and replace each with an equivalent marker on the Authorized Material List for signing and delineation materials. Protect newly placed traffic stripes and pavement markings from traffic and other deleterious activities until the paint is thoroughly dry or the thermoplastic is hard enough to bear traffic.

20-3.2 Remove Traffic Stripes and Pavement Markings

Remove traffic stripes before making any change to the traffic pattern.

Remove traffic stripes and pavement markings, including paint in the gaps, by methods that do not materially damage the pavement. Remove a pavement marking such that the old message cannot be identified. If removing by grinding, make the grinding area rectangular. The minimum dimensions for the rectangular area are the height and width of the pavement marking.

Sweep up or vacuum any residue before it can (1) be blown by traffic or wind, (2) migrate across lanes or shoulders, or (3) enter a drainage facility.

20-3.3 Surface Preparation

Use mechanical wire brushing to remove dirt, contaminants, and loose material from the pavement surface that is to receive the traffic stripe or pavement marking.

Use abrasive blast cleaning to remove laitance and curing compound from the surface of new concrete pavement that is to receive the traffic stripe or pavement marking.

Where a new broken traffic stripe joins an existing broken traffic stripe, allow enough overlap distance between the new and existing striping patterns to ensure continuity at the beginning and end of the transition.

20-3.4 Application of Stripes and Markings

Apply paint for a pavement marking by hand with a stencil and spray equipment.

You may use permanent tape for a traffic stripe or a pavement marking instead of paint or thermoplastic. The permanent tape must be on the Authorized Material List for signing and delineation materials. Apply the tape under the manufacturer's instructions.

Immediately remove drips, overspray, improper markings, paint, and thermoplastic tracked by traffic with an authorized method.

Apply a traffic stripe or a pavement marking only to a dry surface during a period of favorable weather when the pavement surface is above 50 degrees F.

Verify the rate of application of the glass beads by stabbing the glass bead tank with a calibrated rod.

Do not thin paint for traffic stripes and pavement markings. Mix the paint by mechanical means until it is homogeneous. Thoroughly agitate the paint during its application.

Use mechanical means to paint traffic stripes and pavement markings and to apply glass beads for traffic stripes.

The striping machine must be capable of superimposing successive coats of paint on the 1st coat and on existing stripes at a speed of at least 5 mph.

The striping machine must:

1. Have rubber tires
2. Be maneuverable enough to produce straight lines and normal curves in true arcs
3. Be capable of applying traffic paint and glass beads at the specified rates

4. Be equipped with:
 - 4.1. Pointer or sighting device at least 5 feet long extending from the front of the machine
 - 4.2. Pointer or sighting device extending from the side of the machine to determine the distance from the centerline for painting shoulder stripes
 - 4.3. Positive acting cutoff device to prevent depositing paint in gaps of broken stripes
 - 4.4. Shields or an adjustable air curtain for line control
 - 4.5. Pressure regulators and gauges that are in full view of the operator for a pneumatically-operated machine
 - 4.6. Paint strainer in the paint supply line
 - 4.7. Paint storage tank with a mechanical agitator that operates continuously during painting activities
 - 4.8. Glass bead dispenser located behind the paint applicator nozzle that is controlled simultaneously with the paint applicator nozzle
 - 4.9. Calibrated rods for measuring the volumes of paint and glass beads in the paint and glass bead tanks

Air-atomized spray equipment must:

1. Be equipped with oil and water extractors and pressure regulators
2. Have adequate air volume and compressor recovery capacity
3. Have properly sized orifices and needle assemblies for the spray gun tip

Where the configuration or location of a traffic stripe is such that the use of a striping machine is not practicable, you may apply the traffic paint and glass beads by other methods and equipment if authorized. The Engineer determines if the striping machine is not practicable for a particular use.

For an existing surface, apply traffic stripes and pavement markings in 1 coat.

For a new surface, except for the black stripe between the 2 yellow stripes of a double traffic stripe, apply traffic stripes and pavement markings in 2 coats. The 1st coat of paint must be dry before applying the 2nd coat.

Paint a 1-coat, 3-inch-wide black stripe between the two 4-inch-wide yellow stripes of a double traffic stripe.

If the two 4-inch-wide yellow stripes are applied in 2 coats, apply the black stripe concurrently with the 2nd coat of the yellow stripes.

Apply each coat of paint for any traffic stripe in 1 pass of the striping machine, including the glass beads, regardless of the number, width, and pattern of the individual stripes. Do not paint traffic stripes and pavement markings if:

1. Freshly painted surfaces could become damaged by rain, fog, or condensation
2. Atmospheric temperature could drop below 40 degrees F for acetone-based paint and 50 degrees F for waterborne paint during the drying period

METHOD OF MEASUREMENT

20-4.1 The payment quantity for a pavement marking is per lump sum.

20-4.2 The payment quantity for a pavement removal is per lump sum.

MATERIAL REQUIREMENTS

ASTM D6628

Standard Specification for Color of Pavement Marking Materials

END OF ITEM 20

30-Mobilization

30-1 Description. This item shall consist of work and operations, but is not limited to, work and operations necessary for the movement of personnel, equipment, material and supplies to and from the project site for work on the project except as provided in the contract as separate pay items.

30-1.1 Posted notices. Prior to commencement of construction activities the Contractor must post the following documents in a prominent and accessible place where they may be easily viewed by all employees of the prime Contractor and by all employees of subcontractors engaged by the prime Contractor: Equal Employment Opportunity (EEO) Poster "Equal Employment Opportunity is the Law" in accordance with the Office of Federal Contract Compliance Programs Executive Order 11246, as amended; Davis Bacon Wage Poster (WH 1321) - DOL "Notice to All Employees" Poster; and Applicable Davis-Bacon Wage Rate Determination. These notices must remain posted until final acceptance of the work by the Owner.

30-2 Basis of measurement and payment. This item shall be paid for by lump sum for "Mobilization".

END OF ITEM 30

40-SIGNS

DESCRIPTION

40-1.1 This item shall consist of general specifications for fabricating and installing sign panels and markers and constructing roadside signs, prepared and constructed in accordance with these specifications, at the locations and of the form and dimensions shown on the plans.

Signs and markers must comply with the California MUTCD, California Sign Specifications, and the FHWA publication Standard Highway Signs and Markings. For the California Sign Specifications, go to the Department's Traffic Operations website.

MATERIALS

40-2.1 General. Sign panels must be produced at a fabrication plant.

The sign information must:

1. Be imprinted in 1/4-inch upper-case letters and numerals on the back, lower right of each sign panel such that it will not be blocked by a sign post or mounting frame
2. Be imprinted at the fabrication plant by die-stamping on aluminum panels or by an equivalent method for fiberglass-reinforced plastic signs, such as affixing a die-stamped aluminum tag
2. Not be painted, screened, inked, or engraved
3. Be imprinted such that it does not damage the face of the sign

For a sign composed of multiple panels, the legend must be placed across joints such that it does not affect the size, shape, spacing, and appearance of the legend on the assembled sign.

For a formed panel sign, the retroreflective sheeting for the background and legend must be wrapped around the interior vertical edges of each panel to prevent delamination.

A sign with a protective-overlay film must be marked at the fabrication plant with a 3/8-inch-diameter dot. The dot must be placed on the lower border of the sign before applying the protective-overlay film. The fabricator determines the application method and exact location of the dot except the dot must not be placed on the legend or near bolt holes. The dot must be black if placed on a white border and white if placed on a black border.

The exposed portion of the mounting hardware on the sign face, including rivets used to attach sheeting to framing members, must have a factory- or field-applied finish that closely matches the color of the background and legend of the sign face.

The face of fabricated signs must be uniform, flat, smooth, and free from defects, scratches, chips, wrinkles, gel, hard spots, streaks, extrusion marks, and air bubbles. The front, back, and edges of sign panels must not have bends, router chatter marks, burns, sharp edges, loose rivets, delaminated skins, excessive adhesive over-spray, or aluminum marks.

40-2.2A Aluminum Sheeting

Sign panels must be made of aluminum sheeting of an alloy and temper complying with ASTM B209.

The aluminum sheeting must be pretreated for corrosion resistance as specified in ASTM B449. The surface of the sheeting must be cleaned, deoxidized, and coated with a light, tightly-adherent chromate conversion coating free from powdery residue. The conversion coating must be Class 2 with a weight from 10 to 35 mg/sq ft and an average weight of 25 mg/sq ft. After the cleaning and coating process, the aluminum sheeting must be protected from exposure to grease, oils, dust, and contaminants. The aluminum sheeting must be free from buckles, warps, dents, cockles, burrs, and other defects resulting from fabrication.

The base plate for standard route markers must be die cut.

40-2.2B Retroreflective Sheeting

Retroreflective sheeting used for the background and legend must comply with ASTM D4956 and must be on the Authorized Material List for signing and delineation materials.

Type III, IV, VIII, IX, and XI retroreflective sheeting must have Class 1, 3, or 4 adhesive backing. Type II retroreflective sheeting may have Class 1, 2, 3, or 4 adhesive backing. The adhesive backing must be pressure sensitive and fungus resistant.

Retroreflective sheeting must be applied to sign panels at the fabrication plant under the retroreflective sheeting manufacturer's instructions without appreciable stretching, tearing, or other damage.

The orientation of the legend must comply with the retroreflective sheeting manufacturer's instructions.

The retroreflective sheeting on a sign panel with a minor dimension of 48 inches or less must be a single, contiguous sheet without splices except for the splices produced during the manufacture of the retroreflective sheeting. A sign panel with a minor dimension greater than 48 inches may have 1 horizontal splice in the retroreflective sheeting other than the splices produced during the manufacture of the retroreflective sheeting.

Unless the retroreflective sheeting manufacturer's instructions require a different method, splices in the retroreflective sheeting must overlap by at least 1 inch. The retroreflective sheeting on either side of a splice must not exhibit a color difference under incident and reflected light.

40-2.2C Process Colors and Film

The type of material used for (1) screened-process colors, (2) nonreflective, opaque, black film, and (3) protective-overlay film must be the type recommended by the retroreflective sheeting manufacturer.

The fabricator must perform all patterns, layouts, and set-ups necessary for the screening process.

The fabricated surface of the applied screened-process color must be flat and smooth.

Colored retroreflective sheeting must be used for the background except signs with green, red, blue, or brown backgrounds may use reverse-screened-process color on white retroreflective sheeting for the background color.

The coefficient of retroreflection for reverse screened-process colors used on white retroreflective sheeting must be not less than 70 percent of the coefficient of retroreflection specified in ASTM D4956 for the corresponding colored retroreflective sheeting.

The legend must be a black, screened-process color or nonreflective, opaque, black film.

Screened-process colors and nonreflective, opaque, black film must have outdoor weatherability characteristics equivalent to those specified for retroreflective sheeting in ASTM D4956.

Nonreflective, opaque, black film must be a vinyl or acrylic material.

Cured, screened-process colors must not peel off if transparent cellophane tape with a tensile breaking strength of at least 14 lb/in width measured under ASTM D3759/D3759M is applied over the color and removed in a single, quick motion at a 90 degree angle to the sign's face.

82-2.2D Single-Sheet Aluminum Panels

The aluminum sheeting for framed and unframed panels must be aluminum alloy 6061-T6 or 5052-H38.

A single-sheet aluminum panel must not have a vertical splice in the aluminum sheeting. A panel with a depth greater than 48 inches may have 1 horizontal splice in the sheeting.

For a framed panel, the framing members must be aluminum channel or rectangular aluminum tubing. The lengths of the framing members must be within $\pm 1/8$ inch of the lengths shown.

Aluminum channels or rectangular aluminum tubing must be welded together using the inert gas-shielded arc welding process and E4043 aluminum-electrode filler wires. The filler width must be equal to the wall thickness of the smallest welded channel or tubing.

The aluminum sheeting must be attached to the frame with 3/16-inch-diameter rivets. The rivets must be placed at least 1/2 inch from the web channel edges. The rivets must be made of aluminum alloy 5052 and be anodized or treated with a conversion coating to prevent corrosion.

Fabricated single-sheet, aluminum panels must be within $\pm 1/8$ inch of the dimensions shown. The panels must be flat to within $\pm 1/32$ in/ft of the panel dimensions as measured by a straightedge placed in any direction across the plane of the panel.

40-2.2E Laminated Panels

A laminated panel must have a honeycomb core and extruded aluminum frame laminated between 2 sheets of aluminum to produce a flat, rigid panel.

The face sheet must be a single contiguous sheet of 0.063-inch-thick aluminum sheeting, alloy 6061-T6 or 5052-H32. The back sheet must be a single, contiguous sheet of 0.040-inch-thick aluminum sheeting, alloy 3003-H14.

The core material must be 0.26 lb/sq ft phenolic-impregnated kraft paper with the following quality characteristics:

1. Impregnated 18-percent phenolic by weight
2. 1/2-inch honeycomb cell size
3. Fungus resistant under MIL-STD-401B

The adhesive used to laminate the face and back sheets to the honeycomb core and extruded aluminum frame must produce a bond that is strong, permanent, and resistant to oil and water. The Department will reject a laminated panel if a 0.010-inch-thick by 1/2-inch-wide feeler gauge can be inserted to a depth of more than 1/2 inch between the extruded aluminum frame and the aluminum sheeting.

The panels must withstand a wind load of 33 lb/sq ft with a bending safety factor of 1.25 when tested for the simple span lengths shown in the following table:

Panel type	Nominal panel thickness	Simple span length
A	1 inch	9'-0"
B	1 inch	9'-0"
	2-1/2 inches	14'-6"
H	2-1/2 inches	14'-6"

The tensile strength of the panels must be at least 40 lb/sq in when tested under ASTM C297 and C481, Cycle B, after aging. Instead of spraying with hot water, the specimen must be totally immersed in water at 160 degree F.

An individual laminated panel must not exceed 24 feet in length and 5 feet in depth. Individual panels must be fabricated as single units without horizontal and vertical joints, splices, or seams.

Use 2 panels for signs exceeding 5 feet in depth. You may use 3 panels to avoid placing the legend over a horizontal joint if authorized.

Welds are not required on the side of the framing members where the face and back sheets will be placed.

After laminating, 3/16-inch-diameter rivets must be placed at each corner of the perimeter frame through the face and back sheets. The rivets must be made of aluminum alloy 5052 and be anodized or treated with a conversion coating to prevent corrosion.

Sealant must be placed at the corners of the perimeter frame to prevent water intrusion.

The face of a fabricated panel must be flat to within $\pm 3/32$ in/ft of the panel dimensions as measured by a straightedge placed in any direction across the plane of the panel. Wherever the panels adjoin, the gap between the adjoining edges must not deviate by more than 1/32 inch from a straightedge placed from corner to corner. Nonadjoining edges must not deviate by more than 1/8 inch from a straightedge placed from corner to corner. The face and back sheets must be flush with the perimeter frame. All panel edges must be smooth.

The panels must be from $-1/2$ to $+1/8$ inch of the dimensions shown. The difference in the length between adjoining panels of multiple-panel signs must not be greater than 1/2 inch.

40-2.3 Metal Posts

Mountings for roadside signs to be installed on barriers or railings must be fabricated from (1) welded or seamless steel pipe complying with ASTM A53/A53M, Grade B, and (2) structural steel complying with ASTM A36/A36M.

Bolted connections must comply with section 56-2.02D. Concrete anchorage devices must comply with section 75-3.

After fabrication, all metal parts for mounting roadside signs must be galvanized under section 75-1.02B.

CONSTRUCTION METHODS

40-3.1 General. Protect, transport, and store sign panels fabricated with screened-process colors under the retroreflective sheeting manufacturer's instructions.

Transport sign panels such that the faces of the panels are protected from damage and weather. Ship panels on pallets, in crates, or in tier racks. Ship panels vertically on edge, not stacked horizontally. Place padding and protective materials between the panels as necessary. Keep panels dry during transit.

Do not store sign panels directly on the ground. Keep sign panels dry at all times and store the panels:

1. In a dry environment
2. On edge vertically whether indoors or outdoors
2. In enclosed, climate-controlled trailers or containers in areas of high heat and humidity
3. Indoors whenever the panels will be stored more than 30 days

Deliver sign panels to the job site with the background and legend permanently affixed to the panels.

Do not chip or bend sign panels.

Immediately replace sign panels exhibiting damage or flaws, including a significant color difference between daytime and nighttime.

Obtain authorization before repairing sign panels at the job site.

Use the following hardware to mount the type of sign panel shown:

1. Lag screws, nuts, bolts, and washers for roadside signs
2. Braces and wood block spacers for roadside signs
3. Type A-1 and Type A-2 mounting hardware for overhead laminated-panel signs
4. Type A-3 mounting hardware for overhead formed-panel signs

40-3.2 Installation.

When sign posts are delivered to the job site, treated posts must comply with the specified grading requirements and have a moisture content of no more than 25 percent when tested under ASTM D4444 with an authorized moisture meter.

Apply PVC tape, polyethylene tape, or other authorized corrosion-resistant barrier to the areas on metal sign surfaces or hardware that will be in contact with treated wood. Before inserting bolts, fill the bolt holes with the hardware manufacturer's recommended corrosion-protection grease that will not melt or run at a temperature of 150 degrees F. The corrosion-resistant barrier and grease is not required if wood posts and blocks are treated with pentachlorophenol in hydrocarbon solvent.

Install lag screws by turning the lag screw into pilot holes using a wrench. Bore the pilot holes with a bit diameter equal to the root diameter of the lag screw thread.

METHOD OF MEASUREMENT

40-4.1 The payment quantity for a sign is measured per sign.

MATERIAL REQUIREMENTS

ASTM D6628 Standard Specification for Color of Pavement Marking Materials

END OF ITEM 40

50-Project Survey and Stakeout

DESCRIPTION

50-1.1 Project survey and stakeout shall be in accordance with this specification. The Contractor shall do all necessary surveying required to construct all elements of the Project. Project survey and stakeout shall be performed by competently qualified personnel acceptable to the Engineer. The survey and stakeout shall be progressed in advance of construction operations such that the layout does not impede the construction schedule. All survey work shall be provided under the direction of a Licensed Surveyor licensed in the State in which the project is located.

EQUIPMENT & MATERIALS

50-2.1 General. All instruments, equipment, stakes and any other material necessary to perform the work satisfactorily shall be provided by the Contractor. It shall be the Contractor's responsibility to maintain these stakes in their proper position and location at all times.

50-2.2 Equipment. Upon request, the Contractor shall make available to the Engineer, a rod, level, and tripod. The rod shall be 15 feet in length with hundredth of a foot graduation. The level shall be self-leveling and have documentation demonstrating it has been calibrated within twelve months of the project's commencement. All equipment provided shall be in good working order and maintained by the Contractor throughout the duration of the project.

If the Contractor is utilizing Total Station with GPS for the project layout, the Contractor shall make available to the Engineer, a GPS rover unit tied into the same survey control that the contractor is using. The survey control shall have precision that meets the requirements of the contract. The GPS rover unit shall contain the same files uploaded onto the contractor's unit which shall be at a minimum: survey control, alignments provided for the project, and existing and proposed 3-dimensional models. The GPS rover unit shall have documentation demonstrating it has been calibrated within twelve months of the project's commencement. All equipment provided shall be in good working order and maintained by the Contractor throughout the duration of the project.

50-2.3 Materials. Stakes used for construction layout shall be sound hardwood stakes having minimum dimensions of 1 inch by 1 inch by 4 feet in length.

CONSTRUCTION METHODS

50-3.1 General. Project survey and stakeout shall be in accordance with Section 50-06 "Construction Layout and Stakes" of the General Provisions and this specification.

Contractor's surveyor shall be onsite during installation of NAVAIDS to verify elevations, alignment and siting angles.

50-3.2 Layout and stakeout. The Contractor shall be responsible for trimming trees, brush and other objects from survey lines in advance of all survey work to permit accurate and unimpeded work by his survey crews.

The exact position of all work shall be established from control points, baseline points or other points of similar nature which are shown on the Contract Drawings. Any error, apparent discrepancy or absence in or of data shown or required for accurately accomplishing the stakeout survey shall be referred to the Engineer for interpretation or furnishing when such is observed or required. Stakes shall be clearly and legibly

marked based on computations and measurements made by the Contractor. Markings shall include centerline station, offset and cut or fill marks. If markings become faded or blurred, they shall be restored by the Contractor, if requested by the Engineer. Contractor shall locate and place all cut, fill, slope, fine grade or other stakes and points for the proper progress of the work. All control points shall be properly guarded and flagged for easy identification. Reference points, baselines, stakes and benchmarks for borrow pits shall be established by the Contractor. Permanent survey marker locations shall be established and referenced by the Contractor.

The Contractor shall be responsible for the accuracy of his work and shall maintain all reference points, stakes, etc., throughout the life of the Contract. Damaged or destroyed points, benchmarks or stakes, or any reference points made inaccessible by the progress of the construction, shall be replaced or transferred by the Contractor. Any of the above points which may be destroyed or damaged shall be transferred by the Contractor before they are damaged or destroyed. All control points shall be referenced by ties to acceptable objects and recorded. Any alterations or revisions in the ties shall be so noted and the information furnished to the Engineer immediately. All stakeout survey work shall be referenced to the centerlines shown on the Contract Drawings indicating station and offset. All computations necessary to establish the exact position of the work from control points shall be made by the Contractor. All computations, survey notes and other records necessary to accomplish the work shall be neatly made, and shall be made available to the Engineer upon request.

The Engineer may check all or any portion of the stakeout survey work or notes made by the Contractor. Any necessary correction to the work shall be made immediately by the Contractor. Such checking by the Engineer shall not relieve the Contractor of any responsibilities for the accuracy or completeness of his work.

Upon completion of all grading and paving work, the Contractor shall re-establish baseline points, control points, and centerline points at 100 foot stations. The baseline points, control points, and centerline points to be established shall be the same as those used to develop design quantities.

Prior to the final cross-section survey of any borrow pits by the Engineer, the Contractor shall re-establish baseline points and stationing, as well as any necessary benchmarks as required by the Engineer.

Existing property corners, markers, stakes, iron pins, and survey monuments defining property lines which have a high probability of being disturbed during construction shall be properly tied into fixed reference points before being disturbed and accurately reset in their proper position upon completion of the work.

50-3.3 Verification of existing grades. This project was developed using a three-dimensional (3D) computer aided drafting and design (CADD) program. The 3D CADD program created digital terrain model (DTM) files of the existing surfaces, finished surfaces and other various surfaces required to complete the design.

Some volumetric quantities were calculated by comparing DTM files of the applicable design surfaces and generating Triangle Volume Reports. Electronic copies of DTM files and a paper copy of the original topographic map will be issued to the successful bidder. Some volumetric quantities were calculated using design cross sections which were created for this project using the DTM files of the applicable design surfaces and generating End Area Volume Reports. Paper copies of design cross sections and a paper copy of the original topographic map will be issued to the successful bidder.

Existing grades on the design cross sections or DTM's, where they do not match the locations of actual spot elevations shown on the topographic map, were developed by computer interpolation from those spot elevations. Prior to disturbing original grade, Contractor shall verify the accuracy of the existing ground

surface by verifying spot elevations at the same locations where original field survey data was obtained as indicated on the topographic map. Contractor shall recognize that, due to the interpolation process, the actual ground surface at any particular location may differ somewhat from the interpolated surface shown on the design cross sections or obtained from the DTM's. Contractor's verification of original ground surface, however, shall be limited to verification of spot elevations as indicated herein, and no adjustments will be made to the original ground surface unless the Contractor demonstrates that spot elevations shown are incorrect. For this purpose, spot elevations which are within 0.1 foot of the stated elevations for ground surfaces, or within 0.02 foot for hard surfaces (pavements, buildings, foundations, structures, etc.) shall be considered "no change". Only deviations in excess of these will be considered for adjustment of the original ground surface. If Contractor's verification identifies discrepancies in the topographic map, Contractor shall notify Engineer in writing at least two weeks before disturbance of existing grade to allow sufficient time to verify the submitted information and make adjustments to the design cross sections or DTM's. Disturbance of existing grade in any area shall constitute acceptance by the Contractor of the accuracy of the original elevations shown on the topographic map for that area.

The Contractor's survey shall not exceed the following:

- Error of horizontal closure in feet shall not exceed 1 foot/5,000 feet
- Error of vertical closure in feet shall not exceed $(0.05 \text{ feet})/(\text{benchrun length in miles})^{1/2}$

A point data file of the Contractor's verification of original ground surface shall be provided in electronic format on CD-ROM along with a printed hard copy. The point data shall be supplied in one ASCII file containing point number, northing, easting, elevation and descriptor. The data shall be left justified columns separated by commas with decimal points, but no slashes, colons and/or other separators.

METHOD OF MEASUREMENT

50-4.1 No separate measurements or payment will be made for Surveying or Stakeout, the cost of which is considered incidental to other items of work.

BASIS OF PAYMENT

50-5.1 No separate measurements or payment will be made for Surveying or Stakeout, the cost of which is considered incidental to other items of work.

END OF ITEM 50

60-FENCING AND GATES

DESCRIPTION

60-1.1 This item shall consist of furnishing and erecting a security fence in accordance with these specifications, the details shown on the plans, 7' high Ameristar Brand Impasse II 3 Rail, Trident type fencing and Ameristar Brand gates, and in conformity with the lines and grades shown on the plans or established by the Engineer.

60-1.2 Emergency Vehicle Gate #1 (Cirby Way) Specifications

- Ameristar Impasse II double swing, manually operated, 3-rail gate, trident style to match fence
 - Opening 20'
 - Height 7'
- Gate hardware to accommodate (1) Knox & (1) owner's lock (both provided by owner)

60-1.2 Vehicle Gate #2 (Commerce Dr.) Specifications

- Ameristar Transport IS cantilever gate, automatically operated, trident style to match fence
- Gate operator
 - Door King 9150
 - Optional 1hp electric motor (P/N 9150-080)
 - Optional step down transformer & high voltage kit (P/N 2600-266)
 - UL 325 entrapment protection devices (Type B1 non-contact sensors)
 - Photo reflective ME-RG (P/N 8080-051)
 - Optional chain tray kit (P/N 2601-270)
 - Two (2) reverse loop detectors and one (1) automatic exit loop detector
 - Dual channel detector (P/N 9409-010)
 - Installed in a factory default, fail-safe manual release configuration
 - Operator to be pad mounted according to manufacturer's specifications
 - Approved Tomar strobe switch access system for Roseville Fire Dept.
- Pedestal and pad installed no closer than 6ft. from gate and accessible from vehicle window
- Install all warning signs supplied with gate

60-1.3 Pedestrian Gate (Commerce Dr.) Specifications

- Ameristar wrought iron single swing, manually operated gate
 - Opening 42in.
 - Height 7ft.
 - Closure transom
 - Header
 - Kick Plate
- Gate hardware mounting plates to accommodate door access hardware (provided by others)
 - Von Duprin 99NLRX 3ft. 26D Satin Chrome Night Latch Pull Style Handle and Keyway
 - Von Duprin 99 Series Free Egress Panic Bar with built in RTE sensor
 - Allegion 4041 Series Closer and Drop Plate
- 30in. security hood with 1½in. radiused corners centered above panic bar push rail

- 1/8in. x 3/4in. expanded metal security screen on gate, minimum of 2ft. above & 2ft. below panic bar (4ft. x 42in.) and 4ft. x 2ft. on fence to the left and 4ft. x 4ft. on fence around corner to the right of pull side
- Kick plate free of sharp or abrasive edges on push side to meet accessibility standard where gate is within 10” of finished sidewalk.

MATERIALS

60-2.1 General. The material will be in conformance with Ameristar factory materials for all security fencing and gates, as specified by the Ameristar: Impasse II for security fencing and pedestrian gate; Trident style double swing 3-rail and cantilever gate, as approved by Owner.

60-2.2 Miscellaneous fittings and hardware. Fittings and hardware shall be per Ameristar shop drawings and the approved job plans. Hardware shall be hot-dipped galvanized or stainless steel unless otherwise specified on the plans.

60-2.3 Epoxy. The epoxy for post installed anchors into existing concrete shall be Simpson SET-XP.

60-2.4 Concrete footings. Concrete shall be in accordance with Section 10 – Portland Cement Concrete.

CONSTRUCTION METHODS

60-3.1 Clearing fence line. NCPA will cut back any softscape that impedes installation, including brush and overhanging tree limbs. The contractor will be responsible for brushing away loose debris in order to mark posthole locations on a solid ground surface and insure the centerline is sufficiently clear to allow the fence palings or pickets to be properly mounted on the rails. The contractor will also be responsible for clearing the softscape and grading the swale for the cantilever vehicle gate #2. The cost of removing and disposing of the material shall not constitute a pay item and shall be considered incidental to fence construction.

60-3.2 Installing fence posts.

60-3.2.1 Installing posts into native soil or engineered fill. All posts installed in native soil or engineered fill shall be set in concrete at the required dimension and depth and at the spacing shown on the plans. The spacing between post holes shall be in accordance with the City of Roseville Tree ordinance, which requires fencing panels encroaching into the drip line of the protected oaks on the project shall be centered at each trees trunk.

The concrete shall be thoroughly compacted around the posts by tamping or vibration and have a smooth finish slightly higher than the ground and sloped to drain away from the posts. All posts shall be set plumb and to the required grade and alignment. No materials shall be installed on the posts, nor shall the posts be disturbed in any manner within forty-eight (48) hours after the individual post footing is completed.

Should rock be encountered at a depth less than the planned footing depth, a hole 2 inches (50 mm) larger than the greatest dimension of the posts shall be drilled to a depth of 12 inches (300 mm). After the posts are set, the remainder of the drilled hole shall be filled with grout, composed of one part Portland cement and two parts mortar sand. Any remaining space above the rock shall be filled with concrete in the manner described above

In lieu of drilling, the rock may be excavated to the required footing depth. No extra compensation shall be made for rock excavation.

60-3.2.2 Installing posts anchored to existing concrete barrier. For drill and bond dowel (chemical adhesive), the drilled hole diameter and depth must comply with the ICBO evaluation report for the size of dowel being installed unless otherwise shown on the plans.

Immediately after inserting the dowels into the chemical adhesive, support the dowels as necessary to prevent movement until the epoxy has cured the minimum time specified by the manufacturer.

Contractor to locate existing barrier reinforcement prior to drilling holes for post anchorage. Base plates may be slotted to accommodate alternate anchor placement as approved by the Engineer.

METHOD OF MEASUREMENT

60-4.1 Fence will be measured for payment by the linear foot. Measurement will be along the top of the fence from center to center of end posts, excluding the length occupied by gate openings.

60-4.2 Gates will be measured as complete units.

BASIS OF PAYMENT

60-5.1 Payment for security fence will be made at the contract unit price per linear foot.

60-5.2 Payment for vehicle or pedestrian gates will be made at the contract unit price for each gate.

END OF ITEM 60

70-ELECTRICAL

DESCRIPTION

70-1.1 This item shall consist of providing and installing the electrical components in accordance with the California Electrical Code (CEC), any additional code requirements of the City of Roseville, these specifications, the details shown on the plans, manufacturer's specifications/manual/etc.,(Door King, Tomar and others) and in conformity with the layout shown on the plans or established by the Engineer or Owner.

70-1.2 Vehicle Gate #2 & Pedestrian Gate High & Low Voltage Electrical Specifications

• HIGH VOLTAGE

- Power for gate operator shall originate in electrical panel 1EM in the electrical room
 - Breakers 12 & 14 to be moved to slots 28 & 30 to make room for new breaker
 - New 20 amp 3phase 480v breaker to be located in slots 10, 12, & 14
 - New breaker installation to be coordinated with Project Manager
 - Install (1) Bussmann 3phase, 277/480vac modular TVSS downstream of new breaker, on electrical room wall near 1EM panel
 - Bussmann model # BSPM3480WYGR
- Install approximately 150' flexible conduit or M/C cable above drop ceiling to the SW corner of the building and mount a junction box
- Penetrate outside building shell with 1in. metal conduit and follow existing 3/4in. to edge of foundation
- Run 1in. schedule 80 PVC approximately 50ft.in dirt following existing 3/4in. PVC to south side of gravel roadbed and install utility enclosure (Christy Box #1A)
 - Old Castle H-Series 1118-12
 - NOTE: There is a storm drain running parallel to the roadbed on the south side
- Trench approximately 150ft. x 18in. deep from Christy Box #1A and install 1in. schedule 80 PVC and Christy Box #2A
- Trench an additional approximately 150ft. and install 1in. schedule 80 PVC and Christy Box #3A near gate operator pad
- Trench and install 1in. schedule 80 PVC to service disconnect mounted on unistrut in gate operator pad
 - Unistrut - Hot Dip Galvanized series for outdoor use
- Pull 4ea. #12 THWN conductors from new circuit in EM1 panel for gate operator
 - Leave pull strings in all conduits
- Install all conduit for gate operator and pad per manufacturer's specifications
 - Install operator pad ground rod per manufacturer's specifications
- All electrical work to follow all national and local electrical codes

• LOW VOLTAGE

- Pull (1) home run DB CAT 6 cable from electrical room to Security NEMA junction box
 - Leave 15ft. coil in electrical room
 - Follow electrical conductor path above drop ceiling (no conduit required) to existing junction box SW corner of building
 - Cut and remove abandoned coaxial cable from existing 3/4in. conduit

- Intercept existing 3/4in. conduit on south side of gravel roadbed and run to Christy Box #1B
- Install 1in. schedule 80 PVC from Christy Box #1B to #2B and on to #3B in open trench
- From Christy Box #3B install all low voltage conduit runs per RFI's shop drawings
- Install Ameristar clips and plastic covers for conductors run along fence rail from Security NEMA junction box to pedestrian gate as needed
- Leave pull strings in all conduits

MATERIALS

70-2.1 General. The material will be in conformance with the California Electrical Code (CEC), any additional code requirements of the City of Roseville for above ground and underground applications as appropriate, all factory required electrical components and materials as specified by the manufacturer's specifications/manual/etc., (Door King, Tomar and others), as approved by Owner.

70-2.2 Miscellaneous components Fittings and hardware shall be in conformance with the California Electrical Code (CEC), any additional code requirements of the City of Roseville for above ground and underground applications as appropriate and the approved job plans. Hardware shall be hot-dipped galvanized or stainless steel unless otherwise specified on the plans.

CONSTRUCTION METHODS

70-3.1 Installing electrical equipment. All electrical components shall be installed in accordance with the California Electrical Code (CEC), any additional code requirements of the City of Roseville, manufacturer installation guidelines and as shown on the Plans, or as approved by Owner.

METHOD OF MEASUREMENT

70-4.1 Electrical components and materials will be measured for payment per each.

BASIS OF PAYMENT

70-5.1 Payment for electrical components and materials will be made at the contract unit price for each.

END OF ITEM 70