Date: January 09, 2013 **DOCUMENT 00 91 13**

ADDENDUM No. 2R TO THE CONTRACT DOCUMENTS

New Bid Opening: (note – Bid Date was subsequently revised in Addendum No: 6)

APPROVED
DIV. OF THE STATE ARCHITECT
SACRAMENTO REGIONAL OFFICE
AC AP FA.S — SS GR
APP. #04-112145 DATE 4/17/13

OCEANSIDE AREA OFFICE
REPLACEMENT FACILITY
CALIFORNIA HIGHWAY PATROL
435 LA TORTUGA DRIVE
VISTA, SAN DIEGO COUNTY, CALIFORNIA

LICENSED ARCHITECT
JULIAN PANGELINAN
C-15436
8-31-13
REN. DATE
STATE OF CALIFORNIA

PROJECTNO. 122170

ACKNOWLEDGE RECEIPT OF THIS ADDENDUM ON BID FORM AND REVISE THE CONTRACT DOCUMENTS AS FOLLOWS:

THIS ADDENDUM DATED JANUARY 9, 2013 SUPERSEDES AND REPLACES ADDENDUM 2 DATED DECEMBER 04, 2012 IN ITS ENTIRETY. MODIFICATIONS TO THE DECEMBER 04, 2012 ADDENDUM ARE REPRESENTED BY ** AND THE DESCRIPTION OF THE CHANGES ARE BOLDED AND ITALIZED. LINE THROUGH ITEMS INDICATE ITEMS THAT ARE DELETED FROM DECEMBER 04, 2012 ADDENDUM. ALL OTHER ITEMS THAT REMAINED THE SAME ARE STILL IN FORCE.

BIDDERS ARE TO REVIEW ALL ADDENDA TO REFLECT THE NEW REVISED BID DATE OPENING AND OTHER MODIFICATIONS TO THE BID DOCUMENTS.

PROJECT MANUAL

APPROVED
FIRE AND PANIC ONLY
JAN 9 2013
STATE FIRE MARSHAL
Patricia Serna

INTRODUCTORY INFORMATION

***1.** DOCUMENT 00 01 10 - TABLE OF CONTENTS

SPECIFICATIONS

A. DIVISION 01 – GENERAL REQUIREMENTS ***(REMARKS: ITEMS REMOVED FROM TABLE OF CONTENTS SINCE THE SPECIFICATION SECTION WAS NOT AN ADDED OR DELETED SPECIFICATION SECTION)***

~~1. DELETE Section 01 35 20 – Construction Noise Control~~

~~ADD Section 01 35 20 – Construction Noise Control, Addendum 2 (12/04/12)~~

~~2. DELETE Section 01 64 00 – Owner –Furnished Equipment~~

~~ADD Section 01 64 00 – Owner-Furnished Equipment, Addendum 2 (12/04/12)~~

~~B. DIVISION 11 – EQUIPMENT~~

~~1. DELETE Section 11 20 00 – Commercial Equipment~~

~~ADD Section 11 20 00 – Commercial Equipment, Addendum 2 (12/04/12)~~

~~2. DELETE Section 11 33 00 – Residential Appliances~~

~~ADD Section 11 33 00 – Residential Appliances, Addendum 2 (12/04/12)~~

C. DIVISION 23 – HEATING, VENTILATING, AND AIRCONDITIONING (HVAC)

1. DELETE Section 23 11 26 – Facility Liquefied-Petroleum Gas Piping

ADD Section 23 11 23 – Facility Natural Gas Piping, Addendum 2 (12/04/12)

~~D. DIVISION 28 – ELECTRONIC SAFETY AND SECURITY~~

~~1. DELETE Section 28 13 00 – Access Control Systems~~

~~ADD Section 28 13 00 – Access Control Systems, Addendum 2R (12/04/12)~~

~~2. DELETE Section 28 16 00 – *Instruction Intrusion* System~~

~~ADD Section 28 16 00 – *Instruction Intrusion* System, Addendum 2R (12/04/12)~~

~~3. DELETE Section 28 23 00- Video Surveillance.~~

~~ADD Section 28 23 00- Video Surveillance, Addendum 2R (12/04/12)~~

E. DIVISION 32 – EXTERIOR IMPROVEMENTS

1. ADD Section 32 11 23 – Aggregate Base Course in its entirety, Addendum 2R (12/04/12)

F. DIVISION 33 – UTILITIES

1. DELETE Section 33 52 00 – LPG Distribution System in its entirety. (Relocated this section to Division33 from Division 23)

BIDIDNG REQUIREMENTS

1. DOCUMENT 00 22 00- SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

ADD the following paragraph

A. PARAGRAPH 6, SUBSTITUTION OF ALTERNATE MATERIALS, ARTICLES, OR EQUIPMENT

Sub-Article 12.2;

Pursuant to Public Contract Code, Section 3400, the California Highway Patrol has made a finding that in order to match other products in use at the Oceanside Area Office Replacement Facility at 435 La Tortuga Drive, Vista, San Diego County, California; particular products designate by specific brand names are as follows:

Section 28 13 0- Access Control System
- RS2 Technologies Universal Software and RS2 Access Control System hardware.

Section 28 23 00- Video Surveillance
- The Universal software must also be compatible with third party CCTV systems
- The CCTV NVR system shall be Vicon to be fully compatible

Section 28 16 00- Intrusion System
- The Universal software must also be compatible with third party intrusion detection.
- The Intrusion Detection System shall be Digital Monitoring Products, Inc. (DMP) models XR-100N or XR-500N

SPECIFICATIONS

1. SECTION 01 11 00 –SUMMARY

ADD the following paragraph

1.26 PUBLIC CONTRACT CODE- SPECIFIC PRODUCTS

A. Pursuant to Public Contract Code, Section 3400, the California Highway Patrol has made a finding that in order to match other products in use at the Oceanside Area Office Replacement Facility at 435 La Tortuga Drive, Vista, San Diego County, California; particular products designate by specific brand names are as follows:

Section 28 13 0- Access Control System
- RS2 Technologies Universal Software and RS2 Access Control System hardware.

Section 28 23 00- Video Surveillance

- The Universal software must also be compatible with third party CCTV systems
- The CCTV NVR system shall be Vicon to be fully compatible

Section 28 16 00- Intrusion System

- The Universal software must also be compatible with third party intrusion detection.
- The Intrusion Detection System shall be Digital Monitoring Products, Inc. (DMP) models XR-100N or XR-500N

***2.* SECTION 01 35 20 –CONSTRUCTION NOISE CONTROL

***DELETE* Specification Section 01 35 20- Construction Noise Control**

***ADD* Specification Section 01 35 20- Construction Noise Control, Addendum 2R (01/09/13)**

***3.* SECTION 01 64 00 –OWNER-FURNISHED EQUIPMENT

***DELETE* Specification Section 01 64 00- Owner-Furnished Equipment**

***ADD* Specification Section 01 64 00- Owner-Furnished Equipment, Addendum 2R (01/09/13)**

(Remarks: Since Specification Section 01 64 00 was superseded in Addendum 4R, the revised Specification Section is not being attached herein. Reference changes in Addendum 4R)

***4.* SECTION 02 30 30 –SUBSURFACE INVESTIGATIONS

A. PARGRAPH 1.4 ACTUAL CONDITIONS

CHANGE paragraph B

FROM "No additional payment for rock blasting and rock handling shall be part of this contract."

TO "Reference Division specification section 01 21 00 Allowances for payment associated with rock blasting and rock handling."

5. SECTION 05 12 13 – ARCHITECTURAL EXPOSED STRUCTURAL STEEL

A. PARAGRAPH 1.5 QAULITY ASSURANCE

ADD paragraph D "LA Certified Fabricator and Erector is an approved substitution for the AISC Certified Erector and AISC Certified Plant, Category STD.

6. SECTION 06 41 16 – PLASTIC-LAMINATE-FACED ARCHITECTURAL CABINETS

A. PARAGRAPH 2.1H- LAMINATE CLADDING FOR EXPOSED SURFACES

DELETE the paragraph 1, Horizontal Surfaces: Grad HGS.

7. SECTION 07 81 23 – INTUMESCENT MASTIC FIREPROOFING

A PARAGRAPH 2.2A

ADD the following paragraph 1.b

Carboline AD Firefilmm III

8. SECTION 08 14 16 – FLUSH WOOD DOORS

A. PARAGRAPH 1.1 SUMMARY

DELETE paragraph B1 in its entirety.

DELETE paragraph B3 in its entirety...

9. SECTION 10 56 28 – POWERED MOBILE SHELVING STORAGE

A. PARAGRAPH 2.1A

ADD *the following paragraph 1.a*

Spacesaver Eclipse Mfg or equal

***10*. SECTION 11 20 00 – COMMERCIAL EQUIPMENT

A. ***DELETE Section 11 20 00 – Commercial Equipment***

ADD Section 11 20 00 – Commercial Equipment, Addendum 2R (01/09/13)

***11*. SECTION 11 33 00 – RESIDENTIAL APPLIANCES

A. ***DELETE Section 11 33 00 – Residential Appliances***

ADD Section 11 33 00 – Residential Appliances, Addendum 2R (01/09/13)

***12*. SECTION 12 36 61 – SOLID SURFACE COUNTERTOPS

A. PARAGRAPH 2.1B

1. CHANGE paragraph ***2.1B*** FROM ¾" thick TO ½" thick

B. PARAGRAPH 2.1C

1. CHANGE paragraph 2.1C FROM ¾" ***(19 mm)*** thick TO 3/8" thick

13.** SECTION 23 11 23 –FACILITY ***NATURAL-GAS PIPING

A. ADD Specification Section 23 11 23 Facility Natural-Gas Piping, Addendum 2R (01/09/14)

14. SECTION 23 11 26 –FACILITY LIQUIFIED-PETROLEUM GAS PIPING

A DELETE Specification Section in its entirety

***15.** SECTION 26 32 00 –ELECTRICAL VEHICLE SUPPLY EQUIPMENT

~~***A. PARAGRAPH 1.2 RELATED SECTIONS***~~ ***(Delete paragraph 1.2)***

B. PARAGRAPH 2.3 COMPONENTS
1. CHANGE paragraph D1 FROM Cat 5 Ethernet (standard) TO Cat 6 Ethernet
2. DELETE paragraphs D2 and D3

C. PARAGRAPH 3.3 INSTALLATION
1. DELETE sentence "Additional provisions and editing may be required for this part."

16.** SECTION 26 32 13 –EMERGENCY GENERATOR ~~AND CONTROLS***~~

A. PARAGRAPH 1.2,
1. ADD paragraph A, Note 7

Meet all the State and Local codes

B. PARAGRAPH 1.5, GENERAL REQUIREMENTS

DELETE paragraph A in its entirety and REPLACE with

A. PERMITS
1. APCD and any other Required Permits
   a. Permit to construct emergency generator and operating permit for first year after contract completion, (Obtained and paid for by Contractor)
2. Permit Costs: Pay all costs required to obtain permit except as noted in 1.3A.2. Perform required tests. Post permits on site under glass.
3. Payment Procedures: Contractor shall furnish satisfactory evidence of permit payments to State prior to final acceptance of the work.

C. ***ADD***- PARAGRAPH 1.8, FUEL FOR TANK AND TESTS

ADD paragraph A- Contractor shall bear all fuel removal costs, and fuel disposal and/or storage costs, and cost of fuel for additional tests as well as filling of tank at 90% capacity upon completion of acceptance test.

D. PARAGRAPH 2.2, GENERAL

CHANGE paragraph B FROM "LPG-fired electrical generator set

TO "Diesel-fired electrical generator set".

E. PARAGRAPH 2.3, Outdoor Enclosure

1. DELETE paragraph A- " Type Nema 3"

ADD Outdoor Enclosure: Rated for outdoor use with sound attenuation type enclosure.

F. PARAGRAPH 2.6, FUEL OIL STORAGE

1. DELETE paragraph B in its entirety.
2. CHANGE paragraph C FROM "Base-Mounted Fuel Oil Tank

TO "Base Mounted Belly Fuel Oil Tank".

3. CHANGE paragraph C.2 FROM "Capacity: Fuel for eight hours' continuous operation at 100% rated power output

TO Capacity: Fuel for 72 hours' continuous operation at 100% rated power output."

****17.*** SECTION 28 13 00- ACCESS CONTROL SYSTEM

A. DELETE Section 28 13 00 – Access Control System

ADD Section 28 13 00 – Access Control System, Addendum 2R (01/09/13)

****18.*** SECTION 28 16 00- INTRUSION SYSTEM

A. DELETE Section 28 16 00 – Intrusion System

ADD Section 28 16 00 – Intrusion System, Addendum 2R (01/09/13)

**19. SECTION 28 23 00- VIDEO SURVEILLANCE

A. ***DELETE* Section 28 23 00 – Video Surveillance**

***ADD* Section 28 23 00 – Video Surveillance, Addendum 2R (01/09/13)**

**20. SECTION 32 11 23- AGGREGATE BASE COURSE

A. ***ADD* Section 32 11 23- Aggregate Base Course, Addendum 2R (01/09/13)**

21. SECTION 31 22 00 –GROUND WORK FOR STRUCTURES

A. PARAGRAPH 3.1, EXCAVATION

DELETE a portion of paragraph B "No additional payments will be made for blasting. Contractor shall review the Geotechnical Investigation Report and building into his/her bid anticipated cost for blasting."

22. SECTION 33 52 00 –LPG DISTRIBUTION SYSTEM

DELETE entire specification section

**23. SECTION 33 56 13 –ABOVEGROUND FUEL STORAGE TANK (WITH GROUND-FILL SYSTEM)

A. PARAGRAPH 1.1, SECTION INCLUDES

CHANGE paragraph C FROM "Furnish and deliver material as listed in Section 33 56 13-2.06 Contractor furnished items

TO Furnish and deliver materials as listed in Section 33 56 13- 2.6 Contractor furnished items.

B. PARAGRAPH 1.7, FUEL ALLOWANCES

CHANGE paragraph A from "See Section 01 21 00" TO "Contractor to fill up tank upon project acceptance."

C. PARAGRAPH 2.3, STEEL PIPE

CHANGE paragraph D FROM "See Article 2.01B.4 for painting requirements "

TO "See Article 2.1B.4 for painting requirements "

~~*D. PARAGRAPH 2.5, KIOSK*~~ *(Remarks- Delete paragraph 2.5.A in its entirety.)*

DRAWINGS

1. *SHEET CO.2, DEMOLITION PLAN

A. DELETE Drawing CO.2, Demolition Plan

ADD Drawing CO.2, Demolition Plan, Addendum 2R (01/09/13)

(REMARKS: NOTES FROM ADDENDUM 2 WERE ADDED TO DRAWING)

2. *SHEET C1.1, CIVIL SITE PLAN

A. *DELETE Drawing C1.1, Civil Site Plan*

ADD Drawing C1.1, Civil Site Plan, Addendum 2R (01/09/13)

(Remarks: Since Sheet C1.1 was superseded in Addendum 4R, the revised Sheet C1.1 is not being attached herein. Reference delta 1, Addendum 2R changes in Addendum 4R)

3. *SHEET C2.1, GRADING PLAN

A. DELETE Drawing C2.1, Grading Plan

ADD Drawing C2.1, Grading Plan, Addendum 2R (01/09/13)

(Remarks: Since Sheet C2.1 was superseded in Addendum 7, the revised Sheet C2.1 is not being attached herein. Reference delta 1, Addendum 2R changes in Addendum 7)

4. *SHEET L1.1, LANDSCAPE PLANTING PLAN

NOTES

A. ADD Note with the following:

Contractor can place up to 24 salvaged boulders or rocks between the sizes of 2'x2'x2' and 3'x3'x4' per detail 4/L4.1 and as directed by the State or CHP.

B. ADD Note with the following:

Add 20 5-GALLON Berberis thunbergil "Atropurpurea", common name Japanese Barberry, and 20 5-gallon Rosa X Noatraum, common name Pink Flowercarpet Groundcover Rose, to the 6' wide planter strip north of the north access drive. Add 10 multi-outlet drip emitters and tubing to valve stations 5 and 8 as required to accommodate the additional shrub planting. Shrub locations to be determined by the State. .

C. ADD Note with the following:

Add 20 5-GALLON Berberis thunbergil "Atropurpurea", common name Japanese Barberry, and 20 5-gallon Rosa X Noatraum, common name Pink Flowercarpet Groundcover Rose, to the 6' wide planter strip south of the south access drive. Add 10 multi-outlet drip emitters and tubing to valve stations 5 and 8 as required to accommodate the additional shrub planting. Shrub locations to be determined by the State. .

D. ADD Note with the following:

Delete 20 5-gallong Feijoa sellowiana, common name Pineapple Guava, shown in the 6' wide planter strips, north and south of the north and south access drive.

E. ADD Note with the following:

Coordinate landscape and irrigation with the in ground lighting fixtures for the flag poles. Reference 6/E8.7 for location of light fixtures.

5.* ***SHEET AA2.4, MAIN BUILDING ENLARGED FLOOR PLANS

A. DELETE Note 51 as written and REPLACE with the following:

1. Gun Clearing Tube (Law Enforcement Gun Clearing Tub/Bullet Trap, Product No. 794000.1000)

6.* ***SHEET A9.7, DETAILS

A. DELETE Note at details 6/A9.7 as written and REPLACE with the following:

1. "1/2" Solid Surface Countertop & 4" backsplash with 3/8" radius bull nose edge. For Stainless steel counter top, refer to detail 1/A9.13"

7.* ***SHEET A9.9, DETAILS

DELETE Note at details 7/A9.9 and 9/A9.251 as written and REPLACE with the following:

1. "Note: All Plywood should be covered with plastic laminate."

(Remarks: No changes to this drawing in Addendum 2R. Refer to Addendum 7 drawings dated January 9, 2013).

8.* ***SHEET AD2.1,FUEL ISLAND AND CARPORT CANOPY PLANS AND ELEV.

(Remarks: No changes to this drawing in Addendum 2R. Refer to Addendum 7 drawings dated January 9, 2013).

9 . ***SHEET T-1, COVER SHEET DRAWING INDEX*
(Steel Head drawing titled "120' 4- Leg Self Supporting Communication Tower with 20' Post Mast)

REMOVE a portion of the narrative from the title page the reads "The Tower supplier, Steelhead Metal and FAB, LLC, will provide the final tower construction drawings and engineering calculations for final approval by the Division of the State Architect."

END OF ADDENDUM NO. 2R

ATTACHMENTS:
01 35 20- CONSTRUCTION NOISE CONTROL
~~01 64 00- OWNER- FURNISHED EQUIPMENT~~ (REFER TO ADDENDUM 4R)
11 20 00-COMMERICAL EQUIPMENT
11 33 00- RESIDENTIAL APPLIANCES
23 11 23- FACILITY NATURAL-GAS PIPING
28 13 00- ACCESS CONTROL SYSTEM
28 16 00- INSTRUSION SYSTEM
28 23 00 VIDEO SURVEILLANCE
32 11 13- AGGREGRATE BASE COURSE
SHEET CO.2, DEMOLITION PLAN

SECTION 01 35 20

CONSTRUCTION NOISE CONTROL

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Special requirements for noise and acoustics management during construction operations.

1.02 RELATED SECTIONS

A. Section 01 11 00 – Summary

B. Section 01 35 16 – Alternation Project Procedures

C. Section 01 41 00 – Quality Requirements

D. Section 01 51 00 – Temporary Facilities and Controls

1.03 REFERENCES

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

B. Unless otherwise noted, standards, manuals, and codes refer to the latest edition of such standards, manuals, and codes as of the date of issue of this Project Manual.

C. CHP Oceanside Office Replacement Project Final Mitigation Negative Declaration and Initial Study dated January 2009 (CEQA Document).

D. City of Vista Noise Ordinance(s)

E. Referenced Standards:

1. ASTM E1686 – Standard Guide for Selection of Environmental Noise Measurements and Criteria.

2. ASTM E1780 – Standard Guide for Measuring Outdoor Sound Received from a Nearby Fixed Source.

1.04 DEFINITIONS

A. Ambient noise level: The total noise associated with a given environment, being usually a composite of normal or existing sounds from all sources near and far, excluding the noise source at issue.

B. Property line: the real or imaginary line along the ground surface and its vertical extension, which separates real property owned or controlled by one person from contiguous real property owned or controlled by another person or from any public right-of-way or from any public space.

C. Receiving noise area: Any real property where people live or work and where noise is heard, excluding the project or source area.

1.05 REGULATORY REQUIREMENTS

A. Noise-generating activities associated with the construction of onsite and offsite shall comply with the regulatory requirements. All construction vehicles or equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers and acoustical shields or shrouds, in accordance with manufacturers' recommendations.

B. Equipment engine doors or shrouds on motorized equipment shall be closed during equipment operation.

C. The quietest of alternative items of equipment (e.g. electric instead of diesel-powered equipment) shall be selected for use during construction.

D. When not in use, motorized equipment shall be turned off.

1.06 SUBMITTALS

A. Noise Mitigation Plan- Contractor to provide a noise mitigation measures plan to include but not limited to: Noise Mitigation Measures, Processing to resolve noise problems that cannot be immediately solved by the Contractor's Site Supervisor, Equipment List to verify that the sound attenuation devices on construction vehicles are in compliance with the regulatory requirements and a Temporary Noise Barrier Materials, Location & Utilization of these temporary noise barriers. This submittal must be approved by the State prior to any physical work being performed. ***Throughout the duration of construction activities, any type of temporary noise barriers that achieves the acceptable reduction in noise levels, such as noise attenuating blankets, will be erected along the north and one other location not to exceed 50 feet as directed by the State. A temporary noise barrier will not be required at the west property boundary while the retaining wall/sound wall is being constructed.*** ~~***, northeast and west construction fence lines, where sensitive receptor sites within 150' have line of site views of construction activities.***~~ If blasting will be performed by the Contractor, a noise mitigation measure will be required. Consult with a blasting specialist and design the blasting events to not exceed 0.2 inches per second peak particle velocity at the nearest residence.

B. Reports- The ~~Contractor~~ State shall submit quarterly reports summarizing the noise mitigation measures are successfully being implemented and weather noise levels were compliant with the contract documents.

PART 2 PRODUCTS

2.01 MATERIALS AND EQUIPMENT

A. Provide equipment, sound-deadening devices, and take noise abatement measures that are necessary for compliance.

PART 3 EXECUTION

3.01 NOISE MANAGEMENT

A. The contractor shall control noise generation by construction operation to ensure the noise levels are in conformance with the City of Vista Noise Ordinance.

B. The following are the maximum sound levels allowed, if in conflict with any sounds levels described in the documents, local jurisdiction, or applicable industry standards the most restrictive shall apply.

C. Noise Control: Perform demolition and construction operation to minimize noise. Perform noise-producing work in less sensitive hours of the day or week as directed by the State.

1. Material stockpiles and mobile equipment staging, parking, and maintenance ares will be located as far as practicable from noise sensitive receptors.

2. The use of noise producing signals, including horns, whistles, alarms, and bells, will be for safety warning purposes only. Testing of such devices will be limited to the extent necessary to ensure their adequate operation.

3. No public related address or music system will be audible at any adjacent receptor.

4. Contractor to provide temporary speed limit sings at access roads and throughout the construction site. The Contractor will be responsible for establishing and enforcing the speed limits during the construction period. The speed limit shall not exceed 15 miles per hour.

5. All siren tests will be conducted upon entering and exiting the proposed project site so as to maximize the distance between sirens and the closest sensitive receptors. No siren tests will be conducted between the hours of 10:00 p.m. and 7:00 a.m.

D. Repetitive and/or intermittent, high-noise level noise:

1. Do not exceed the following dB limitations:

Sound level in dB	Time Duration of Impact Noise
70	More than 12 minutes in any hour.
80	More than 3 minutes in any hour.

2. Maximum permissible construction equipment noise levels (dB) at a distance of 50 feet from the building perimeter::

Earthmoving	dB
Front Loaders	75
Backhoes	75
Dozers	75
Tractors	75
Scrapers	80
Graders	75
Trucks	75
Pavers, Stationary	80
Pumps	75
Generators	75
Compressors	75

Materials Handling	dB
Concrete Mixers	75
Concrete Pumps	75
Cranes	75
Derricks Impact	75
Pile Drivers	95
Jack Hammers	75
Rock Drills	80
Pneumatic Tools	80
Saws	75
Vibrators	75

E. Ambient Noise:

1. Maximum noise levels (dB) for receiving noise area at property line shall be as follows:

a. Residential receiving area	Daytime:	65 dB
	Nighttime:	60 dB
b. Commercial/industrial receiving area	Daytime:	67 dB
	Nighttime:	65 dB

2. In the event the existing local noise level exceeds the maximum allowable receiving noise level (dB), the receiving noise level maximum for construction operations shall be adjusted as follows:

   a. Residential receiving area: Maximum 3 additional dB above the local ambient as measured at property line.

   b. Commercial/industrial receiving area: Maximum 5 additional dB above the local ambient measured at the property line.

3.02 FIELD QUALITY CONTROL

A. The State will assess potential effects of construction noise on adjacent neighbors and facility occupants in accordance with ASTM E1686 and as follows:

1. Ambient noise measurement: Measure at the property line at a height of at least 4 feet above the immediate surrounding surface. Average the ambient noise level over a period of at least 15 minutes.

2. Ambient noise measurement at urban sites: Conduct during morning peak traffic hours between 7 a.m. and 9 a.m. and afternoon peak traffic hours between 4 p.m. and 6 p.m. In addition, conduct a 24-hour measurement at the proposed project site to document the noise pattern throughout the day. Adjust and weigh for seasonal and climatic variations.

B. The State will monitor noise produced from construction operations in accordance with ASTM E1780.

END OF SECTION

SECTION 11 20 00

COMMERCIAL EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

A. The General Provisions of Contract, including General & Supplementary Conditions and Division 1 specifications section apply to the Work of this Section.

B. This Section includes the following:

1. Evidence Refrigerators and Freezers
2. Defibrillator
3. Ice Machine & Filter
4. Evidence Drying Cabinet
5. Fume Hood

1.2 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer of each appliance specified agrees to repair or replace appliances or components that fail in materials or workmanship within specified warranty period.

1. Five-year limited warranty for on-site service.

1.3 SUBMITTALS

A. Submit under provisions of Section 01 33 00.

1. Product Data

1.4 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

PART 2 - PRODUCTS

2.1 EQUIPMENT

A. EVIDENCE REFRIGERATOR:

1. Basis-of-Design Product: True Food Service Equipment, Inc., Model TS-35 Reach-In Solid Swing Door 300 Series Stainless Steel Refrigerator, or by one of the following:

a. DSM Refrigerated Evidence Storage Lockers
b. Sentinel Refrigerated Locker
c. Or equal.

2. Type: Freestanding, two-door refrigerator.

3. Storage Capacity: 35 cu. ft., 6 heavy-duty PVC-coated shelves.
4. Construction: Stainless steel interior and exterior front, sides and doors.
5. Dimensions: 39 ½" wide x 29 ½" deep x 78 3/8" high.
6. Weight: 385 lbs.
7. Electrical requirements: 115/60/1 volts, 7.3 amps.
8. Provide both the standard locking wheel support and the optional 6" seismic/flanged legs for optional permanent installation.

B. DEFIBRILLATOR

1. Automated external, Phillips HeartStart FR2 (or equal).
2. CPR kit
3. Wall cabinet
4. Carry case
5. AED signage
6. 2 pair adult electrode pads
7. Battery
8. Users Manual

C. ICE MACHINE

1. Basis of Design Product:Manitowoc (or equal).

   a. S-1400 Ice machine
   b. B-970 Bin
   c. AR-PRE + AR-4000 Water filter

D. DRYING CABINET

1. Basis of Design Product: DSM Law Enforcemtn Products. www.dsmlawenforcement.com, Drying Cabinet, or a comparable product by one of the following:
   a. Misonix Evidence Drying Cabinet
   b. AirClean Systems "DrySafe" Evidence Drying Cabinet
   c. Equal approved by the Architect
2. Type: Freestanding, two-door drying cabinet.
3. Construction: Stainless steel interio and exterior.
4. Outside Dimensions: 36" wide x 24" deep x 82" high
5. Inside Dimensions: 30" wide x 21" deep x 62" high, 3 removable shelves
6. Filtered 8" I.D. top exhaust duct
7. Provide the manufacturer's standard legs/clips for permanent seismic installation.

E. FUME HOOD

1. Basis of Design Product: United Lab Equipment "Isolator Bench Fume Hood", Model F-100-36 Frameless Vertical Sash, or a comparable product by one of the following:
   a. Equal Approved by Architect
2. Air Flow Data: (1) 10 inch diameter duct, 505 CFM @ .15" SP; 325 CFM @ .06" SP
3. Interior Liner: Fiberglass reinforced polyester material (polyglass), ¼" think, white.
4. Sash Glass: ¼" clear tempered glass; full-view with 26 ½:: opening.
5. Dimensions: 36" wide x 31" depth (top depth) x 57 1/8" high. Overall depth is 35 ¼"
6. Weight: Approximately 420 pounds b

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: Properly inspect and prepare area and affected items to receive the Work. Properly effect and complete rough-ins, openings, and the like; verify and effect proper tolerances and install in accordance with each manufacturer published instructions. Properly trim, cut, modify, reinforce, fortify, prepare, finish, and the like; and effect proper and effective custom treatment to each affected item of the Work as may be required to cause compliance with the specified Work. Fit and set Work accurately in location, alignment, and elevation; properly rigidly, securely, and firmly fastened. Install plumb, straight, square, level, true, straight, aligned, without racking. Provide proper type and quantity of reinforcements, fasteners, blockings, adhesives, self-adhesive and other tapes, lubricants, coatings, accessories and supplemental items, control joints, and the like, as required for a complete, structurally rigid, stable, non-migrating, sound, fully integrated, sanitary, properly finished, and permanent installation. Nothing shall be interpreted or effected in the Work to lessen, or degrade, the safety of each item, or the entire Work.

B. Moving Parts: Shall be properly lubricated and adjusted, and shall operate properly, without binding, looseness, noise, and the like.

C. Coordination: Properly coordinate installation with other Work; Contractor-Installed items; and the like, to effect proper sequencing. Install after other affected Work affecting installation has been properly and completely installed, prepared, and completed, and all conditions are proper for the installation of items included herein this Section.

D. Item Fit Verification: Verify, check, and recheck each location, measurement, and each dimension of each item and each affected area or affected item; effect proper tolerances, corrections, adjustments, rough-in, and the like, to each surrounding or affected item of Work; properly coordinate with each affected Submittal, and each item of Work. Effect accurate, precise, firm, and proper fit for each item.

E. Fasteners: Shall be properly and firmly seated, flat, flush, and in full contact with seat, with fasteners heads properly aligned; shall not be overtightened, and shall not buckle, warp, crush, indent, deform, damage, break, and the like, unit, adjacent surfaces, substrates, or other affected surfaces or materials. Properly torque each fastener in accordance with the manufacturer published instructions.

F. Electrolysis: Insulate to prevent electrolysis between dissimilar metals.

G. Cut, fit, and patch items of this section required for installation or services for equipment.

H. Fittings: Cut and drill components for service outlets, fixtures, and fittings.

I. Anchoring: Use anchoring devices appropriate for equipment and expected usage.

J. Controls: Install control switch or starter on each motor driven appliance or heating element, in accordance with UL requirements.

K. Wiring Terminations: Install terminal lugs to match branch circuit conductor quantities, sizes, and materials.

L. Disconnect Switch: Factory mount disconnect switch in control panel, as may be required; refer to Drawings.

M. Cord and Plug: Provide each affected unit with 6 foot cord and plug for connection to electric wiring system, including grounding connector.

1. Testing, Replacement: Properly test each Cord and Plug of each unit of State-Furnished equipment prior to installation, or operation. If defective, or non-existent, then provide new Cord and Plug for each affected item of equipment.

N. Wiring: Install internal wiring for equipment, including electrical devices, wiring controls, and switches to common junction box.

O. Freestanding Equipment: Place units in final locations after finishes have been completed in each area. Verify that clearances are adequate for proper operation of equipment.

P. Venting: Provide proper venting, in accordance with SMACNA, and as shown.

Q. Lamps: Install proper lamps for fixtures in equipment, in accordance with each manufacturer published instructions.

1. Testing, Replacement: Properly test each Lamp of each unit of equipment prior to installation, or operation. If defective, or non-existent, then provide new Lamp for each affected item of equipment.

R. Sealants: Provide sealant to achieve clean joint with adjacent building finishes and between abutting components.

S. Options, Accessories: Verify that options, and accessory items required, have been provided.

3.2 INSTALLATION TOLERANCES

A. Maximum Variation from Plumb: 0.0625 inch, total.

B. Maximum Variation from Level: 0.0625 inch, total

C. Maximum Offset from Alignment: 0.0625 inch, total.

3.3 ADJUSTING

A. General: Check and properly retighten fasteners; adjust and lubricate hinges or glides to cause units to operate freely and properly, in a smooth and balanced manner, without binding, friction, or generating squeals, rumbling, humming, and without generating any perceptible or abnormal sounds.

B. Testing: Properly test each item of residential equipment to verify proper operation. Make necessary adjustments.

C. Adjustments: Adjust equipment and apparatus to ensure proper working order and conditions.

D. Noise: Remove and replace equipment creating excessive noise or vibration.

3.4 DEMONSTRATION, MAINTENANCE AND INSTRUCTIONS

A. General: Allocate Time for demonstration, instruction, and training, for operation, adjustment, maintenance, disassembly, expansion, reassembly, replacement, proper use of tools, instruments and the like, for each item, at a date, time, location, and for a duration, as directed by the State.

B. Manufacturer's Representative: Shall be present, and fully knowledgeable of operating and servicing the Work.

C. Maintenance Manual: Submit Maintenance Manual and Operations Manual, specifying maintenance cycles, materials needed, personnel required, tools required, and the like.

3.5 CLEANING

A. General: Do not scratch or damage surfaces; properly remove temporary labels, stains, marks, and the like, in accordance with each system manufacturer's published instructions; clean all surfaces exposed to view; properly wash, clean, polish; remove sharp edges, burrs, and the like; properly and carefully clean and buff each surface to proper gloss or transparency.

3.6 PROTECTION

A. General: Properly cover and protect the Work from damage with proper materials, in accordance with each manufacturer published instructions. Do not repair warped, dented, broken, damaged, or defective items; forthwith properly replace each such item with new and proper item. Forthwith properly replace damaged, or other items detrimental to the system's safety, or integrity, or other Work, with new and proper Work.

B. Touch-Up, Repair: Properly and seamlessly touch-up paint finish units.

C. Final Inspection: Properly and carefully remove covering and other protection immediately prior to, and submit Work in as-new condition for the State's Final Inspection.

END OF SECTION 11 20 00

SECTION 11 33 00

RESIDENTIAL APPLIANCES

PART 1 - GENERAL

1.1 SUMMARY

A. The General Provisions of Contract, including General & Supplementary Conditions and Division 1 specifications section apply to the Work of this Section.

B. This Section includes the following:

1. Cooking equipment including ranges and microwave ovens.
2. Exhaust hoods.
3. Refrigerator/freezers.
4. Dishwasher.
5. In Sink Erator.

1.2 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers trained and approved by manufacturer for installation and maintenance of units required for this Project.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

C. Gas-Burning Appliances: Comply with ANSI Z21 Series standards.

D. Residential Appliances: Comply with NAECA standards.

E. Energy Ratings: Provide appliances that qualify for the EPA/DOE ENERGY STAR product labeling program.

1.3 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer of each appliance specified agrees to repair or replace residential appliances or components that fail in materials or workmanship within specified warranty period.

1. Electric Range: Five-year limited warranty for in-home service on surface-burner elements.
2. Microwave Oven: Five-year limited warranty for defects in the magnetron tube.
3. Refrigerator/Freezer: Five-year limited warranty for in-home service on the sealed refrigeration system.

1.4 SUBMITTALS

A. Submit under provisions of Section 01 33 00.

1. Product data for all appliances.

PART 2 - PRODUCTS

2.1 APPLIANCES

A. Range with Oven: Drop-in type, electric, ADA compliant.

1. Basis of Design: GE Profile PD968SP, or equal.
2. Type: 30" wide, ceramic-glass cook-top with electric oven.
3. Cooktop: Five electric burner elements. (Cooktop height to align with countertop and not to exceed 34 inches from floor).
4. Finish: Stainless steel.

B. Microwave Oven:

1. Basis of Design: GE Profile PEB1590SMSS, or equal.
2. Oven Capacity: 1.5 cu. ft
3. Finish: Stainless steel.
4. Mounting type: Counter mounted.

C. Exhaust Hood and Over-The-Range:

1. Basis of Design: Compatible with Range with Overn
2. Type: 30" wide, 1.7 cu. ft. over-the-range oven with integrated exhaust fan.
3. Exhaust Fan: Three-speed fan, built-in hood.
4. Finish: Stainless steel.

D. Dishwasher:

1. Basis of Design: GE GLDA696PSS, or equal.
2. Type: Tall tub built-in dishwasher, ADA compliant. (Dishwasher to fit under 34" max. counter height).
3. Finish: Stainless steel.

E. Refrigerator/Freezer:

1. Basis of Design: GE Profile PSDW3YGX, or equal.
2. Type: Freestanding, counter depth design, side-by-side refrigerator/freezer with ice maker and cold water dispenser in door.
3. Storage Capacity: 23.2 Cu.Ft.
4. Finish: Stainless-steel front doors, side panels and top.
5. Depth: 30 inches.

F. Sink Erator:

1. Basis of Design: Badger 5 in Sink Erator , or equal.
2. Type: 1/2 horsepower continuous feed disposer.
3. Mounting type: Under sink (disposer to fit within space above protective pipe panel).

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Built-in Equipment: Securely anchor units to supporting cabinets or countertops with concealed fasteners. Verify that clearances are adequate for proper functioning and that rough openings are completely concealed.

B. Freestanding Equipment: Place units in final locations after finishes have been completed in each area. Verify that clearances are adequate to properly operate equipment.

C. Range Anti-Tip Device: Install at appliance according to manufacturer's written instructions.

D. Utilities: See Divisions 22 and 26 for plumbing and electrical requirements.

3.2 FIELD QUALITY CONTROL

A. Perform tests and inspections.

1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.

B. Tests and Inspections:

1. Perform visual, mechanical, and electrical inspection and testing for each appliance according to manufacturers' written recommendations. Certify compliance with each manufacturer's appliance-performance parameters.
2. Leak Test: After installation, test for leaks. Repair leaks and retest until no leaks exist.
3. Operational Test: After installation, start units to confirm proper operation.
4. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and components.

C. Prepare test and inspection reports.

END OF SECTION 11 33 00

SECTION 23 11 23

FACILITY NATURAL-GAS PIPING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Pipes, tubes, and fittings.
2. Piping specialties.
3. Piping and tubing joining materials.
4. Valves.
5. Pressure regulators.
6. Service meters.
7. Mechanical sleeve seals.
8. Grout.

1.2 DEFINITIONS

A. Finished Spaces: Spaces other than mechanical and electrical equipment rooms, furred spaces, pipe and duct shafts, unheated spaces immediately below roof, spaces above ceilings, unexcavated spaces, crawlspaces, and tunnels.

B. Exposed, Interior Installations: Exposed to view indoors. Examples include finished occupied spaces and mechanical equipment rooms.

C. Exposed, Exterior Installations: Exposed to view outdoors or subject to outdoor ambient temperatures and weather conditions. Examples include rooftop locations.

1.3 PERFORMANCE REQUIREMENTS

A. Minimum Operating-Pressure Ratings:

1. Piping and Valves: 100 psig minimum unless otherwise indicated.
2. Service Regulators: 65 psig minimum unless otherwise indicated.
3. Minimum Operating Pressure of Service Meter: 5 psig.

B. Natural-Gas System Pressure within Buildings: 0.5 psig or less.

C. Delegated Design: Design restraints and anchors for natural-gas piping and equipment, including comprehensive engineering analysis by a qualified professional engineer, licensed by the State of California, using performance requirements and design criteria indicated.

1.4 SUBMITTALS

A. Product Data: For each type of the following:

1. Piping specialties.

2. Valves. Include pressure rating, capacity, settings, and electrical connection data of selected models.
3. Pressure regulators. Indicate pressure ratings and capacities.
4. Service meters. Indicate pressure ratings and capacities. Include bypass fittings and meter bars.
5. Dielectric fittings.
6. Mechanical sleeve seals.
7. Escutcheons.

B. Operation and Maintenance Data: For motorized gas valves pressure regulators and service meters to include in emergency, operation, and maintenance manuals.

1.5 QUALITY ASSURANCE

A. Steel Support Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

B. Pipe Welding Qualifications: Qualify procedures and operators according to ASME Boiler and Pressure Vessel Code.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in California Electrical Code, by a qualified testing agency, and marked for intended location and application.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver pipes and tubes with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe end damage and to prevent entrance of dirt, debris, and moisture.

B. Store and handle pipes and tubes having factory-applied protective coatings to avoid damaging coating, and protect from direct sunlight.

C. Protect stored PE pipes and valves from direct sunlight.

1.7 PROJECT CONDITIONS

A. Perform site survey, research public utility records, and verify existing utility locations. Contact utility-locating service for area where Project is located.

B. Interruption of Existing Natural-Gas Service: Do not interrupt natural-gas service to facilities occupied by State or others unless permitted under the following conditions and then only after arranging to provide purging and startup of natural-gas supply according to requirements indicated:

1. Notify the State no fewer than five days in advance of proposed interruption of natural-gas service.
2. Do not proceed with interruption of natural-gas service without the State's written permission.

1.8 COORDINATION

A. Coordinate sizes and locations of concrete bases with actual equipment provided.

B. Coordinate requirements for access panels and doors for valves installed concealed behind finished surfaces.

PART 2 - PRODUCTS

2.1 PIPES, TUBES, AND FITTINGS

A. Steel Pipe: ASTM A 53/A 53M, black steel, Schedule 40, Type E or S, Grade B.

1. Malleable-Iron Threaded Fittings: ASME B16.3, Class 150, standard pattern.
2. Wrought-Steel Welding Fittings: ASTM A 234/A 234M for butt welding and socket welding.
3. Unions: ASME B16.39, Class 150, malleable iron with brass-to-iron seat, ground joint, and threaded ends.
4. Forged-Steel Flanges and Flanged Fittings: ASME B16.5, minimum Class 150, including bolts, nuts, and gaskets of the following material group, end connections, and facings:

    a. Material Group: 1.1.
    b. End Connections: Threaded or butt welding to match pipe.
    c. Lapped Face: Not permitted underground.
    d. Gasket Materials: ASME B16.20, metallic, flat, asbestos free, aluminum o-rings, and spiral-wound metal gaskets.
    e. Bolts and Nuts: ASME B18.2.1, carbon steel aboveground and stainless steel underground.

5. Mechanical Couplings:

    a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

        1) Dresser Piping Specialties; Division of Dresser, Inc.
        2) Smith-Blair, Inc.
        3) Or equal.

    b. Stainless-steel flanges and tube with epoxy finish.
    c. Buna-nitrile seals.
    d. Stainless-steel bolts, washers, and nuts.
    e. Coupling shall be capable of joining PE pipe to PE pipe or steel pipe to PE pipe.

B. PE Pipe: ASTM D 2513, SDR 11.

1. PE Fittings: ASTM D 2683, socket-fusion type or ASTM D 3261, butt-fusion type with dimensions matching PE pipe.
2. PE Transition Fittings: Factory-fabricated fittings with PE pipe complying with ASTM D 2513, SDR 11; and steel pipe complying with ASTM A 53/A 53M, black steel, Schedule 40, Type E or S, Grade B.
3. Anodeless Service-Line Risers: Factory fabricated and leak tested.

    a. Underground Portion: PE pipe complying with ASTM D 2513, SDR 11 inlet.

b. Casing: Steel pipe complying with ASTM A 53/A 53M, Schedule 40, black steel, Type E or S, Grade B, with corrosion-protective coating covering. Vent casing aboveground.
c. Aboveground Portion: PE transition fitting.
d. Outlet shall be threaded or flanged or suitable for welded connection.
e. Tracer wire connection.
f. Ultraviolet shield.
g. Stake supports with factory finish to match steel pipe casing or carrier pipe.

4. Transition Service-Line Risers: Factory fabricated and leak tested.

a. Underground Portion: PE pipe complying with ASTM D 2513, SDR 11 inlet connected to steel pipe complying with ASTM A 53/A 53M, Schedule 40, Type E or S, Grade B, with corrosion-protective coating for aboveground outlet.
b. Outlet shall be threaded or flanged or suitable for welded connection.
c. Bridging sleeve over mechanical coupling.
d. Factory-connected anode.
e. Tracer wire connection.
f. Ultraviolet shield.
g. Stake supports with factory finish to match steel pipe casing or carrier pipe.

5. Plastic Mechanical Couplings, NPS 1-1/2 and Smaller: Capable of joining PE pipe to PE pipe.

a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1) Lyall, R. W. & Company, Inc.
2) Mueller Co.; Gas Products Div.
3) Perfection Corporation; a subsidiary of American Meter Company.
4) Or equal.

b. PE body with molded-in, stainless-steel support ring.
c. Buna-nitrile seals.
d. Acetal collets.
e. Electro-zinc-plated steel stiffener.

6. Plastic Mechanical Couplings, NPS 2 and Larger: Capable of joining PE pipe to PE pipe, steel pipe to PE pipe, or steel pipe to steel pipe.

a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1) Lyall, R. W. & Company, Inc.
2) Mueller Co.; Gas Products Div.
3) Perfection Corporation; a subsidiary of American Meter Company.
4) Or equal.

b. Fiber-reinforced plastic body.
c. PE body tube.

d. Buna-nitrile seals.
e. Acetal collets.
f. Stainless-steel bolts, nuts, and washers.

7. Steel Mechanical Couplings: Capable of joining plain-end PE pipe to PE pipe, steel pipe to PE pipe, or steel pipe to steel pipe.

a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1) Dresser Piping Specialties; Division of Dresser, Inc.
2) Smith-Blair, Inc.
3) Or equal.

b. Steel flanges and tube with epoxy finish.
c. Buna-nitrile seals.
d. Steel bolts, washers, and nuts.
e. Factory-installed anode for steel-body couplings installed underground.

2.2 PIPING SPECIALTIES

A. Appliance Flexible Connectors:

1. Indoor, Fixed-Appliance Flexible Connectors: Comply with ANSI Z21.24.
2. Indoor, Movable-Appliance Flexible Connectors: Comply with ANSI Z21.69.
3. Outdoor, Appliance Flexible Connectors: Comply with ANSI Z21.75.
4. Corrugated stainless-steel tubing with polymer coating.
5. Operating-Pressure Rating: 0.5 psig.
6. End Fittings: Zinc-coated steel.
7. Threaded Ends: Comply with ASME B1.20.1.
8. Maximum Length: 72 inches.

B. Quick-Disconnect Devices: Comply with ANSI Z21.41.

1. Copper-alloy convenience outlet and matching plug connector.
2. Nitrile seals.
3. Hand operated with automatic shutoff when disconnected.
4. For indoor or outdoor applications.
5. Adjustable, retractable restraining cable.

C. Y-Pattern Strainers:

1. Body: ASTM A 126, Class B, cast iron with bolted cover and bottom drain connection.
2. End Connections: Threaded ends for NPS 2 and smaller; flanged ends for NPS 2-1/2 and larger.
3. Strainer Screen: 40-mesh startup strainer, and perforated stainless-steel basket with 50 percent free area.
4. CWP Rating: 125 psig.

D. Weatherproof Vent Cap: Cast- or malleable-iron increaser fitting with corrosion-resistant wire screen, with free area at least equal to cross-sectional area of connecting pipe and threaded-end connection.

2.3 JOINING MATERIALS

A. Joint Compound and Tape: Suitable for natural gas.

B. Welding Filler Metals: Comply with AWS D10.12/D10.12M for welding materials appropriate for wall thickness and chemical analysis of steel pipe being welded.

2.4 MANUAL GAS SHUTOFF VALVES

A. General Requirements for Metallic Valves, NPS 2 and Smaller: Comply with ASME B16.33.

1. CWP Rating: 125 psig.
2. Threaded Ends: Comply with ASME B1.20.1.
3. Dryseal Threads on Flare Ends: Comply with ASME B1.20.3.
4. Tamperproof Feature: Locking feature for valves indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
5. Listing: Listed and labeled by an NRTL acceptable to the State for valves 1 inch and smaller.
6. Service Mark: Valves 1-1/4 inches to NPS 2 shall have initials "WOG" permanently marked on valve body.

B. General Requirements for Metallic Valves, NPS 2-1/2 and Larger: Comply with ASME B16.38.

1. CWP Rating: 125 psig.
2. Flanged Ends: Comply with ASME B16.5 for steel flanges.
3. Tamperproof Feature: Locking feature for valves indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
4. Service Mark: Initials "WOG" shall be permanently marked on valve body.

C. Two-Piece, Full-Port, Bronze Ball Valves with Bronze Trim: MSS SP-110.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. BrassCraft Manufacturing Company; a Masco company.
    b. Conbraco Industries, Inc.; Apollo Div.
    c. McDonald, A. Y. Mfg. Co.
    d. Or equal.

2. Body: Bronze, complying with ASTM B 584.
3. Ball: Chrome-plated bronze.
4. Stem: Bronze; blowout proof.
5. Seats: Reinforced TFE; blowout proof.
6. Packing: Threaded-body packnut design with adjustable-stem packing.

7. Ends: Threaded, flared, or socket as indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
8. CWP Rating: 600 psig.
9. Listing: Valves NPS 1 and smaller shall be listed and labeled by an NRTL acceptable to the State.
10. Service: Suitable for natural-gas service with "WOG" indicated on valve body.

D. Bronze Plug Valves: MSS SP-78.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. Lee Brass Company.
   b. McDonald, A. Y. Mfg. Co.
   c. Or equal. .

2. Body: Bronze, complying with ASTM B 584.
3. Plug: Bronze.
4. Ends: Threaded, socket, or flanged as indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
5. Operator: Square head or lug type with tamperproof feature where indicated.
6. Pressure Class: 25 psig.
7. Listing: Valves NPS 1 and smaller shall be listed and labeled by an NRTL acceptable to the State.
8. Service: Suitable for natural-gas service with "WOG" indicated on valve body.

E. Cast-Iron, Nonlubricated Plug Valves: MSS SP-78.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. McDonald, A. Y. Mfg. Co.
   b. Mueller Co.; Gas Products Div.
   c. Xomox Corporation; a Crane company.
   d. Or equal. .

2. Body: Cast iron, complying with ASTM A 126, Class B.
3. Plug: Bronze or nickel-plated cast iron.
4. Seat: Coated with thermoplastic.
5. Stem Seal: Compatible with natural gas.
6. Ends: Threaded or flanged as indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
7. Operator: Square head or lug type with tamperproof feature where indicated.
8. Pressure Class: 100 psig.
9. Listing: Valves NPS 1 and smaller shall be listed and labeled by an NRTL acceptable to the State.
10. Service: Suitable for natural-gas service with "WOG" indicated on valve body.

F. PE Ball Valves: Comply with ASME B16.40.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. Kerotest Manufacturing Corp.
    b. Lyall, R. W. & Company, Inc.
    c. Perfection Corporation; a subsidiary of American Meter Company.
    d. Or equal.

2. Body: PE.
3. Ball: PE.
4. Stem: Acetal.
5. Seats and Seals: Nitrile.
6. Ends: Plain or fusible to match piping.
7. CWP Rating: 80 psig.
8. Operating Temperature: Minus 20 to plus 140 deg F.
9. Operator: Nut or flat head for key operation.
10. Include plastic valve extension.
11. Include tamperproof locking feature for valves where indicated on Drawings.

G. Valve Boxes:

1. Cast-iron, two-section box.
2. Top section with cover with "GAS" lettering.
3. Bottom section with base to fit over valve and barrel a minimum of 5 inches in diameter.
4. Adjustable cast-iron extensions of length required for depth of bury.
5. Include tee-handle, steel operating wrench with socket end fitting valve nut or flat head, and with stem of length required to operate valve.

2.5 EARTHQUAKE VALVES

A. Earthquake Valves: Comply with ASCE 25.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. Vanguard Valves, Inc.
    b. Or equal.

2. Listing: Listed and labeled by an NRTL acceptable to the State.
3. Maximum Operating Pressure: 5 psig.
4. Cast-aluminum body with nickel-plated chrome steel internal parts.
5. Nitrile-rubber valve washer.
6. Sight windows for visual indication of valve position.
7. Threaded end connections complying with ASME B1.20.1.
8. Wall mounting bracket with bubble level indicator.

2.6 PRESSURE REGULATORS

A. General Requirements:

1. Single stage and suitable for natural gas.
2. Steel jacket and corrosion-resistant components.

3. Elevation compensator.
4. End Connections: Threaded for regulators NPS 2 and smaller; flanged for regulators NPS 2-1/2 and larger.

B. Service Pressure Regulators: Comply with ANSI Z21.80.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. Actaris.
   b. American Meter Company.
   c. Fisher Control Valves and Regulators; Division of Emerson Process Management.
   d. Invensys.
   e. Richards Industries; Jordan Valve Div.
   f. Or equal.

2. Body and Diaphragm Case: Cast iron or die-cast aluminum.
3. Springs: Zinc-plated steel; interchangeable.
4. Diaphragm Plate: Zinc-plated steel.
5. Seat Disc: Nitrile rubber resistant to gas impurities, abrasion, and deformation at the valve port.
6. Orifice: Aluminum; interchangeable.
7. Seal Plug: Ultraviolet-stabilized, mineral-filled nylon.
8. Single-port, self-contained regulator with orifice no larger than required at maximum pressure inlet, and no pressure sensing piping external to the regulator.
9. Pressure regulator shall maintain discharge pressure setting downstream, and not exceed 150 percent of design discharge pressure at shutoff.
10. Overpressure Protection Device: Factory mounted on pressure regulator.
11. Atmospheric Vent: Factory- or field-installed, stainless-steel screen in opening if not connected to vent piping.
12. Maximum Inlet Pressure: 100 psig.

C. Appliance Pressure Regulators: Comply with ANSI Z21.18.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. Canadian Meter Company Inc.
   b. Eaton Corporation; Controls Div.
   c. Harper Wyman Co.
   d. Maxitrol Company.
   e. SCP, Inc.
   f. Or equal.

2. Body and Diaphragm Case: Die-cast aluminum.
3. Springs: Zinc-plated steel; interchangeable.
4. Diaphragm Plate: Zinc-plated steel.
5. Seat Disc: Nitrile rubber.
6. Seal Plug: Ultraviolet-stabilized, mineral-filled nylon.
7. Factory-Applied Finish: Minimum three-layer polyester and polyurethane paint finish.

8. Regulator may include vent limiting device, instead of vent connection, if approved by the State.
9. Maximum Inlet Pressure: 1 psig.

2.7 SERVICE METERS

A. Rotary-Type Service Meters: Comply with ANSI B109.3.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. American Meter Company.
b. Invensys.
c. Or equal.

2. Case: Extruded aluminum.
3. Connection: Flange.
4. Impellers: Polished aluminum.
5. Rotor Bearings: Self-lubricating.
6. Compensation: Continuous temperature and pressure.
7. Meter Index: Cubic feet.
8. Tamper resistant.
9. Remote meter reader compatible.
10. Maximum Inlet Pressure: 100 psig.
11. Accuracy: Maximum plus or minus 2.0 percent.

B. Service-Meter Bars:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. American Meter Company.
b. McDonald, A. Y. Mfg. Co.
c. Mueller Co.; Gas Products Div.
d. Perfection Corporation; a subsidiary of American Meter Company.
e. Or equal.

2. Malleable- or cast-iron frame for supporting service meter.
3. Include offset swivel pipes, meter nuts with o-ring seal, and factory- or field-installed dielectric unions.
4. Omit meter offset swivel pipes if service-meter bar dimensions match service-meter connections.

C. Service-Meter Bypass Fittings:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Lyall, R. W. & Company, Inc.
b. Williamson, T. D., Inc.
c. Or equal.

2. Ferrous, tee, pipe fitting with capped side inlet for temporary natural-gas supply.

3. Integral ball-check bypass valve.

2.8 DIELECTRIC FITTINGS

A. Dielectric Unions:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. McDonald, A. Y. Mfg. Co.
   b. Watts Regulator Co.; Division of Watts Water Technologies, Inc.
   c. Wilkins; Zurn Plumbing Products Group.
   d. Or equal.

2. Minimum Operating-Pressure Rating: 150 psig.
3. Combination fitting of copper alloy and ferrous materials.
4. Insulating materials suitable for natural gas.
5. Combination fitting of copper alloy and ferrous materials with threaded, brazed-joint, plain, or welded end connections that match piping system materials.

B. Dielectric Flanges:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. Capitol Manufacturing Company.
   b. Watts Regulator Co.; Division of Watts Water Technologies, Inc.
   c. Wilkins; Zurn Plumbing Products Group.
   d. Or equal.

2. Minimum Operating-Pressure Rating: 150 psig.
3. Combination fitting of copper alloy and ferrous materials.
4. Insulating materials suitable for natural gas.
5. Combination fitting of copper alloy and ferrous materials with threaded, brazed-joint, plain, or welded end connections that match piping system materials.

C. Dielectric-Flange Kits:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. Advance Products & Systems, Inc.
   b. Calpico Inc.
   c. Central Plastics Company.
   d. Pipeline Seal and Insulator, Inc.
   e. Or equal.

2. Minimum Operating-Pressure Rating: 150 psig.
3. Companion-flange assembly for field assembly.
4. Include flanges, full-face- or ring-type neoprene or phenolic gasket, phenolic or PE bolt sleeves, phenolic washers, and steel backing washers.
5. Insulating materials suitable for natural gas.

6. Combination fitting of copper alloy and ferrous materials with threaded, brazed-joint, plain, or welded end connections that match piping system materials.

2.9 SLEEVES

A. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, galvanized steel, plain ends.

B. Cast-Iron Pipe Sleeves: Cast or fabricated "wall pipe," equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.

2.10 MECHANICAL SLEEVE SEALS

A. Description: Modular sealing element unit, designed for field assembly, to fill annular space between pipe and sleeve.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Advance Products & Systems, Inc.
b. Calpico Inc.
c. Metraflex Company (The).
d. Or equal.

2. Sealing Elements: EPDM interlocking links shaped to fit surface of pipe. Include type and number required for pipe material and size of pipe and sleeve.
3. Pressure Plates: Stainless steel.
4. Connecting Bolts and Nuts: Stainless steel of length required to secure pressure plates to sealing elements. Include one nut and bolt for each sealing element.

2.11 ESCUTCHEONS

A. General Requirements for Escutcheons: Manufactured wall and ceiling escutcheons and floor plates, with ID to fit around pipe or tube, and OD that completely covers opening.

B. One-Piece, Deep-Pattern Escutcheons: Deep-drawn, box-shaped brass with polished chrome-plated finish.

C. One-Piece, Cast-Brass Escutcheons: With set screw.

1. Finish: Polished chrome-plated.

D. Split-Plate, Stamped-Steel Escutcheons: With concealed hinge, set screw, and chrome-plated finish.

2.12 GROUT

A. Description: ASTM C 1107, Grade B, nonshrink and nonmetallic, dry hydraulic-cement grout.

1. Characteristics: Post-hardening, volume adjusting, nonstaining, noncorrosive, nongaseous, and recommended for interior and exterior applications.

2. Design Mix: 5000-psi, 28-day compressive strength.
3. Packaging: Premixed and factory packaged.

2.13 LABELING AND IDENTIFYING

A. Detectable Warning Tape: Acid- and alkali-resistant, PE film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored yellow.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine roughing-in for natural-gas piping system to verify actual locations of piping connections before equipment installation.

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

3.2 PREPARATION

A. Close equipment shutoff valves before turning off natural gas to premises or piping section.

B. Inspect natural-gas piping according to the California Plumbing Code to determine that natural-gas utilization devices are turned off in piping section affected.

3.3 OUTDOOR PIPING INSTALLATION

A. Comply with California Plumbing Code for installation and purging of natural-gas piping.

B. Install underground, natural-gas piping buried at least 36 inches below finished grade. Comply with requirements in Division 31 Section "Earth Moving" for excavating, trenching, and backfilling.

1. If natural-gas piping is installed less than 18 inches below finished grade, install it in containment conduit.

C. Install underground, PE, natural-gas piping according to ASTM D 2774.

1. An electrically continuous corrosion-resistant tracer wire (minimum AWG 14) or tape shall be buried with the PE pipe to facilitate locating. One end shall be brought aboveground at a riser. The wire or tape shall not be in direct contact with the PE pipe.

D. Steel Piping with Protective Coating:

1. Apply joint cover kits to pipe after joining to cover, seal, and protect joints.
2. Replace pipe having damaged PE coating with new pipe.

E. Install fittings for changes in direction and branch connections.

F. Aboveground, Exterior-Wall Pipe Penetrations: Seal penetrations using sleeves and mechanical sleeve seals. Select sleeve size to allow for 1-inch annular clear space between pipe and sleeve for installing mechanical sleeve seals.

1. Install steel pipe for sleeves smaller than 6 inches in diameter.
2. Install cast-iron "wall pipes" for sleeves 6 inches and larger in diameter.

G. Underground, Exterior-Wall Pipe Penetrations: Install cast-iron "wall pipes" for sleeves. Seal pipe penetrations using mechanical sleeve seals. Select sleeve size to allow for 1-inch annular clear space between pipe and sleeve for installing mechanical sleeve seals.

H. Mechanical Sleeve Seal Installation: Select type and number of sealing elements required for pipe material and size. Position pipe in center of sleeve. Assemble mechanical sleeve seals and install in annular space between pipe and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

I. Install pressure gage upstream and downstream from each service regulator.

3.4 INDOOR PIPING INSTALLATION

A. Comply with the California Plumbing Code for installation and purging of natural-gas piping.

B. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicated locations and arrangements are used to size pipe and calculate friction loss, expansion, and other design considerations. Install piping as indicated unless deviations to layout are approved on Coordination Drawings.

C. Arrange for pipe spaces, chases, slots, sleeves, and openings in building structure during progress of construction, to allow for mechanical installations.

D. Install piping in concealed locations unless otherwise indicated and except in equipment rooms and service areas.

E. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.

F. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.

G. Locate valves for easy access.

H. Install natural-gas piping at uniform grade of 2 percent down toward drip and sediment traps.

I. Install piping free of sags and bends.

J. Install fittings for changes in direction and branch connections.

K. Install escutcheons at penetrations of interior walls, ceilings, and floors.

1. New Piping:

    a. Piping with Fitting or Sleeve Protruding from Wall: One-piece, deep-pattern type.
    b. Piping at Wall and Floor Penetrations in Finished Spaces: One-piece, cast-brass type with polished chrome-plated finish.
    c. Piping at Ceiling Penetrations in Finished Spaces: Split-plate, stamped-steel type with concealed hinge and set screw.
    d. Piping in Unfinished Service Spaces: One-piece, cast-brass type with rough-brass finish.
    e. Piping in Equipment Rooms: One-piece, cast-brass type.

L. Fire-Barrier Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at pipe penetrations. Seal pipe penetrations with firestop materials. Comply with requirements in Division 07 Section "Penetration Firestopping."

M. Verify final equipment locations for roughing-in.

N. Comply with requirements in Sections specifying gas-fired appliances and equipment for roughing-in requirements.

O. Drips and Sediment Traps: Install drips at points where condensate may collect, including service-meter outlets. Locate where accessible to permit cleaning and emptying. Do not install where condensate is subject to freezing.

1. Construct drips and sediment traps using tee fitting with bottom outlet plugged or capped. Use nipple a minimum length of 3 pipe diameters, but not less than 4 inches long and same size as connected pipe. Install with space below bottom of drip to remove plug or cap.

P. Extend relief vent connections for service regulators, line regulators, and overpressure protection devices to outdoors and terminate with weatherproof vent cap.

Q. Conceal pipe installations in walls, pipe spaces, utility spaces, above ceilings and below raised floors, unless indicated to be exposed to view.

R. Use eccentric reducer fittings to make reductions in pipe sizes. Install fittings with level side down.

S. Connect branch piping from top or side of horizontal piping.

T. Install unions in pipes NPS 2 and smaller, adjacent to each valve, at final connection to each piece of equipment. Unions are not required at flanged connections.

U. Do not use natural-gas piping as grounding electrode.

V. Install strainer on inlet of each line-pressure regulator and automatic or electrically operated valve.

W. Install pressure gage upstream and downstream from each line regulator.

3.5 SERVICE-METER ASSEMBLY INSTALLATION

A. Install service-meter assemblies aboveground.

B. Install metal shutoff valves upstream from service regulators. Shutoff valves are not required at second regulators if two regulators are installed in series.

C. Install strainer on inlet of service-pressure regulator and meter set.

D. Install service regulators mounted outside with vent outlet horizontal or facing down. Install screen in vent outlet if not integral with service regulator.

E. Install metal shutoff valves upstream from service meters. Install dielectric fittings downstream from service meters.

F. Install service meters downstream from pressure regulators.

G. Install metal bollards to protect meter assemblies. Comply with requirements in Division 05 Section "Metal Fabrications" for pipe bollards.

3.6 VALVE INSTALLATION

A. Install manual gas shutoff valve for each gas appliance ahead of corrugated stainless-steel tubing, aluminum, or copper connector.

B. Install underground valves with valve boxes.

C. Install regulators and overpressure protection devices with maintenance access space adequate for servicing and testing.

D. Install earthquake valves aboveground outside buildings according to listing.

E. Install anode for metallic valves in underground PE piping.

3.7 PIPING JOINT CONSTRUCTION

A. Ream ends of pipes and tubes and remove burrs.

B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.

C. Threaded Joints:

1. Thread pipe with tapered pipe threads complying with ASME B1.20.1.
2. Cut threads full and clean using sharp dies.
3. Ream threaded pipe ends to remove burrs and restore full inside diameter of pipe.
4. Apply appropriate tape or thread compound to external pipe threads unless dryseal threading is specified.
5. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.

D. Welded Joints:

1. Construct joints according to AWS D10.12/D10.12M, using qualified processes and welding operators.
2. Bevel plain ends of steel pipe.
3. Patch factory-applied protective coating as recommended by manufacturer at field welds and where damage to coating occurs during construction.

E. Flanged Joints: Install gasket material, size, type, and thickness appropriate for natural-gas service. Install gasket concentrically positioned.

F. PE Piping Heat-Fusion Joints: Clean and dry joining surfaces by wiping with clean cloth or paper towels. Join according to ASTM D 2657.

1. Plain-End Pipe and Fittings: Use butt fusion.
2. Plain-End Pipe and Socket Fittings: Use socket fusion.

3.8 HANGER AND SUPPORT INSTALLATION

A. Install seismic restraints on piping.

B. Comply with requirements for pipe hangers and supports specified in Division 23 Section "Hangers and Supports for HVAC Piping and Equipment."

C. Install hangers for horizontal steel piping with the following maximum spacing and minimum rod sizes:

1. NPS 1 and Smaller: Maximum span, 96 inches; minimum rod size, 3/8 inch.
2. NPS 1-1/4: Maximum span, 108 inches; minimum rod size, 3/8 inch.
3. NPS 1-1/2 and NPS 2: Maximum span, 108 inches; minimum rod size, 3/8 inch.
4. NPS 2-1/2 to NPS 3-1/2: Maximum span, 10 feet; minimum rod size, 1/2 inch.
5. NPS 4 and Larger: Maximum span, 10 feet; minimum rod size, 5/8 inch.

3.9 CONNECTIONS

A. Connect to utility's gas main according to utility's procedures and requirements.

B. Install natural-gas piping electrically continuous, and bonded to gas appliance equipment grounding conductor of the circuit powering the appliance according to California Electrical Code.

C. Install piping adjacent to appliances to allow service and maintenance of appliances.

D. Connect piping to appliances using manual gas shutoff valves and flexible tubing. Install valve within 72 inches of each gas-fired appliance and equipment.

E. Sediment Traps: Install tee fitting with capped nipple in bottom to form drip, as close as practical to inlet of each appliance.

3.10 LABELING AND IDENTIFYING

A. Comply with requirements in Division 23 Section "Identification for HVAC Piping and Equipment" for piping and valve identification.

B. Install detectable warning tape directly above gas piping, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

3.11 PAINTING

A. Paint exposed, exterior metal piping, valves, service regulators, service meters and meter bars, earthquake valves, and piping specialties, except components, with factory-applied paint or protective coating.

1. Alkyd System: MPI EXT 5.1D.

a. Prime Coat: Alkyd anticorrosive metal primer.
b. Intermediate Coat: Exterior alkyd enamel matching topcoat.
c. Topcoat: Exterior alkyd enamel (semigloss).
d. Color: Gray.

B. Paint exposed, interior metal piping, valves, service regulators, service meters and meter bars, earthquake valves, and piping specialties, except components, with factory-applied paint or protective coating.

1. Latex Over Alkyd Primer System: MPI INT 5.1Q.

a. Prime Coat: Quick-drying alkyd metal primer.
b. Intermediate Coat: Interior latex matching topcoat.
c. Topcoat: Interior latex (semigloss).
d. Color: Gray.

C. Damage and Touchup: Repair marred and damaged factory-applied finishes with materials and by procedures to match original factory finish.

3.12 FIELD QUALITY CONTROL

A. Perform tests and inspections.

B. Tests and Inspections:

1. Test, inspect, and purge natural gas according to the California Plumbing Code, utility company supplying gas and the State.

C. Natural-gas piping will be considered defective if it does not pass tests and inspections.

D. Prepare test and inspection reports.

3.13 DEMONSTRATION

A. Engage a factory-authorized service representative to train State's maintenance personnel to adjust, operate, and maintain earthquake valves.

3.14 OUTDOOR PIPING SCHEDULE

A. Underground natural-gas piping shall be the following:

1. PE pipe and fittings joined by heat fusion, or mechanical couplings; service-line risers with tracer wire terminated in an accessible location.

B. Aboveground natural-gas piping shall be one of the following:

1. Steel pipe with malleable-iron fittings and threaded joints.
2. Steel pipe with wrought-steel fittings and welded joints.

C. Install piping passing through concrete with no joints in concrete.

D. Containment Conduit: Steel pipe with wrought-steel fittings and welded joints. Coat pipe and fittings with protective coating for steel piping.

3.15 INDOOR PIPING SCHEDULE FOR SYSTEM PRESSURES LESS THAN 0.5 PSIG

A. Aboveground, branch piping NPS 1 and smaller shall be the following:

1. Steel pipe with malleable-iron fittings and threaded joints.

B. Aboveground, distribution piping shall be one of the following:

1. Steel pipe with malleable-iron fittings and threaded joints.
2. Steel pipe with wrought-steel fittings and welded joints.

C. Containment Conduit: Steel pipe with wrought-steel fittings and welded joints. Coat pipe and fittings with protective coating for steel piping.

D. Containment Conduit Vent Piping: Steel pipe with malleable-iron fittings and threaded or wrought-steel fittings with welded joints. Coat underground pipe and fittings with protective coating for steel piping.

3.16 UNDERGROUND MANUAL GAS SHUTOFF VALVE SCHEDULE

A. Connections to Existing Gas Piping: Use valve and fitting assemblies made for tapping utility's gas mains and listed by an NRTL.

B. Underground:

1. PE valves.
2. NPS 2 and Smaller: Bronze plug valves.

3. NPS 2-1/2 and Larger: Cast-iron, lubricated plug valves.

3.17 ABOVEGROUND MANUAL GAS SHUTOFF VALVE SCHEDULE

A. Valves for pipe sizes NPS 2 and smaller at service meter shall be the following:

1. Bronze plug valve.

B. Valves for pipe sizes NPS 2-1/2 and larger at service meter shall be the following:

1. Cast-iron, nonlubricated plug valve.

C. Distribution piping valves for pipe sizes NPS 2 and smaller shall be the following:

1. Bronze plug valve.

D. Distribution piping valves for pipe sizes NPS 2-1/2 and larger shall be the following:

1. Cast-iron, lubricated plug valve.

E. Valves in branch piping for single appliance shall be the following:

1. Bronze plug valve.

END OF SECTION 23 11 23

SECTION 28 13 00

ACCESS CONTROL SYSTEM

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes specifications for an integrated security management system that shall perform the following general services:

1. Access control.
2. Alarm monitoring.
3. Event reporting.
4. Security management functions.
5. Panic alarms.
6. Video surveillance integration.

1.1 SYSTEM DESCRIPTION

A. Access Control System:

1. The Access Control System is used to control the access to security doors and gates by means of electric locks controlled by a main processor which reads a person's proximity card via a card reader and compares it against the authorized data base in the main processor (e.g., RS2 Tech. EP-2500). The system is also used for panic alarming for the Interview and Receptions areas. See the room by room descriptions. As described above the system is monitored and controlled locally and at CHP headquarters via computer workstations with security software.
2. Standard Manual Security Door: Each standard door shall be comprised of the following components: Electric Lockset (24VDC) with request to exit (REX) switch integral to lockset exit handle, electric transfer hinge to connect wiring to the door electric lockset, door contact magnetic switch which will alarm if door is opened without authorization, and door reader (e.g., distributed microprocessor controller with I/O; RS2 Tech. MR52) located above the door and a proximity card reader. The door reader is data networked to the head end main processor and is supplied with 24 VDC electric locking power. The door reader device also has programmable input/output (I/O) for monitoring the door contacts, panic switches, or other sensors and outputs for controlling the door locks or any other device which is controlled with contacts. See door schedule for card reader and Biometric door locations.

B. Panic Alarms:

1. Interview Room: Provide a panic switch in the Observation Room for actuating amber colored alarm lights and electric audible alarms with volume control. The audible and visual alarms shall be located in the Special Duty, Sergeants, Briefing, Lieutenant's and Conference rooms. All alarms will also be received at ENTAC and local security workstations. The panic switch may be inputted in an RS2 input board (MR-16N) and the audible visual alarms may be outputted using an RS2 output board (MR-16O) or by using the door reader I/O (MR-50).

2. Reception Area: Provide a panic switch at the reception counter for actuating blue colored alarm lights. The visual alarms shall be located in the Special Duty, Sergeants, Briefing and Lieutenant's and Conference rooms.

C. Special Controls and Alarms:

1. Lobby Front Door: The lobby front door will have an ADA assist auto door opener, with push plate controls for entry and exit, for operation during normal business hours and card reader access for night entry. Therefore, this access door control shall be programmed to be dogged (i.e., unlocked/unlatched) open during normal business hours and card reader access at night. The entry ADA push plate shall be disabled during card reader control but the exit push plate or REX may be used for exit (coordinate with CHP). The front door shall have a motion sensor REX, door reader and door contacts and card reader at the entrance. During normal hours the public may enter the unlatched door by pulling the door open or by using the ADA auto opener. During night operations, the public may contact the Receptionist by means of an audible visual intercom (e.g. Aiphone AX substation). The Receptionist may authorize entry by pushing a release button on the Aiphone master station. This button shall be inputted into the access control system and programmed to release the front door. Label this button accordingly. Also provide a panic button control at the reception counter that will lock the lobby front door (override the door dogging) and provide a reset button. Also provide a chime in the reception area that will chime whenever either of the lobby front door leafs are open.
2. Lobby Entrances to Conference Room and Corridor: Provide a push button and controls that will temporarily unlock the card reader controlled door to the conference room and reset/relock when the door is closed for allowing the public into the room. Also provide the same for the door from the lobby into the corridor.
3. Conference Room: Provide card readers on exit and entry side of the Conference Room corridor door for restricting the public from entering the secure area of the corridor. This will require a magnet lock instead of standard electric lockset. Provide an exit sign on the exit to the lobby and place a sign on the exit to the corridor reading "Use other door in case of an Emergency".
4. Ramp Entrance Gate: Provide manual gate release controls for this gate from the Reception Area Aiphone. When a vendor or other party requires entry into the secure parking lot without a card, the party will use the gate's intercom to call the Receptionist. If authorized, the CHP will push a designated intercom button which is connected to the access control system programmed to temporarily open the gate operator. Provide a gate pedestal with a card reader and Aiphone Ax intercom.
5. North Entrance Gate: Provide a gate pedestal with a card reader without intercom.
6. Biometrics with Card Reader Doors: Provide a biometric finger print reader with proximity card reader (Bioscyrpt V-Prox or other biometric finger print scanner compatible with RS2) for the Radio Room, Data Voice Room, Evidence Room and Armory. This will ensure that the card holder matches the card holder's fingerprints to prevent the use of a stolen card.
7. Generator and Fire Alarm System Alarms: Provide a common generator remote annunciator alarm per NFPA 110 and an alarm when the generator is running. Also provide a common Fire Alarm System alarm input. Program the Access Control system local security workstations and ENTAC for visual and audible annunciation upon alarm condition.

8. ***Glass Break Detectors: Glass Break detectors shall be zoned and wired individually to input modules of the RS2 Access Control system. Program the Access Control system local security workstations and ENTAC for visual and audible annunciation upon alarm condition.***

D. Access Management System (System) shall monitor and control access to areas defined in this specification.

1. The system shall use proximity smart cards as its primary access device but will support (keypad) technology at each door if the reader type is changed. It shall also support alarm inputs and control outputs.
2. System shall consist of computers (servers/workstations), stand-alone microprocessor based controllers, card readers and/or keypads, proximity cards and client software.
3. The microprocessor based controllers shall be capable of controlling multiple one or two card reader interface modules and corresponding number of door outputs. It will also be able to monitor a minimum of 32 alarm points, storing a minimum of 5000 events before downloading to the central computer. It will be able to store a minimum of 10,000 cardholders.
4. System shall be capable of operating in a distributed processing environment with or without host connectivity.
5. Specific types of devices and their functions shall be addressed in relevant sections.
6. Badging will be done at Headquarters.
7. System will use an SQL-compliant database, such that it can share or retrieve information from a local database.
8. System shall be able to compare its list with the information from a CHP database and flag discrepancies of listed individuals in either database and have the ability to generate a report listing the discrepancies and records.
9. System shall be able to share its database with the electronic photo-ID system to eliminate redundant input of data to the databases for common data fields.
10. The servers / workstations shall meet CHP Standards and shall support TCP/IP protocols and be able to be placed on a LAN/WAN and shall be encrypted password controlled.
11. The operating system shall be Windows compliant.
12. The system shall support true multi-user, multi-tasking with a minimum of two workstations.
13. The system shall include capability for remote access for off-site support and/or management workstations. Systems that connect to the network must provide remote access by way of VPN connectivity.
14. The system shall use standard GUI interface allowing day-to-day operations to be performed using a standard mouse. All graphics shall be dynamic color alarm graphic maps (user definable) created with graphic drawing programs, not vector files. All device names shall be user programmable.
15. Operator instructions shall be embedded in the on-line help and shall be readily accessible using standard "Index," "Help Topics," "Keyword" and "Search" requests.
16. The client shall have the ability to define events for viewing in any one of multiple event viewer screens or any combination of screens. Events shall also be designated for printing to selectable printers.
17. The system shall support standard Back-up software. Back-up utilities shall not

interfere with Access Control operation; Operator Actions and Overrides, Alarm handling and response, Report Generation of Card Holder activity, records of history, system activity, and operation activity.

18. System shall provide multiple levels of password protected system access with encryption. All passwords will use one-way encryption.
19. System shall provide operator with configurable reporting of event history and cardholder activity by authorized request only.
20. System shall provide reports for: Inputs (all or in groups), outputs (all or in groups), alarm messages, instructions, event action, card transaction history, field devices and panel reports, alarm history, and alarm suppression.
21. Report generation shall allow for reports to be filtered by time and date as well as by device name, event category and definition, and by card holder categories or individual records.
22. Operator workstations shall be configurable to display system events and/or functions as required.
23. The system shall be able to monitor all emergency egress doors and interface the alarms from these doors with the CCTV system (to allow for PTZ Camera presets and event recording).
24. The IDS shall be interfaced between this system and CCTV system.

E. Description of Work:

1. Provide all necessary labor, tools, equipment and ancillary materials required to furnish and install a complete and operational access controls and alarm monitoring system.
2. Access Control System will manage access to designated buildings and areas within the campus using encoded cards and/or Keypads. See Exhibit A.

    a. Public entrances and exits
    b. Employee entrances and exits
    c. Access to administrative space
    d. File storage rooms
    e. Evidence storage rooms
    f. Executive office areas
    g. Vehicular access (employee and delivery areas)

3. The extent of Access Control System work is defined to include, but not by way of limitation:

    a. Field Panels.
    b. Proximity card readers.
    c. Software.
    d. Keypads.
    e. Input monitoring modules.
    f. Output modules.
    g. Wiring, power supplies, switches and ancillary equipment.
    h. Security Rack.
    i. Programming at CHP Sacramento Headquarters and Oceanside.

1.2 REFERENCES

A. CEC: All electrical wiring work shall comply with the latest edition of the CEC.

B. NEMA: Electrical equipment shall comply with applicable portions of NEMA.

C. FCC: All assemblies shall be in compliance with FCC emission standards.

1. Microprocessor based controller: Part 15, Subpart F, Class A.
2. Proximity Card Reading Sensors: Part 15, Subpart F (field disturbance sensors).
3. Dial-up modems: Part 68

D. UL-1012: All power supplies shall be in compliance with Underwriters Laboratories standard 1012 standards for power supplies.

E. CHP Information Security procedures.

1.3 SUBMITTALS

A. Product Data: Submit for prior approval, three (3) copies of manufacturer's data on Access Control System and components, including manufacturer's model numbers, catalog data sheets, power requirements, dimensions, layouts, installation details, single line riser diagram.

B. Shop Drawings: Submit dimensioned drawings of Access Control System and accessories, including proximity card readers, biometrics, rack, power supplies, switches and ancillary equipment. Submit separate layout drawings of each equipment rack, control panel, interpanel and interpanel wiring, power supplies, terminal strips, including labeling of all components, point-to-point wiring, and calculations for CHP power. Provide 1/8-inch scale floor plans showing locations of all devices.

C. Security Riser Diagram: Shall detail the number and location of field devices, power supplies, indicate all cabling and wiring, host equipment. Riser diagrams shall be submitted to the CHP for review and concurrence prior to execution.

D. Operator's Manual: Submit for prior approval, three (3) copies of manufacturer's manual for operating the system and its related components.

E. Submit evidence of training from the manufacturer of the system proposed for installation. Evidence shall include written certificates of training or similar documentation on manufacturer's letterhead demonstrating the installer's qualifications.

F. Provide Acceptance Test procedure which tests every function of the system. Submit Test procedure and Test results to State for approval. Demonstrate the system to the CHP.

1.4 QUALITY ASSURANCE

A. Manufacturer: Manufacturer of products defined in this section must have:

1. Industry experience: Company must have at least five (5) years experience in manufacturing and servicing integrated access control and alarm monitoring systems.

B. Qualifications:

1. Company with a minimum five (5) years system design, engineering supervision and

installation experience in the alarm, building automation or Access Control industry.
2. Company that is trained and authorized to install manufacturer products.
3. Company that has been successfully installing systems of equal size and complexity for a minimum of five (5) years. Submit a minimum of three (3) references. System references shall include projects where software and hardware installed is the same model as the software and hardware proposed for this project (earlier versions are acceptable).
4. Company shall include all necessary labor, tools, equipment, and ancillary materials required to furnish and install a complete and operational access control and alarm monitoring system.
5. The extent of Access Control System work is defined to include, but not be limited to:
    a. Installation of and testing of system including: Security rack, Security doors, panic alarms, programming, field panels, proximity card readers, biometrics, input modules and output modules and software.
    b. Wiring, power supplies, switches patch panel, fiber optics and ancillary equipment.
    c. Programming of system, including creation/translation of database with CHP input and access levels.
    d. Operator training for using and programming the system for up to six (6) operators and two (2) shift supervisors, provide in two (2) sessions of four (4) hours each. Provide two (2) additional four (4) hour training sessions three (3) months after acceptance.

B. System Checkout:

1. Pre-testing: All components and assemblies of the control unit are to be pretested at the factory prior to shipment.
2. Burn-in: 1,000 hours at normal operating conditions or equivalency.
3. On-site testing: Prepare system acceptance test procedures and functionally test the entire system and each component in the system after installation to verify proper operation and confirm that the wiring and addressing conform to the wiring documentation. Submit test and test results to CHP for approval.

1.5 WARRANTY

A. Proximity Command Cards: No less than 1 year.

B. System Components: Twelve (12) months from date of acceptance.

1. Provide twenty-four (24) hour emergency service for all reported system operational failures during such twelve (12) month warranty period. The system must be fully operational within forty-eight (48) hours. On-site service response shall be within twenty-four (24) hours of the initial request for service and shall be provided twenty-four (24) hours a day, seven (7) days a week inclusive of all holidays.
2. Service requests shall be reported by way of a phone call to a designated service toll free phone number.

PART 2 - PRODUCTS

2.1 SOLE SOURCE JUSTIFICATION

A. The CHP has invested in an Enterprise Security Software System. This system is

designed to integrate and enable the addition of satellite CHP facilities security systems, such as CHP Oceanside, to communicate with and to be controlled by the Headquarters Security System. In order for this system to work, it is necessary that the satellite CHP facilities' security systems (hardware and software) be compatible with the CHP Headquarters Enterprise Security System. The Headquarters Enterprise System is based on RS2 Technologies Universal Software and RS2 Access Control System hardware. In order for the Headquarters system to digitally communicate with CHP ***Oceanside***, the access control system must be made by RS2 Technologies. This is because of the unique microprocessor chip code set used for the Access Control System. The Enterprise RS2 "Universal" software at Headquarters is designed to integrate, monitor, alarm and control the CCTV, Access Control, and Intrusion Detections Systems at all CHP facilities. The Universal software must also be compatible with third party intrusion detection and CCTV systems. The CCTV NVR system shall be Vicon to be fully compatible. The Intrusion Detection System shall be Digital ***Monitoring*** Products (DMP) models XR-100N or XR-500N.

MANUFACTURERS

A. Subject to compliance with project requirements, manufacturer offering Products that may be incorporated in the Work: RS2 Technologies 400 Fischer Street, Suite G, Munster, Indiana 46321. Phone: 219-836-9002. Fax: 219-836-9102.

2.3 MATERIALS AND COMPONENTS

A. System Description:

B. The Access Control System within the buildings shall consist of a microprocessor based controllers (e.g., RS2 Tech. EP-2500) that can be either standalone or networked units with means to program, monitor intrusion, and limit access to a single door or a series of controlled areas.

1. Each controller shall support a minimum of thirty-two (32) card readers and shall be capable of supporting additional input and output modules.
2. Cards:

    a. 13.56MHz capable of direct image printing (PVC overlay for direct image printing is acceptable).

3. Keypad modes:

    a. Operate in conjunction with card reader for an increased level of user authentication.

4. The Access Control System shall provide complete software and hardware to operate with the following features:

    a. Database: Database shall store all user operating data and handle event reporting for all possible attached devices, and shall contain memory capacity for the following: 1) Users with unique name and ID: 25,000 (min. per system). 2) Users with unique name and numeric ID: 10,000.
    b. Event activity: System shall designate activity as an alarm or non-alarm condition, dependent upon modules installed, and shall report activity for Supervised monitor points and Outputs.

c. Relay outputs: System shall initiate relay output commands based on:

1) Card Access Activity
2) Operator Keyboard Inputs
3) Pre-programmed Time Schedule
4) Switch Input.

d. System diagnostics:

1) Automatic system diagnostics and automatic alarming based on detected faults in the controller, sensors, wiring and multiple switch monitor. Off-line diagnostics for checking the integrity of controller's memory (RAM and ROM test), annunicator control test and radio frequency interference test.

e. Communication modes: System shall communicate activity in either of two modes, as follows:

1) Networked mode: In networked (Host) mode, the system will be polled by a Host system for activity messages. All system communications to the Host system shall be by way of TCP/IP protocol. The Host shall have the responsibility for acknowledging and translating the received messages. The controller shall make all access control decisions based on data stored locally at the panel. The controller shall request card holder record and access control information from the host when the information is not available in the field panel's memory.
2) When communications is lost with the host, the controller shall continue to make all access control decisions limited only by the information available in the field panel's memory. When host communications is restored, program and data modifications will be automatically downloaded from the host.

f. Passwords:

1) The system shall use passwords.
2) A password must be used by operator to gain access to the system commands.
3) Authorization levels: Each password shall be assigned to one of a minimum of 3 authorization levels.
4) Duplication: If a password is duplicated, the system will only recognize the first occurrence.

g. Pre-programmed: The Access Control and Security System shall have pre-programmed default data for ease in start-up and testing of equipment.
h. Off-site programming: The Access Control System shall be password protected allowing for remote control of access control system and off-site programming. Systems that connect to the network must provide remote access by way of the CHP VPM connectivity.
i. Backup: The Access Control System shall use standard Back-up utilities for restoration of system configuration files and user data in the event of database loss and or system configuration loss.
j. Modular components: The Access Control and Security System shall be such that its controller(s) are modular and expandable in design so that it can

accommodate campus growth.

A. Hardware Features:

1. The controller shall provide complete software and hardware to operate with the following features:

   a. Database: Database shall store all user operating data and handle event reporting for all possible attached devices, and shall contain memory capacity for the following:

      1) Minimum of 10,000 card holder records.

   b. Event activity: System shall designate activity as an alarm or non-alarm condition, dependent upon modules installed, and shall report activity for:

      1) Supervised monitor points.
      2) Outputs.

   c. Relay outputs: System shall initiate relay output commands based on:

      1) Card Access Activity.
      2) Operator Keyboard Inputs.
      3) Pre-programmed time periods.
      4) Input activation.

   d. System diagnostics:

      1) Automatic system diagnostics and automatic alarming based on detected faults in the controllers, card readers, wiring, and expansion modules. At a minimum, diagnostics shall include faults, card reader errors, input change of state, expansion module faults, host communications, power monitoring and reader communications errors. If a problem is detected, it shall be indicated locally by way of audible or visual annunciation and reported to the host (when communications is restored).
      2) Each time the field panel is powered, the panel shall go through an automatic diagnostic cycle. If a problem is detected, it shall be indicated locally by way of audible or visual annunciation and reported to the host. Diagnostics cycle shall include indications for fault, reader error, monitor point change of state, host communication, card reader communication, program watchdog and power.

   e. Transaction buffer: 5,000 transactions, minimum.
   f. Flash memory for real time program updates from the host and/or locally connected computer.
   g. Communication: Primary communications shall support TCP/IP protocols for Ethernet using the CHP structured wiring system by way of an on-board Ethernet port. In addition, the controllers shall have an on-board RS-232 port for local connection and emergency dial-up communications.
   h. Tamper Switch: enclosure shall include a SPDT tamper switch wired at the factory.
   i. UL-294 and UL-1076 rated.
   j. Power:

1) The field panel shall operate on 12 VDC, powered from an external, regulated power supply with battery backup. The field panel shall provide necessary power to all card readers and expansion modules.
2) Memory Retention: The field panel shall maintain configuration and card holder information for up to seventy-two (72) hours when operating power is disconnected from the field panel.

2. Proximity Card Reader:

a. General:

1) Reader (CR) shall read proximity ***smart*** card and send signal to controller for processing by way of RS-485 data network.
2) CR shall comply with standards for accessibility requirements.
3) CR shall have the means to be electrically isolated to prevent short circuits from disrupting other communications in the data line network.

b. Capacities:

1) CR shall read digital proximity cards signals at a minimum distance of 2 inches (5.08mm) and shall not require contact with the sensor.

c. Specifications: Materials shall be Polycarbonate UL94 and shall be UV resistant, sealed, water and water resistant and tamperproof.

d. Environmental:

1) Humidity: 0 percent to 100 percent condensing.
2) Temperature: -50 degrees to +180 degrees F (-46 degrees to + 82 degrees C).

e. Regulatory: Controller shall be designed to meet the following regulatory requirements:

1) UL294 Listing Standard for Safety.
2) FCC EMI and EMC Class A.

f. Mounting:

1) CR shall have the capacity to be mounted and operated behind any non-metallic, non-conductive surface, including glass.
2) CR shall have the capability to be mounted on any metal door frame.

g. Power:

1) Source: By way of the Wiegand interface cable to the field panel.
2) The sensor shall emit low power (less than one microwatt) RF field in up to six (6) inches from surface.

h. Wiring: Multiple conductor cable (22 AWG minimum) size cable gauge to meet distance requirements from the field panel.

i. Feedback:

1) Single bi-color LED (green/red) shall provide capability for diagnostic feedback.

2) Green LED indicated valid card and red LED indicates invalid card.
3) An audio tone shall indicate successful digital proximity card read and access granted.

j. Diagnostics: CR and data-line integrity shall be monitored continuously and shall alarm if failure is detected and indicate device and location of fault.

k. Self-protection:

1) Physical damage, including breaking open sensor housing, shall not allow access to any circuitry that would allow the system to be compromised.
2) Transmission of any frequency (or set of frequencies) into the sensor at any power level shall not compromise the system.

3. Keypad:

a. General:

1) Where designed, the keypad shall be integral to the CR and provided as a single card reader/keypad combination unit.
2) The system shall have the means to use a numeric keypad for entry of a Personal Identification Number (PIN).
3) The Keypad shall have the capability to provide information to the controller, either alone or in conjunction with a card reading device, thereby providing an additional level of security.
4) The system shall have the means to recognize special duress codes that can be entered into the Keypad to be available to any user during an emergency.
5) The Access Control System shall have capability to link the Keypad duress code input event to an output register and alarm and initiate a page on the paging system.

b. Capacities:

1) Keypad shall provide a standard 10 digit numeric entry organized in the standard telephone pad layout.
2) The user shall be able to enter either a 4-to 8-digit Personal Identification Number (PIN).

4. Proximity Command Card:

a. General:

1) Proximity Command Key (Card) is a proximity ***smart*** card that supports photo-ID imaging on the card. Card shall be compatible with CHP requirements.
2) Design shall be capable of color imaging on one side and vertical hole-punch for using the cards as a badge.
3) Each card shall have the capability to be programmed to operate universally at different locations.
4) Active circuit type cards (those requiring batteries) shall not be acceptable.

b. Capacities:

1) Card can generate minimum eight digit access number.
2) Cards shall have numeric encoded data embedded in an integrated

circuit within the card.

3) Each card shall be encoded so that it is totally unique and is not duplicated anywhere in the world.

c. Specifications:

1) Dimensions: Size and thickness of 3.37 inches x 2.125 inches x 0.084 (maximum) inches.

d. Material: Molded plastic with PVC overlay or PVC laminate for PVC direct card printing.

e. Environmental:

1) Temperature: -50 degrees to 160 degrees F (-45 degrees to 71 degrees C).
2) Humidity: 0 percent to 100 percent.

f. Regulatory: N/A (card is completely passive requiring no approval).

g. Power:

1) Source: Passive-powered by proximity reader.
2) Consumption: Not detectable.
3) Communication: By way of low power radio frequency.

h. Provide cards for direct photo-identification printing.

5. Power Supplies with UPS backup: Provide power supplies for controllers, interface modules and electric lock power for interior door.

a. General:

1) Uninterruptable Power Supply (see UPS Specification) shall provide continuous power to the Security System. The UPS backed Security Rack shall distribute backed up power to field panel, card reader, expansion modules, and annunciator devices or electric locks and all other components. Power to remote devices (not distributed from rack) may use a UPS panel branch circuit for power.
2) It shall support external lead acid battery(s) to maintain all field panel, card reader, expansion module and electric lock operation for at least four (4) hours in event of power failure.

b. Capacities: The power supply shall provide:

1) 12VDC output to the field panel: 24VDC output to the electric locks.
2) Ampere output current at 12VDC, 24VDC – Min. 6 Amps continuous.
3) Power failure output and battery charger output.

c. Dimensions: 11 inches x 15 inches x 4 inches depth (28 cm x 38.1 cm x 10.2 cm).

d. Environmental:

1) Humidity: 85% at 86 degrees F (30 degrees C).
2) Temperature: 32 degrees to 122 degrees F (-0 degrees to + 50 degrees C).

e. Regulatory: UL 294 and CSA.
f. Power: 120VAC/60Hz source.
g. Wiring:

1) The power supply shall be connected to the field panel through wiring of at least 16 AWG.

h. Feedback: A single LED indicates power ON condition.
i. Self-protection: The power supply shall provide the following signals to the controller:

1) Power fail.
2) Battery recharge signal.

j. The electric lock power supplies shall provide a fire alarm interface for emergency lock release.

B. Access Control & Alarm Monitoring Software features (minimum requirements):

1. Control operation: Based on the ability to force lock outputs to an operating mode based on event activity. Forcing action may be initiated by:

a. Time of Day schedule.
b. Switch closure.
c. Card authorization.
d. Manual command.

2. Access Levels:

a. The access levels shall define where and when the card holder will be granted access.
b. Number available: two hundred and fifty-six (256)(minimum).
c. The system shall provide the operator with pick lists of previously defined doors and time periods. The system shall allow the operator to create a combination of a door or door group with a time period. The system shall allow each access level to contain a minimum eight (8) door (group) and time period combinations.

1) Definable time periods: Time of Day, Day of Week, and Holidays.

3. Holidays: User definable holidays: thirty (30) (minimum).
4. Card Holder Records: The user shall be able to define card holder records according to the following parameters:

a. Card Holder records fields must be capable of supporting field and data entry for the card holders name and unique identification number.
b. User defined card holder record fields in addition to above: eight (8) (minimum).
c. Bulk program cards in groups and remove any card from the database.
d. Database integration allowing population of user defined fields in the card holder records database from the digital badge issuing software or CHP database.

5. Card functions: Card functions shall include:

a. Access: User assignable to card holders based on access levels assigned to each card holder.
b. Anti-passback:
    1) System shall have capability to designate any card holder so that when it is used to enter areas it must be used to exit that areas before it can be reused for re-entry.
    2) System shall have capability to manually or automatically reset the location of all cardholders' passback status at any time.
    3) Anti-passback modes:
        i. HARD mode: Denies re-entry and reports passback violation.
        ii. SOFT mode: Allows re-entry but reports passback violation.
    4) Shall allow for global function across card readers connected to different field panels.

6. Alarm Monitoring:
    a. Input points shall:
        1) Be designated by the user as an alarm or non-alarm event.
        2) Be selected to report at all times or during selected time periods.
        3) Be capable of being enabled/disabled manually, by time period or automatically by system event.
        4) Be capable of operating a lock output or linking to any system output or group of outputs system wide (global linking).
        5) Work with the field panel to provide immediate re-lock after card holder has gained access through portal (opened the door) independently and overriding the programmable time delay for relocking of the output.
    b. Alarm Shunting:
        1) System shall have means to connect presence detecting device to shunt alarms when an authorized employee uses an alarmed exit.
        2) System shall provide request-to-exit inputs at access controlled portals which when activated, shunts the alarm to allow for authorized egress.
        3) System shall provide a user programmable time delay for inputs connected to access controlled portals to shunt the alarm when a card holder has gained access through a portal.
        4) Alarm reporting shall be selectable by user either manually, by time period or by system event.
    c. Forced Entry Alarms:
        1) System shall have means to select which doors shall report forced entry alarms or door held open alarms.
        2) On a door by door basis, user shall be able to select which doors are to report forced entry and during what time periods.

PART 3 - EXECUTION

1.6 EQUIPMENT INSTALLATION AND DOCUMENTATION

A. Installation:

1. The Access Control System shall be installed and wired completely as shown on the approved shop plans by factory trained and authorized employees.
2. Contractor shall make all necessary wiring connections to external devices and equipment.
3. Install systems to conform with the approved submittal data. Where coordination requirements conflict with the system requirements, refer conflicts to the Lessor's Architect.
4. Install materials and equipment level and plumb, parallel and perpendicular to other building systems and components.
5. Install equipment to facilitate servicing, maintenance, and repair or replacement of equipment components.
6. Where mounting heights are not detailed, consult with and coordinate with the Lessor's Architect.
7. Coordinate all cutting, patching and site work with the General Contractor.
8. All Access Control System devices shall be securely mounted to the building structure and fastened with tamper resistant screws.
9. Use partitioned, structured cabling system cable tray for wiring management in areas served by the cable tray.
10. All wiring connections shall enter enclosures at one location and be neatly dressed.
11. Device Mounting:

    a. The access control panel shall be mounted in the security rack on a rack mounted pull-out shelf.
    b. The power supplies shall be rack mounted type, mounted in the security rack.
    c. The access control input and output modules shall be mounted in the security rack on a rack mounted pull-out shelf.
    d. The door controller modules shall be mounted above the door in a lockable enclosure. Enclosures shall be mounted out of view, either above a drop ceiling or near an accessible location above the ceiling.
    e. Isolation relays shall be utilized to eliminate door locking hardware power from being switched through the door controller pilot relay.

B. Network Communications

1. Installer shall coordinate all network communications wiring requirements with the CHP Information Technology Department.

C. Documentation

1. Accurate "as built" drawings shall be furnished before final acceptance to aid the owner in maintaining the system. These shall indicate the door(s) controlled by each lock output, the monitoring points for the door controlled area, host server, workstation and badge issuing station location, all field panel locations, all electrical circuit and telecommunications outlet designations and any annunciator outputs or special inputs into the system in hard copy and electronic format (PDF).
2. Contractor shall supply three (3) copies of operating and maintenance manuals to aid the owner in the programming of the system.

1.7 SERVICE AND SUPPORT

A. Startup:

1. Coordinate all system database requirements with CHP and build the system database for the host server and workstations. At a minimum:

    a. Provide worksheets to the owner with requested database information a minimum of two (2) weeks prior to anticipated system startup.
    b. Load 100% of system device names and system addresses.
    c. Load basic access levels.
    d. Load initial time periods and holiday schedules.
    e. Create input/output and time period controlled links.
    f. Load and test all applications and interfaces.
    g. Load and test sample proximity cards.
    h. Program Headquarters central alarm station Enterprise software to add (integrate) CHP Oceanside to the system matching existing features. This shall include the creation of floor plan maps and active icons that match existing design, to be operated from CHP Headquarters ENTAC area.
    i. Program CHP ***Oceanside*** local workstations and security system.

2. After the system has been installed, the documentation delivered to the CHP and network communications is established in compliance with Sections 3.1 & 3.2, A above, Contractor shall verify correct operation of all system components and demonstrate and test system for CHP.
3. Final system acceptance testing shall be conducted by the CHP or, at the option of CHP, their authorized representative. Acceptance testing shall demonstrate all aspects of the Access Control System including but not limited to verifying all door controls, panic alarms, alarming , CCTV integration, badging, system control and alarming at Headquarters, local workstation operations, . Contractor shall make provisions for testing (any simulations required for testing) and provide a final acceptance test plan a minimum of one week prior to the anticipated testing date.
4. Final acceptance testing shall be conducted on the completed system as described in this specification and configured to the satisfaction of the CHP.
5. Contractor shall guarantee all material and workmanship involving the system for twelve (12) months after startup.

B. Training (in addition to the requirements of Section 1.5, B, 5).

1. After system startup, Contractor shall instruct CHP personnel in how to program the system, make and add new badges via Headquarters, and demonstrate a typical operating program for each type of access controlled area.
2. Access Control System training sessions shall be arranged with the CHP at least one week prior to the training date. Training manuals shall be delivered for each trainee with one additional copy delivered for archiving on the project site.
3. At a minimum, training agenda shall consist of the following:

    a. An overview of the system components and features.
    b. A detailed description of how the equipment will operate to meet the performance requirements of the Access Control System.
    c. A description of the operating system and application software.
    d. Start up and orderly shut-down procedures for the system.
    e. Hands on training on all Access Control System software and hardware features.

f. Basic troubleshooting guide intended to identify the source of system problems.
g. System configuration and data back-up and restoration procedures.

C. Warranty Support:

1. Contractor shall be available during the warranty period to answer programming and application questions to support Lessor, State and CHP personnel during this period.
2. Contractor shall have the training and capability to provide additional support services including:

a. Regular testing and inspection of all system components and to submit reports on the results.
b. Emergency Service for repairs and adjustments to the system and part replacement if necessary.

END OF SECTION 28 13 00

SECTION 28 16 00

INTRUSION SYSTEM

PART 1 - GENERAL

1.1 SUMMARY

A. Provide a complete and functional UL listed burglary Intrusion Detection System. Coordinate with CHP Security. Submit Security System shop drawings for CHP review and approval. The Intrusion Detection System shall monitor and alarm glass break detectors in all rooms with exterior windows. Provide motion sensing detection and siren audible alarm (alarms on motion detection) in the Evidence Room with a keypad for arming and disarming this zone. Provide an RS2 Technologies compatible system (See sole source justification in Exhibit A) such as the Digital ***Monitoring*** Products DMP XR-100N intrusion panel in a rack mountable enclosure. Provide rack mountable power supply. The Intrusion panel processor shall be connected to CHP Headquarters via the LAN/WAN and integrated into the enterprise "Universal" software. The Lessor/Contractor shall be responsible for programming the system locally and at Headquarters (Universal Software edit for the new CHP Oceanside IDS addition). The glass break detector zones shall be programmed to arm during after normal hours to minimize nuisance alarms cause by normal noises.

B. Related Documents: Exhibit A.

C. Related Sections:

1. Section 26 27 26 – Wiring Devices
2. Section 26 05 00 – Basic Materials and Methods
3. Section 26 05 33 – Raceways and Boxes
4. Section 26 05 19 – Conductors and Cable

D. The system functions described in this specification define the capabilities of the equipment and are not necessarily applicable in their entirety for the CHP project.

1.2 SYSTEM DESCRIPTION

A. Intrusion System:

B. Description of work:

1. Contractor shall include all necessary labor, tools, equipment, and ancillary materials required to furnish and install a complete and operational intrusion and alarm monitoring system.
2. Intrusion System will locally display activity in designated buildings and areas within the campus using alphanumeric keypads located on the shop drawings.
3. The extent of Intrusion System work is defined to include:

   a. Integrated Security Rack (CCTV, Access Control, Intrusion System; see Exhibit A) with Intrusion System head end equipment.
   b. Evidence Room Alphanumeric keypad, motion sensor, door contact and siren, ***programmed as an Area system.***
   c. Input monitoring modules.
   d. Output relay modules.

e. Wiring, power supplies, switches and ancillary equipment.

f. Programming Headquarters Enterprise System to add (integrate) the Oceanside Intrusion system matching existing features and capabilities. Program the local system including the local security workstations at Dispatch Supervisor and Special Duty workstations. Provide Client RS2 "Universal" software for these workstations as well as DMP intrusion system software.

g. ***Building motion and glass break sensors shall be wired to the RS2 Access Control Input Modules, located on the Security rack. RS2 Output modules shall be wired to the DMP control panel input zones and expander modules, so that the DMP control panel is a slave dialer for the RS2 components. Each building motion and glass break sensor shall be wired in a home run manner for individual zoning and mapping of the RS2 access control system software.***

h. ***The security control panel and expansion modules shall be mounted in the security rack on a rack mounted pull-out shelf.***

Requirements are indicated elsewhere in these specifications for work including, but not limited to, raceways and electrical boxes and fittings required for installation of control equipment and wiring, not the work of this section.

1.3 REFERENCES

A. NEC: All electrical wiring work shall comply with the latest edition of the NEC adopted by the State of California.

B. NEMA: Electrical equipment shall comply with applicable portions of NEMA.

C. FCC: All assemblies shall be in compliance with FCC emission standards.

1. Microprocessor based controller: Part 15, Subpart F, Class A.
2. Dial-up modems: Part 68.

D. UL-1012: All internal power supplies shall be in compliance with Underwriters Laboratories standard 1012 for power supplies.

1. UL-1076: The system shall comply with Underwriters Laboratories standard 1076 for Proprietary Burglar Alarm Systems.

E. CHP Information Security procedures.

1.4 SUBMITTALS

A. Product Data: Submit for prior approval, three (3) copies of manufacturer's data on Intrusion System and components, including manufacturer's model numbers, catalog data sheets, power requirements, dimensions, layouts, installation details, single line riser diagram.

B. Shop Drawings: Submit drawings of Intrusion System and accessories including: keypads, door contacts, motions sensors, power supplies, and ancillary equipment.

C. Operator's Manual: Submit for prior approval, three (3) copies of the manufacturer's manual for operating the system and its related components.

1.5 QUALITY ASSURANCE

A. Manufacturer: Manufacturer of products defined in this section must have:

1. Industry experience: Company must have at least five (5) years experience in manufacturing and servicing intrusion alarm monitoring systems.

B. Contractor:

1. Company with a minimum of five (5) years system design, engineering supervision, and installation experience in the intrusion alarm industry.
2. Company that is trained and authorized to install the manufacturer's products.
3. Company that has been successfully installing systems of equal size and complexity for a minimum of five (5) years. Submit a minimum of three (3) references. System references shall include projects where hardware installed is the same or equal to the hardware proposed for this project (earlier versions are acceptable).
4. Contractor shall include all necessary labor, tools, equipment, and ancillary materials required to furnish and install a complete and operational intrusion alarm monitoring system.
5. The extent of Intrusion Alarm System work is defined to include, but not be limited to:
    a. Installation of and testing of system including: rack, field panels, keypads, glass break, motion sensors, input modules and output modules, and software.
    b. Wiring, power supplies, switches and ancillary equipment.
    c. Programming of system, including creation of database with CHP input for user codes and authority levels. Program system at Headquarters and locally.
    d. Operator Training for using and programming the system for up to six (6) operators and two (2) shift supervisors, provide in two (2) sessions of two (2) hours each. Provide two
    e. (2) Additional two-hour training sessions within three (3) months after acceptance.
    f. Provide two (2) two (2) hour maintenance training sessions.
    g. Provide Acceptance Testing. Prepare an Intrusion Detection System Acceptance test Procedure which tests every system function, in all modes. Test the Headquarters Central Alarm monitoring, logging, trending, printing, display functionality and local alarming, arming/disarming, tamper, loss of power, workstation monitoring functionality.

C. System Checkout:

1. Pre-testing: All components and assemblies of the intrusion alarm control unit are to be pre-tested at the factory prior to shipment.
2. On-site testing: Manufacturer trained and authorized Contractor shall functionally test each component in the system after installation to verify proper operation and confirm that the panel wiring and addressing conform to the wiring documentation.
3. Service facility: Contractor shall have service facilities within 4 hours travel time of the installation.

1.6 WARRANTY

A. Processor, power supplies, Alphanumeric Keypad, Glass Break and Motion Sensors: [No less than 1 year.]

B. System Components: twelve (12) months from date of acceptance.

C. Contractor shall provide twenty-four (24) hour emergency service for all reported system operational failures during such twelve (12) month warranty period. The system must be fully operational within forty-eight (48) hours. Include all necessary maintenance for the entire integrated system for the twelve (12) month warranty period. On-site service response shall be within twenty-four (24) hours of the initial request for service and shall be provided twenty-four (24) hours a day, seven (7) days a week inclusive of all holidays.

D. Service requests shall be reported by way of a phone call to a designated service toll free phone number provided by Contractor.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. The manufacturer shall have at least twenty-five (25) years of experience in the role of fire and security control manufacturing, and a proven track record of forward and backward compatibility for a minimum of twenty (20) years for its product's auxiliary devices, including system keypads, annunciation devices, zone expansion modules, and addressable detection devices.

B. The manufacturer must also manufacture receiving equipment that is compatible with standard dialup telephone lines and network monitoring equipment that is compatible with a LAN, WAN, and the Internet. The receiving equipment shall be capable of receiving all status and alarm messages generated by the system. The receiving equipment shall be capable of updating the panel operating program and the system date and time. C. Intrusion detection equipment manufacturer shall be (See Sole Source Justification Exhibit A):

Digital Monitoring Products, Incorporated
(DMP) 2500 N. Partnership Boulevard,
Springfield, MO 65803 Telephone (417)
831-9362 FAX (417) 831-1325

2.2 STANDARDS

A. The system shall be listed as a Power Limited Device and be listed under the standards in the table. Each system shall be supplied with complete details on all installation criteria necessary to meet all of the listings.

B. Burglary Listings K.

C. UL 365 Police Connect Burglar L.

D. UL 609 Local Burglar M.

E. UL 1023 Household Burglar Alarm System N.

Units

F. UL 1076 Proprietary Burglar

G. UL 1610 Central Station Burglar Alarm Units

H. UL 1635 Digital Burglar Alarm Communicator System Units

I. Fire Listings

J. UL 864 Control Units for Fire Protective Signaling Systems

K. UL 985 Household Fire Warning

L. Related Listings

M. NFPA 72 Local Protective Signaling

N. NPFA 72 Remote Station Protective Signaling

O. NFPA 72 Proprietary Protective Signaling

P. NFPA Household Fire Warning

Q. U.S. Government

R. Meets DCID 6/9

S. Meets DoD/NIST SCIF Standards

2.3 OPERATING DOCUMENTS

A. The contractor shall furnish to the lessor's architect operating instructions outlining the step-by-step procedures required for system start-up, operation, and shutdown at least thirty (30) calendar days prior to acceptance test. The instructions shall include the manufacturer's name, system model number, service manual, parts list, and a description of all equipment and their basic operating features.

2.4 MAINTENANCE DOCUMENTS

A. The contractor shall furnish maintenance instructions listing routine maintenance procedures, possible breakdowns and repairs, and troubleshooting guides at least 30 calendar days prior to acceptance test.

2.5 PERFORMANCE TEST REPORTS

A. Upon the installed system completion and testing, test reports shall be submitted in booklet form showing all field tests performed to prove compliance with specified performance criteria.

2.6 WARRANTY

A. A copy of the manufacturer's warranty for all equipment and materials shall be provided. Warranty shall be for all equipment, materials, installation, and workmanship for a minimum of one (1) years, unless otherwise specified.

PART 3 - GENERAL COMPONENT REQUIREMENTS

3.1 COMPONENT ENCLOSURE

A. Housings; Integrate the Intrusion System processor and power supplies into the Security Rack located in the Radio Room. See Exhibit A)

3.2 ELECTRONIC COMPONENTS

A. All system electronic components shall be solid-state type, mounted on printed circuit boards. Light duty relays and similar switching devices shall be solid-state type or electromechanical.

B. The panel shall have an over current notification LED that lights when devices connected to the Keypad Bus and LX-Bus(es) draw more current than the panel is rated for. When the over current LED lights, the LX-Bus (es) and Keypad bus are shut down.

3.3 CONTROL UNIT

A. A battery test shall be automatically performed to test the integrity of the standby battery. The test shall disconnect the standby battery from the charging circuit and place a load on the battery. This test shall be performed no more than every 180 seconds.

B. The control unit shall be capable of operating and supervising notification appliance devices as well as addressable initiating detection devices and an integrated supervised dual line digital communicator.

C. Control unit must be "Flash ROM" updatable, and program must be held in non-volatile RAM. The panel shall be able to function while the update is in process.

D. Control unit shall be capable of operating using an optional built in Encrypted Alarm Router for SCIF (Sensitive Compartmented Information Facility) applications that is certified by NIST (National Institute of Standards and Technology) for 128 Bit AES Rijndael Encryption communications.

E. The optional built-in Encrypted Alarm Router shall be capable of compliance with DCID 6/9 and UL 2050 standards.

3.4 REMOTE ANNUNCIATORS

A. The system shall support a maximum of sixteen (16) supervised remote annunciators with the identical capabilities, functions and display layout. Operation of the remote annunciators shall be limited to authorized users by the use of a code or key.

B. The remote annunciators shall be capable of operating at a maximum wiring distance of 15,000 feet from the control unit on unshielded, non-twisted cable.

3.5 CONTROL DESIGNATIONS

A. Controls shall be provided to ensure ease of operation of all specified characteristics. Where applicable, clockwise rotation of controls shall result in an increasing function. Controls, switches, visual signals and indicating devices, input and output connectors, terminals and test points shall be clearly marked or labeled on the hardware to permit quick identification of intended use and location.

3.6 TEST MODES

A. The system shall include a provision that permits testing from any alphanumeric keypad. The test shall include standby battery, alarm bell or siren, and communication to the central station.

B. The system shall include a provision for an automatic, daily, weekly, thirty (30) day, or up to sixty (60) day communication link test from the control panel installation site to the central station (Headquarters ENTAC).

C. The system shall include a provision for displaying the internal system power and wiring conditions. Internal monitors shall include the bell circuit, AC power, battery voltage level, charging voltage, panel box tamper,

3.7 SERIAL INTERFACE

A. The control panel shall be capable of a serial interface to output information to a standard serial printer or serial interface to a communication port on a standard computer. Through control panel programming the system shall include a provision to allow the selection of which reports are to be output.

3.8 POWER SUPPLIES

A. The Intrusion System shall be UPS backed from the Radio Room UPS system. Standby batteries shall be supplied to power the system in the event of a utility power failure. Batteries shall be sized to provide 105% capacity for eight hours. Standby batteries shall be sealed lead-acid. Power supplies shall be all Solid State.

B. Controls shall be designed to maintain full battery charge when alternating current is available. Batteries shall be recharged to 85% capacity within 24 hours from battery use. The system shall be automatically transferred to battery power upon loss of alternating current power and return to alternating current power upon restoration. Intrusion alarms shall not be initiated during switch over; a signal shall be initiated upon failure of battery or alternating current power.

PART 4 - FUNCTIONAL DESCRIPTIONS

4.1 SYSTEM DESCRIPTION

A. The system areas and zones shall be programmable, and the system shall store, log, display, and transmit specific custom designations for system areas, zones, and user names.

B. The system controller, user interfaces, zone input devices, relay output devices, and the system signal receiving equipment shall be engineered, manufactured, assembled, and must be distributed from a location within the United States of America.

C. The system shall support user interaction by way of a keypad, web browser, system software, key switch, or radio frequency wireless control, using integrated or auxiliary devices provided by the system manufacturer.

D. The system shall support controller zone input connections, system keypads, system zone expansion modules, and wireless zone input modules, and must support zone input connections by way of at least two competitive products. The system shall offer a

seamless integrated compatibility with hard-wire and/ or wireless zone expansion equipment for at least 200 wireless zones and/ or a maximum of 574 hardwired zones.

E. The system shall be capable of offering at least five zone expansion buses, each of which can support the connection of up to 15,000 feet of four-wire cable. Zone expansion and keypad data buses that exceed 2,500 feet of cable must include splitter/repeater modules to boost data voltage and maintain data integrity.

F. The system shall provide a seamless capability to provide a minimum of 500 addressable relays, which can be located at any connection location upon a zone expansion bus.

G. System relay outputs shall have the capability of being triggered as a result of a command from the user interface, changes in system status, changes in zone status, or by a programmable schedule.

H. System relay output states shall be programmable for momentary, maintained, pulsed, or must follow the state of an associated system zone input.

I. The system shall be completely programmable either locally from a keypad or remotely through a standard dial-up, and network connections by way of a LAN, WAN, and/or by way of the Internet.

J. The control unit shall be completely programmable remotely using remote annunciators, and/ or using upload/ download software that communicates using SDLC 300 baud, 2400 baud, or IP Addressed data network. On-site programming from a personal computer shall also be permitted.

K. The control unit shall be equipped with an anti-reversing circuit breaker to prevent damage due to accidental reversal of battery leads.

4.2 INPUT / OUTPUT CAPACITY

A. This system shall be capable of monitoring a maximum of 574 individual zones and controlling a maximum of 502 output relays.

B. The control panel shall have, as an integral part of the assembly, 2 SPDT Form C relays rated at 1 Amp at 30 VDC and four open collector 12 VDC outputs rated at 50mA each. It shall also have the capacity of a maximum of 125 output expander modules with 500 switched ground, open collector outputs, 50mA maximum and 502 auxiliary relays (Form C rated at 1.0 Amp at 30 VDC).

C. The panel shall also provide 100 programmable output schedules, and include an integral bell alarm circuit providing at least 1.5 Amps of steady, pulsed, or temporal bell output. Output type shall be programmable by zone type. Relays and voltage outputs shall be capable of being independently programmed to turn on and/or off at selected times each day.

4.3 USER / AUTHORIZATION LEVEL CAPACITY

A. The system shall be capable of operation by 10,000 unique Personal Identification Number (PIN) codes with each code having one (1) of ninety-nine (99) custom user profiles. This allows for limitation of certain functions to authorized users. The operation of all keypads shall be limited to authorized users.

4.4 ALPHANUMERIC KEYPAD

A. The system shall support a maximum of sixteen (16) keypads with alphanumeric display. Each keypad shall be capable of arming and disarming any system area based on a pass code or Proximity key authorization. The keypad alphanumeric display shall provide complete prompt messages during all stages of operation and system programming and display all relevant operating and test data.

B. Communication between the control panel and all keypads and zone expanders shall be multiplexed over a non-shielded multi-conductor cable, as recommended by the manufacturer. This cable shall also provide the power to all keypads, zone expanders, output expanders, and other power consuming detection devices.

C. If at any time a keypad does not detect polling, the alphanumeric display shall indicate "SYSTEM TROUBLE". If at any time two devices are programmed for the same address, the alphanumeric keypad shall display "4 WIRE BUS TROUBLE". If at any time a keypad detects polling but not for its particular address, the alphanumeric display shall indicate "NON POLLED ADDR". The system shall display all system troubles at selected keypads with distinct alphanumeric messages.

D. The keypad shall include self-test diagnostics enabling the installer to test all keypad functions: display test, key test, zone test, LED test, relay test, tone test, and address test.

E. The keypad shall provide an easy-to-read English text display. The text shall exactly match the text seen in all software reports, keypad displays, and central station reports.

F. The keypad user interface shall be a simple-to-use, menu-driven help system that is completely user friendly.

G. The control panel shall support a keypad interface accessible on the World Wide Web in a browser window. The web-accessible keypad interface shall provide at least five (5) programmable hyperlinks for camera access or other use.

H. The system shall support sub-control keypads with four (4) built-in zones and capable of functioning in the following modes:

I. Panel monitors all four (4) keypad zones independently with a maximum of 125 keypads attached to the control panel

J. Panel assigns one (1) zone to each keypad and monitors all keypad zones as a single zone with a maximum of 500 keypads attached to the control panel

K. Stand-alone mode allowing keypad to operate as a self-contained security system independent of the control panel

4.5 NETWORK COMMUNICATION

A. The control panel shall be capable of asynchronous network communication with a retry time between 3 and 15 seconds for a total of one (1) minute. If communication is unsuccessful the control panel shall be capable of attempting backup communication through any of the available communication methods to the same receiver or a backup receiver.

B. Network communication between the control panel and the receiver shall be in a proprietary communication format.

C. The control panel shall be capable of supporting Dynamic Host Communication Protocol (DHCP) Internet Protocol (IP) addressing.

D. Underwriters Laboratories (UL) shall list network communication by the control panel for Grade AA High-Line Security.

E. The control panel shall be capable of two-way network communication using standard Ethernet 10BaseT in a LAN, WAN, or Internet configuration.

F. The control panel shall be capable of communication by means of a 128 Bit AES Rijndael Encryption process certified by NIST (National Institute of Standards and Technology) to an SCS1R receiver with a built-in Encryption Alarm Router.

G. The control panel shall be capable of meeting DCID 6/9 and UL 2050 standards.

END OF SECTION 28 16 00

SECTION 28 23 00

VIDEO SURVEILLANCE

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Cameras.

B. Network Video Recorder

C. Control equipment and power supplies.

D. Cable and accessories.

E. Software and programming

F. Intox Recording Station including Cameras, Microphone, DVR and Audio Amplifier

G. Security Rack

H. Provide a complete working installation of all systems with all equipment called for in proper operating condition. Documents do not undertake to show or list every item to be provided. When an item not shown or listed is clearly necessary for proper installation and operation of the equipment and systems provide, install and test/certify the item at no increase in contract price.

1.2 RELATED SECTIONS

A. Section 28 13 00 – Security Access Control System.

1.3 SCOPE OF WORK (See Exhibit A)

A. The work scope under this Section encompasses the provision, installation and testing and documentation of a Digital Video Surveillance and Digital Recording System.

B. The contractor shall provide and install the video surveillance system, control boards, media converters, rack and housings, cameras, audio gear, incidental terminal boxes, fixed housings, mounts, mount connections (custom and pre-fab), rack monitor and keyboard, signal processing equipment, recording equipment, power supplies, incidental flexible conduit and cabling/wiring in conduits and cable trays, terminal and termination blocks, mounts and building attachments, testing, software and programming.

C. Complete test and check of systems, in-service training and one-year parts and labor warranty.

D. Provision of all service, installation and operations manuals, software (mission critical and support) and as-built documentation.

1.4 REFERENCES

A. CEC

B. ANSI C39.1 1981 C. ASTM A 123 2001 (Rev. A)

C. EIA 170 1957

D. EIA 232 1987 (Rev D)

1.5 SYSTEM DESCRIPTION

A. The system shall be comprised of fixed and Pan, Tilt, and Zoom (PTZ) high resolution (2 Mega Pixels (MP)) IP vandal resistant cameras, Network Video Recorder (NVR), Patch panel, camera 24vac power supply, LAN/IP camera PoE Ethernet Switch (see telecommunications section for Ethernet Switch), fiber optic transmitter and receiver for IP cameras greater than 295 feet from switch), local security work station ViconNet 6 software, 19" Rack, and other components. The IP cameras connect to the LAN/IP camera switch which is connected to the NVR. The NVR provides recording of the IP cameras for playback and camera control on the local security servers and at Headquarters via the WAN. Headquarters enterprise system has a Vicon CCTV nucleus server which is connected to satellite facilities NVRs such as Oceanside. Network Video Recorder (NVR) and LAN/IP Switch.

B. The Lessor/Contractor shall provide a rack mountable Vicon Shadow NVR with 13 Tera bytes (TB) integral RAID (Vicon # VN-NVR-13TBXV6-R5). The NVR shall record all (26 minimum) cameras (2 MP) with H.264 compression and a minimum frames per second rate (FPS) of 7 for a 31 day duration. This calculates to a 13 TB RAID. The NVR is connected into the LAN/IP switch for camera inputs and NVR LAN connectivity. The rack mountable LAN/IP 100/1000 Mbps PoE switch(s) 48 ports minimum (Cisco WS-C3500-48, See specification 271300 telecommunications- switch)

C. Cameras
Provide Camera coverage as follows:

D. Site- Both gates, site perimeter, parking lots, all building entrances. See site plan. Provide (7) PTZ and (7) fixed high resolution PoE , IP vandal resistant, weather proof with heaters/ fans, Light pole mountable , color, cameras with lens specified for the proper view of the target area. The fixed cameras shall be Vicon V960D or equal. The PTZ cameras shall be Vicon Surveyor HD with controllable presets, or equal. As stated above, the PTZ cameras require 24 Vac power. Provide Cat 6 cabling and power. Also, those cameras more than 295 feet from the switch shall be provide with fiber optic transmitter, 120-24 Vac power supply, 120 Vac power. Provide connection (Cat 6 plant cable) of all cameras to LAN/IP camera Switch in the Security Rack in the Radio Room. Mount the cameras on light poles and provide camera poles as necessary. Also, mount cameras on building walls and carport roof (for South Gate viewing). Program the PTZ cameras preset positions upon alarms from Access Control System as coordinated with the CHP.

Main Office Building Interior- Provide (12) minimum IP high resolution PoE cameras, ceiling mounted dome, vandal resistant, color, with lens specified for

the proper view of the target area. The fixed cameras shall be Vicon V960D or equal. Provide coverage of all building entrances, (2) Radio room entrances, (2) corridor looking a lobby entrance door, (2) evidence room, (2) intox room in opposite corners, (1) lobby. See interior plan. See room by room descriptions. Provide connection (Cat 6A plenum rated) of all cameras to LAN/IP camera switch in the Security Rack in the Radio Room.

E. Special Applications
Intoxification and Observation Rooms- Provide a stand-alone DVR with audio recording capability for recording persons suspected of DUI while being tested. The system shall be used for evidence and shall be approved for such by the Dept. of Justice. Provide (2) fixed cameras in the Intox. room. One in the NW corner and one in the SE corner pointed at each other. Provide a Louroe Verifact Audio system with ceiling microphone mounted in the Intox room and observation room desk top amplifier connected into the DVR. The DVR shall be a standalone Vicon Kollector Force DVR with 120 fps and 1 TB hard drive, or equal. The DVR can burn DVDs for evidence in court.

1.6 SUBMITTALS

A. See Section 01 30 00 -Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate electrical characteristics and connection requirements, including system wiring diagram.

C. Product Data: Provide showing electrical characteristics and connection requirements for each component.

D. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, installation, and starting of product.

E. Project Record Documents: Record actual locations of cameras and routing of television cable.

F. Operation Data: Instructions for starting and operating system.

G. Maintenance Data: Routine trouble shooting procedures.

1.7 QUALITY ASSURANCE

A. Conform to requirements of NFPA 70.

B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience and with service facilities within 100 miles of Project.

C. Supplier Qualifications: Authorized distributor of specified manufacturer with minimum three years documented experience.

D. Installer Qualifications: Authorized installer of specified manufacturer with service facilities within 100 miles of Project.

E. Products: Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and indicated.

1.8 MAINTENANCE SERVICE

A. Furnish service and maintenance of television system for one year from Date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Vicon.

2.2 INTEGRATED SYSTEM PERFORMANCE REQUIREMENTS

The CHP has invested in an Enterprise Security Software System. This system is designed to integrate and enable the addition of satellite CHP facilities security systems, such as CHP ***Oceanside's,*** to communicate with and to be controlled by the Headquarters Security System. In order for this system to work, it is necessary that the satellite CHP facilities' security systems (hardware and software) be compatible with the CHP Headquarters Enterprise Security System. The Headquarters Enterprise System is based on RS2 Technologies Universal Software and RS2 Access Control System hardware. In order for the Headquarters system to digitally communicate with CHP Oceanside, the access control system must be made by RS2 Technologies. This is because of the unique microprocessor chip code set used for the Access Control System. The Enterprise RS2 "Universal" software at Headquarters is designed to integrate, monitor, alarm and control the CCTV, Access Control, and Intrusion Detections Systems at all CHP facilities. The Universal software must also be compatible with third party intrusion detection and CCTV systems. The CCTV NVR system shall be Vicon to be fully compatible. The Intrusion Detection System shall be Digital ***Monitoring*** Products (DMP) models XR-100N or XR-500N or Bosh models 9412 or 7412.

2.3 SYSTEM PERFORMANCE REQUIREMENTS

A. Modularity -Designed for modular increases or decreases in system size.

B. Interchangeability -Like components shall be physically and functionally interchangeable as complete items, without modification.

C. Safety -Components shall conform to CEC and applicable UL publications

D. Displays and Alarms

1. Displays shall show the graphic and visual data in GUI format. A keyboard/mouse shall be used to perform the functions required to operate the CRT. Provide programming at Headquarters (ENTAC) and at local workstations (Dispatch Supervisor and Special Duty). Provide audible and visual alarming and display at ENTAC matching existing features and at local Security Workstations. Provide a rack monitor and keyboard mouse for maintenance.
2. Alarms

a. Shall include, but are not limited to:

1.) Perception of Digital Movement by any one camera according to Lessor's initiated schedule.

2.) Power loss detection
3.) Provide capability to detect when a critical component of the system experience temporary or permanent loss of power and to declare and alarm. Alarm shall be annunciated to clearly identify toe component experiencing power loss.

3. Self -Test
   a. Provide self test capability for sensors, display lights and other elements which are not in continuous operation.
4. Electric Power
   a. Power shall be continuously monitored for interruption and tampering. If interrupted, power should be automatically switched to emergency back-up sources without interruption or degradation of critical system functions

2.4 COMPONENTS

A. Rack- The Lessor/Contractor shall provide a Security System 4 post 19"W X 7'H rack with rack mountable NVR, PDU, power supplies, LAN/IP camera Switch (POE), patch panel, ***1U Rackmount monitor/keyboard for local servicing of the CCTV system, fiber optic media converters (F/O) (Vicon FMC-TRM/FMC-TRRM media converters) and F/O cabling and termination for IP cameras*** (Vicon P/S 120-24VAC, S28WPS) located more than 295 cable feet away from the Ethernet rack switch (TIA Standard Cat cable requirement), Access Control and Intrusion Detection head end equipment, I/O boards and other suitable components. Note: the Access Control and Intrusion Detection head end equipment is normally supplied in wall mountable enclosures so it will be necessary to provide rack mountable enclosures for this equipment either by special order from the manufacturers or provided by the contractor and assembled in the field. The rack shall be located in the Radio room and powered from the UPS. The IP fixed cameras may be powered over the Ethernet (POE), however the pan, tilt, zoom (PTZ) cameras require a separate low voltage power supply.

B. Closed Circuit Television (CCTV) System
Provide Camera coverage as follows:

Site- Both gates, site perimeter, parking lots, all building entrances. See site plan. Provide (7) PTZ and (7) fixed high resolution PoE , IP vandal resistant, weather proof with heaters/ fans, Light pole mountable , color, cameras with lens specified for the proper view of the target area. The fixed cameras shall be Vicon V960D or equal. The PTZ cameras shall be Vicon Surveyor HD with controllable presets, or equal. As stated above, the PTZ cameras require 24 Vac power. Provide Cat 6 cabling and power. Also, those cameras more than 295 feet from the switch shall be provide with fiber optic transmitter, 120-24 Vac power supply, 120 Vac power. Provide connection (Cat 6 plant cable) of all cameras to LAN/IP camera Switch in the Security Rack in the Radio Room. Mount the cameras on light poles and provide camera poles as necessary. Also, mount cameras on building walls and carport roof (for South Gate viewing). Program the PTZ cameras preset positions upon alarms from Access Control System as coordinated with the CHP.

Main Office Building Interior- Provide (12) minimum IP high resolution PoE cameras, ceiling mounted dome, vandal resistant, color, with lens specified for the proper view of the target area. The fixed cameras shall be Vicon V960D or equal. Provide coverage of all building entrances, (2) Radio room entrances, (2) corridor looking a lobby entrance door, (2) evidence room, (2) intox room in opposite corners, (1) lobby. See interior plan. See room by room descriptions. Provide connection (Cat 6A plenum rated) of all cameras to LAN/IP camera switch in the Security Rack in the Radio Room.

C. Network Video Recorder (NVR)
The Lessor/Contractor shall provide a rack mountable Vicon Shadow NVR with 13 Tera bytes (TB) integral RAID (Vicon # VN-NVR-13TBXV6-R5). The NVR shall record all (26 minimum) cameras (2 MP) with H.264 compression and a minimum frames per second rate (FPS) of 7 for a 31 day duration. This calculates to a 13 TB RAID. The NVR is connected into the LAN/IP switch for camera inputs and NVR LAN connectivity. The rack mountable LAN/IP 100/1000 Mbps PoE switch(s) 48 ports minimum (Cisco WS-C3500-48, See specification 271300 telecommunications- switch)

D. Display, Alarm and Control Stations

Provide programming at Headquarters (ENTAC) to integrate CHP ***Oceanside*** into Headquarter's Enterprise Security System matching the features of the existing alarm and display system. Coordinate with the CHP for programming acceptability.

Provide Client ***RS2 "Universal" Enterprise software Licenses*** for two CHP provided security workstations (PCs with compatible Windows software) at Dispatch Supervisor and Special Duty. Also provide ViconNet 6 software for these workstations for full Vicon CCTV system functionality.

E. Intoxification and Observation Rooms
Provide a stand-alone DVR with audio recording capability for recording persons suspected of DUI while being tested. The system shall be used for evidence and shall be approved for such by the Dept. of Justice. Provide (2) fixed cameras in the Intox. room. One in the NW corner and one in the SE corner pointed at each other. Provide a Louroe Verifact Audio system (or equal) with ceiling microphone mounted in the Intox room and observation room desk top amplifier connected into the DVR. The DVR shall be a standalone Vicon Kollector Force DVR (or equal) with 120 fps and 1 TB hard drive, or equal. The DVR can burn DVDs for evidence in court.

2.5 ACCESSORIES

A. Network Video Cable: Category 6 UTP cable, CMP rated. Ethernet Switch, Patch panels, Rack
1. Refer to Division 27.

B. Power supplies: Altronix rackmountable or equal.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Use fiber optics ***with media converters*** for cameras greater than 295 feet from LAN switch. This will require 120VAC at camera for F/O converter. Use Cat 6 for IP cameras less than 295 feet from switch.

C. Mount the cameras on light poles and provide camera poles as necessary. Also, mount cameras on building walls and carport roof (for South Gate viewing). Program the PTZ cameras preset positions upon alarms from Access Control System as coordinated with the CHP.

D. Install rack head end equipment in radio room.

3.2 INTERFACE WITH OTHER PRODUCTS

Provide PTZ preset alarm signals from Access Control System and Intrusion System. Program selected PTZ CCTV cameras presets. Coordinate with CHP.

3.3 MANUFACTURER'S FIELD SERVICES

A. Provide the services of manufacturer's technical representative to prepare and start systems and supervise final wiring connections and system adjustments.

3.4 ADJUSTING

A. Adjust manual lens irises to meet lighting conditions.

3.5 TESTING

A. Prepare an Acceptance Test that will test every feature of the Video System. This includes but not limited to testing the displays, camera controls, recording and all features of the NVR, audible and visual alarming. logging, printing, PTZ presets, etc. This includes both at Headquarters ENTAC and at local workstations and at the ***Security*** Rack Monitor. Submit the prepared test for the State's review and approval. Submit the completed performed test for the State's review and approval.

3.6 DEMONSTRATION

A. Demonstrate system operation and provide two hours of instruction with Manufacturer's training personnel.

B. Conduct walking tour of project and briefly describe function, operation, and maintenance of each component.

END OF SECTION 28 23 00

SECTION 32 11 23

AGGREGATE BASE COURSE

PART 1 - GENERAL

1.1 SUBGRADE

A. Shape, water and compact until firm with approved equipment prior to placing aggregate base. Use rollers weighing at least 10 tons, and with compression on rear wheels of approximately 325 pounds per lineal inch of tire width.

PART 2 - PRODUCTS

2.1 AGGREGATE BASE

A. Class 2 aggregate base as specified in Standard Specifications of State Department of Transportation, latest edition, Section 26, Article 26-1.02B.

2.2 MINERAL AGGREGATE

A. Material: Quarry waste, broken stone, crushed gravel, or combination thereof, free from vegetable matter and other deleterious substances, and of such quality that it will compact thoroughly when watered and compacted, to form firm, well bonded base.

B. Tests: Mineral aggregate shall conform to the following:

	CALIFORNIA TEST	REQUIREMENTS
Resistance Value (R)*	301	78 Min
Sand Equivalent	217	22 Min
Durability Index	229	35 Min

*(The "R" value requirement may be waived provided aggregate base conforms to specified grading and durability and has sand equivalent value of 33 or more.)

Untreated base made from gravel aggregate, shall show substantial percentage of crushed faces, and fines below No. 4 shall contain sufficient binding or cementitious material to ensure sound, well bonded base.

C. Grading: Densely graded aggregate from specified maximum size to 200 mesh fines, conforming to the following:

PERCENTAGE PASSING

SIEVE SIZE	1-1/2" MAXIMUM	3/4" MAXIMUM
2"	100	
1-1/2"	90-100	
1"	100	
3/4"	50-85	90-100
No. 4	25-45	35-55
No. 30	10-25	10-30
No. 200	3-9	3-9

PART 3 - EXECUTION

3.1 SPREADING

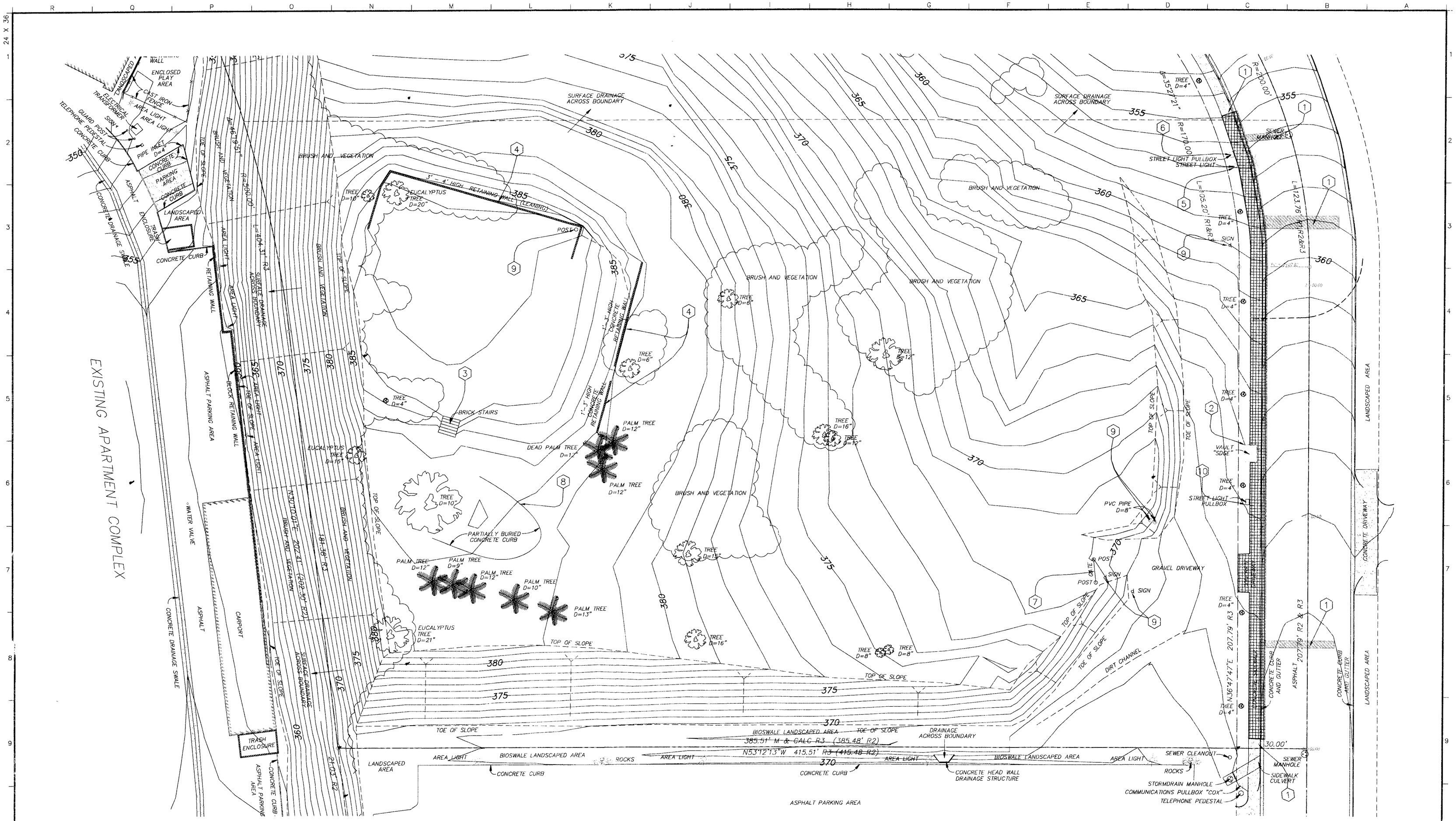
A. Deliver base material to subgrade as uniform mixture. Spread each layer in one operation without segregation to compacted thickness of 6 inches maximum.

3.2 COMPACTING

A. Water base material as required and compact with steel wheeled power roller, weighing 10 tons minimum with compression on rear wheel of 325 pounds minimum per lineal inch of tire width. Continue rolling until relative compaction of 95 percent minimum as determined by California Test 216 or 231, has been obtained for the entire thickness of the base.

B. Do not vary thickness of finished base more than 1/2-inch from planned thickness at any point. Rework base which does not conform to above requirements; reshape, water, and thoroughly re-compact to conform to specified requirements.

END OF SECTION 32 11 23



KEY NOTES:

1. SAWCUT 18" MIN. BEYOND WORK AND REMOVE AC, CURB, GUTTER AND SIDEWALK.
2. PROTECT SAN DIEGO GAS AND ELECTRIC (SDGE) VAULT. SDGE WILL ADJUST VAULT TO GRADE. CONTRACTOR SHALL OBTAIN ALL SDGE PERMITS AND PAY ALL SDGE FEES, AS WELL AS COORDINATE AND SCHEDULE ALL SDGE WORK.
3. REMOVE STAIRS AND FOOTING
4. REMOVE RETAINING WALL AND FOOTINGS
5. RELOCATE STREET LIGHT
6. RELOCATE PULL BOX & ASSOCIATED CONDUITS
7. REMOVE GATE AND POSTS
8. REMOVE PARTIALLY BURIED CONCRETE CURB
9. REMOVE SIGN/POST PIPE
10. ADJUST PULLBOX TO MATCH FINISH GRADE

GENERAL DEMOLITION NOTES:

1. ALL TREES, TREE STUMPS, BRUSH, DEBRIS, UTILITIES, POST, REBAR, GATES, ROCKS, BOULDERS THAT ARE NOT GOING TO BE SALVAGED ARE TO BE REMOVED FROM PROJECT PROPERTY. 1
2. SEE CITY OF VISTA DRAWINGS CV.1 THROUGH CV.10 FOR ADDITIONAL DEMOLITION WORK.
3. SALVAGE UP TO 24 EACH BOULDERS THAT ARE DISCOVERED DURING THE DEMOLITION, EXCAVATION OR GRADING OPERATIONS THAT ARE IN GOOD CONDITION BETWEEN THE SIZES OF 2'x2'x2' AND 3'x3'x4' AND PLACE ON SITE PER DETAIL 4/L4.1. 1

LEGEND

- ASPHALT REMOVAL
- CONCRETE CURB, GUTTER, STAIRS OR SIDEWALK REMOVAL

DGS GENERAL SERVICES

Department of General Services
Design Services Section
State of California
Real Estate Services Division
Professional Services Branch

707 Third Street, 4th FLOOR, MS504
West Sacramento, California 95605

Project Manager: Dianna Brown
916 376 - 1686 Voice
916 375 - 1690 Fax
Dianna.Brown@dgs.ca.gov

REGISTERED PROFESSIONAL ENGINEER
DIANNA DIGIONE
No. C-55479
Exp 12-31-14
CIVIL
STATE OF CALIFORNIA
1/9/13

IDENTIFICATION STAMP
Division of the State Architect
Structural Safety/Access Compliance

App. No.: 04-112145
SS: GR AC: [illegible]
Date : 1/9/13

INCREMENT NO. 1

California State Fire Marshal
APPROVED

Approval of this plan does not authorize or approve any omission or deviation from applicable regulations. Final approval is subject to field inspection. One set of approved plans shall be available on the project site at all times.

CSFM File No. 01-37-11-0086
Reviewed by:
Date : JAN 9 2013

Issue

No.	Date	Description
1	7/30/12	Approved Working Drawings
1	1/9/13	Addendum #2R

Project
CALIFORNIA HIGHWAY PATROL
OCEANSIDE AREA OFFICE REPLACEMENT FACILITY
VISTA, CALIFORNIA
SAN DIEGO COUNTY

Supervisor	Designed	Drawn	Checked
FP	JD	JD	FP

File Date | Vault File Number

Sheet Title
DEMOLITION PLAN

DSA Building Number | Work Order 122170

Reference North | Sheet Scale 1" = 20'

Sheet Number C0.2

CAD FILE: