KMB architects

906 Columbia Street SW, Suite 400
Olympia, Washington 98501

811 First Avenue, Suite 220
Seattle, Washington 98104

360.352.8883
www.KMB-architects.com

Addendum No. 02

Project: New Police Station
City of Lacey
222 College Street SE
Lacey, WA 98503
City Project No. PW 2022-13

KMB Job No.: 22022

Issue Date: October 19, 2023

Bid Date: November 2, 2023

To: All Plan Holders

From: Bryan Beley, AIA – KMB architects

The following modifications to the Project Manual, Specifications, and/or Drawings are to be incorporated into bid proposals that may be offered, and the subsequent construction. Bidders shall assess and include the full impact of the revision(s) on any and all related systems and work. Receipt and incorporation of this Addendum in the bid proposal shall be indicated on the Bid Proposal form in the space provided.

General:

Item Description

1. QUESTIONS AND ANSWERS:

The following questions and answers do not modify the Project Manual, Specifications, and/or Drawings unless another separate Addendum item herein is specifically referenced. Disregard any answer causing further conflicts and notify the Architect immediately.

1) Question: Page B-12 of the Bid Documents section outlines the Contractor's qualification section and it is due on the 2nd business day following the bid submittal deadline. Please confirm if this relates to all General Contractors bidding or only the apparent low.
   a) This applies to the apparent low bidder, but the City may request qualifications from the 2nd and 3rd lowest bidder as they see appropriate.

2) Question: Specification Section 015639 Temporary Tree and Plant Protection, Part 1, 1.3 DEFINITIONS states: “F. Project Arborist: International Society of Arborists (ISA) certified consulting arborist as approved by Owner. The project arborist is a person on the Contractor’s staff or a subcontractor.” The Project Directory notes Sound Urban Forestry as the City Arborist. During the Pre-Bid Conference site walkthrough, it was mentioned that the Contractor would have to closely coordinate with the City Arborist prior to and during the clearing and grubbing phase to ensure all trees and vegetation scheduled for removal is properly executed. It was also noted that most of the remaining trees have already been observed to be ill and will probably require subsequent removal as a changed condition. Please clarify whether the Owner or the Contractor is responsible for the Project Arborist role.
   a) The Owner (City of Lacey) will provide and manage Project Arborist services. Contractor is responsible to coordinate and manage, with the Owner, the work of the Project Arborist services as part of the contract in accordance with the specifications. This is clarified in this Addendum.

3) Question: For aluminum sectional doors, please confirm 11/32 inch impact-rated polycarbonate sheet. Listed Basis-of-Design Products only offer 1/4 inch glazing stops, therefore only 1/4 inch is available.
   a) Specification to be updated to note 1/2" Insulated Low E Tempered Glass consisting of two panes of 1/8" Tempered insulated glass, clarified in this Addendum.

4) Question: Door type OHD-A on sheet A-602 glass configuration is not available – you cannot have a single row of glass as shown. Please confirm sections will have two panes of glazing per row, not one.
   a) Specification to be updated to note that the SleekSightline option to the AlumaView AV200. This allows a single row of glass. Approved Substitutions noted may be submitted with more than one panel per door section, clarified in this Addendum.

5) Question: Door type OHD-A on sheet A-602 also shows frosted glazing on the bottom row – polycarbonate is known to be prone to scratching when cleaned. Please confirm if frosted glazing is desired throughout the other sections to minimize scratches from cleaning.
   a) Frosted Glazing will be changed to DWF-1 film to be installed on the interior side of the lower panels, clarified in this Addendum.

6) Question: 200000 1.10A states "All electrical work, conduit, boxes, and devices in connection with control wiring as required to install the control equipment as specified herein or shown on the drawings shall be furnished and installed complete by the Division 26 Contractor." 230900 3.2A states "All conduit, wiring, accessories and wiring connections required for the installation of the Energy Management System, as herein specified, shall be provided by the EMCS Contractor unless specifically shown on the Electrical Drawings under Division 26 Electrical." These two statements appear to contradict each other – please clarify who is responsible for the control / EMCS electrical material and labor.
   a) All transformers, conduit, wiring, accessories and wiring required to create the EMCS outlined in section 230900 shall be provided by the controls contractor. Electrical work, conduit, boxes, and devices required to power the EMCS shall be provided by the Division 26 contractor.

7) Question: Per the electrical contractors the Genset delivery time is 99 to 129 weeks out. This is longer than the allowed construction time of 20 months. Please address how to handle this since there are such large liquidated damages.
   a) The City of Lacey is including provisions for critical items with long lead times. See section 007200 GENERAL CONDITIONS Article 15.01 attached to this Addendum:
      "The Contractor shall show procurement of the materials anticipated to be critical materials as activities in the Progress Schedule. If approved Progress Schedule indicates that the materials procurement are critical activities, and if the Contractor has provided documentation that purchase orders are placed for the critical materials within the prescribed 21 calendar days, then contract time will be suspended upon physical completion of all critical work except that work dependent upon the critical materials. Items anticipated to be critical materials include but are not limited to:
         Emergency Generator – Diesel
         Dry Type Transformers
         Transfer switches (to be installed to allow for City to utilize temporary generator, if needed)
         Uninterruptible Power Supply (UPS)
         Elevator
      Charging of contract time will resume upon delivery of the critical materials to the Contractor or 693 calendar days from contract NTP, whichever occurs first. "

8) Question: Spec Section 102813 2.6 calls for channel frame mirror however plans keynotes T-05 is a frameless mirror. Please verify which is needed.
   a) T-05 to be changed to 'MIRROR' in this Addendum.
   b) Mirrors in Fitness Room to have frames. Refer to Specification Section 088300 MIRRORS.
   c) Mirrors in Restrooms, Showers, Changing Rooms and Locker rooms to have frames per Specifications Section 102813.

9) Question: Grab bars in the ADA shower are not listed in specs or keynotes on the plans however they are shown. Please verify whether a standard two wall bar or peened is needed.
   a) Grab bars in showers are part of a pre-fabricated shower enclosure system. Refer to Plumbing schedule for product.

10) Question: Spec Section 102813 2.5 A & B list both liquid and foam soap dispensers. Please verify what dispenser T-12 on the keynotes is referencing, whether liquid or foam.
   a) Soap Dispensers to be automatic foam dispensers. Liquid dispensers to be deleted in Specifications.

11) Question: Section 011100 Paragraph 1.10 G states that the contractor personnel are to comply with the owner's requirements for background screening. Please provide additional information as to the extent of the background screening and the procedure.
   a) The City of Lacey will not require background screening for contractor personnel. This is clarified in this Addendum.

12) Question: No beam size is indicated for the beam on gridline 1 between C & F on Sheet S-113. Please advise on the size of this beam.
   a) The beam related to gridline 1 between C & F is shown on the Roof Framing plan, Sheet S-115.

13) Question: Detail 7 on Drawing A-542 calls out for steel brackets for the lumber fins. Are these brackets continuous or are they spaced at a certain "O.C"? If they are O.C. what is the spacing between them?.
   a) They are individual brackets. For additional information in regards to brackets, fins and spacing refer to sheet A-521 for fin attachment details.

14) Question: Specification Sections 104313, 105613, 113013, and 129313 state that the defibrillator cabinets, metal storage shelving, residential appliances, and interior bike racks are to be owner-furnished. Please confirm installation of these Owner-provided items are the responsibility of the Contractor.
   a) Refer to FFE schedules for information. Majority of items are Owner Furnished and Contractor Installed (OFCI). Some residential appliances are OFCI and CFCI (Contractor Furnish / Contractor Install).
      (1) AED Cabinet is CFCI. Bike Racks and Shelving are OFCI. AED Cabinet specification will be updated in Addendum No. 03.

15) Question: Architectural elevations and sections call out lower level finish floor as 178'-6". Slab elevations on foundation plans call out lower finish floor as 176'-0". Please confirm lower level elevation.
   a) 178'-6" is the correct finish floor elevation for the Lower Level. All references to Lower Level 176'-0" throughout drawings shall be changed to 178'-6" in this Addendum.

16) Question: Radiator-mounted Load Bank is identified on the drawings but no specifications for it, size, breaker size, etc. Please clarify.
   a) Load bank details will be clarified in Addendum No. 03.

17) Question: The one-line diagram shows the feeder from the generator to the ATS going through the utility metering section. Please confirm that it is in fact the feeder from the utility transformer to the ATS that needs to route through the metering section.
   a) Confirmed - the one-line will be revised to clarify the intent in this Addendum.

18) Question: One other discrepancy is that the One Line indicates a 72 hour fuel tank and the specifications list a 24 hour capacity.
   a) The fuel capacity requirement is 72hrs. The Specification will be clarified in this Addendum.

19) Question: 105113 F-30 Duty Bag Lockers – Please confirm bid quantity 25 or 35 2 banks of 5 in the central and south stairwells have dashed lines – are these designated as 'Future' purchases?
   a) All duty bag lockers on the floor plans are in contract – none are future. Floor plans show 25 total – not sure where the 35 was found. There are a total of 20 (3) tier duty bag lockers located in the corridors and 5 bank (3) tier lockers under the stairs are in the base bid (CFCI). Please follow-up if necessary.

20) Question: A-112, F12/11 – E38 shows mobile storage shelving – is this part of section 105613? Is this product part of the bid requirements?
    a) Mobile High Density Shelving is owner equipment currently in the existing Police Department and will be moved to the new building. Refer to the FFE schedule for more information.

21) Question: Mobile Shelving system needed for Room 047. States it is owner-furnished. Usually section 105626 is for mobile shelving systems. The other rooms that need more info shelving specs are:
    - Bulk Storage Room 074
    - Weapon Evidence Storage Rm. 047B
    - Evidence Processing Rm. 044
    - Less-Than-Lethal Storage Rm. 040

    How many levels and what height and width? Metal shelves, wire shelves or wood shelves? Locking requirements? Will it need seismic testing?

    a) Mobile High Density Shelving is existing and will be moved to the new building. Refer to the FFE schedule for more information.
    b) Please refer to FFE schedule for shelving basis of design vendor and product (specs bookmarked as 011101). Any large shelving is Owner Furnished and Contractor Installed. No seismic testing is required – seismic restraints required to be installed.

22) Question: On drawing A-624, under the "Steel Casework" section, it notes that the casework should be "Painted Steel Casework, Phenolic Resin Fronts". In reviewing Section 123553.13 it does not reference "phenolic resin fronts" for the Lab Casework. Please clarify if the Metal Lab Casework should have painted steel fronts or phenolic resin fronts.
    a) Section 123553.13 is revised in this Addendum to include phenolic resin panel doors and drawer fronts.

23) Question: Section 123616 notes stainless steel countertops. Are stainless steel countertops manufactured in Canada acceptable? Is there a "Buy America" requirement for this project?
    a) Stainless steel countertops from Canada are acceptable. There is no "Buy America" requirement for this project.

24) Question: Section 1.2 in Specification 220553 mentions Specification 099123 as a related requirement. Specification 099123 was not provided and the 099000 Painting specification does not include any color coded pipe identification. Please advise if any painting of MEP piping is required.
    a) References to section 099123 are removed in this Addendum. Paint for identification of plumbing piping and equipment are to be by contractor, semi-gloss enamel compatible with substrate. Colors conforming to ASME A13.1.

25) Question: Drawing C-200 references the Landscape Plans for the concrete pad at the Trash Enclosure Area but there are no details for this pad shown on the Landscape plans. Please provide a detail to follow for the Trash Enclosure Area concrete.
    a) A detail for the Trash Enclosure Area Pad is added in this Addendum.

26) Question: Detail 1 on Drawing C-102 calls for the construction entrance to have 4 to 8 inch quarry spalls and 1 to 3 inch top dressing rock. Note 2 states that the rock pad shall be at least 12" thick. Please clarify the correct thickness ranges of the quarry spalls and top dressing rock.
    a) The thickness of the construction entrance rock section shall be at least 12-inches. The 4 to 8 inches referenced in note #1 is a specification the individual quarry spalls that makes up the rock section.

27) Question: Note 19 on Drawing L-001 directs the contractor to provide a proposed credit for salvaged timber during the bidding process. The bid form has no provision for this. Please revise the bid form or eliminate this requirement.
    a) This note has been deleted. See Addendum No. 01.

28) Question: Instructions To Bidders – For proposal schedule development purposes, is the bidder to assume that the building permit will be secured by the owner during the 60 day bid price hold period? Please provide the anticipated NTP date.
    a) Yes. Anticipated NTP date is projected to be in the first week of January 2024.

29) Question: SHEET A-601 DOOR SCHEDULE & A-112 LOWER LEVEL – ENLARGED FLOOR & SYMBOL PLAN - EAST Door #ED050 shows in the Hardware Groups and Door Schedule that it is a pair of doors, but the floor plan shows it as a single door. Please confirm if door #ED050 is a double or single door.
    a) Hardware groups and ED050 to single door in schedule. Updated in this Addendum.

30) Question: 285211 Detention Monitoring and control Systems is referenced in the 087163 Detention Door Hardware spec, but it cannot be located – it is not on the Table of Contents. Please confirm 285211 is supposed to be in the bidding documents.
    a) Section 285211 is incorrectly referenced in the documents. Please instead refer to section 281300 Access Control System (via Addendum No. 01). Section 087163 Detention Door Hardware will be updated in Addendum No. 3.

31) Question: Spec Section 323300 paragraph 2.1.A.4 states that the design requirements meet the ASTM2656 standard. Arresting a 15,000lbs vehicle @ 50mph. Can an engineered M50/K12 bollard that meets ASTM2656 requirements be acceptable?
    a) M50 / K12 force protection rating for the (8) entry plaza bollards is acceptable.
    M30 / K4 force protection rating for all other site bollards is acceptable.

32) Question: Spec Section 323300 paragraph 2.1.A.5 states that the material is stainless steel for a 10-3/4" O.D. w/ 1" wall thickness. They do make a stainless-steel sleeve that fits over bollards. Please clarify that the material is steel and to utilize stainless steel.
    a) Steel bollard with stainless steel sleeve is acceptable.

33) Question: Sheet L-111 Site Material Note 7 states that "Site furnishings including benches, bicycle racks, waste receptacles, and pedestrian lighting are to be included in future submittal". Please clarify if these items are part of this contract.
    a) Site furnishings including benches, bicycle racks, waste receptacles, and pedestrian lighting are to be included in the base scope/contract.

34) Question: Please provide the depth of imported soil in restoration areas where there is not a new tree or a tree removed due to laminated root rot. (Sheet L-161)
    a) Sheet L-161 note clarification: There is no imported soil in restoration areas where there is not a new tree or a tree removed due to laminated root rot. One cubic yard of imported soil shall be installed in this zone type is exclusively for new trees or removed tree pits.

Project Manual:

Item Description

1. SECTION 000110 TABLE OF CONTENTS

1) Revise 007200 to read: "General Conditions of the Construction Contract".
2) Add reference to Section 007201, Construction Memorandum of Understanding (Draft)
3) Add reference to Section 210800, Commissioning of Fire Suppression.
4) Add reference to Section 220800, Commissioning of Plumbing.
5) Add reference to Section 230800, Commissioning of HVAC.

6) Add reference to Section 260800, Commissioning of Electrical.
7) Add reference to Section 270800, Commissioning of Communications.
8) Add reference to Section 280800, Commissioning of Electronic Safety and Security.

2. SECTION 007200 GENERAL CONDITIONS

A. Replace entire section with Section 007200 GENERAL CONDITIONS attached to this Addendum.

3. SECTION 007201 CONSTRUCTION MEMORANDUM OF UNDERSTANDING (DRAFT)

A. Add new Section 007201 attached to this Addendum.

4. SECTION 011100 SUMMARY OF WORK

A. Part 1, Paragraph 1.10G: Delete paragraph and subparagraph. Employee Screening will not be required.

5. SECTION 015639 TEMPORARY TREE AND PLANT PROTECTION

A. Part 1, Paragraph 1.3 F.: Delete and Replace paragraph with the following:

"Project Arborist: The Owner shall provide and manage Project Arborist services for the project. Contractor is responsible to coordinate and manage, with the Owner, the work of the Project Arborist services as part of the contract in accordance with the specifications."

6. SECTION 019113 GENERAL COMMISSIONING REQUIREMENTS

A. Replace entire section with Section 019113 attached to this Addendum.

7. SECTION 062023 INTERIOR FINISH CARPENTRY

A. Replace entire section with SECTION 062023 INTERIOR FINISH CARPENTRY attached to this Addendum. Deletes Wood Accents and Replaces it with Special Wood Panels (WD-2).

8. SECTION 074623 WOOD SIDING

A. Page 2, Part 2, paragraph 2.1.B.1.b:
Delete "No substitutions" and Replace with "Approved Substitutions."

9. SECTION 083613 SECTIONAL DOORS

A. Page 3, Part 2, paragraph 2.4.A.1. Basis of Design, Delete:
"a. Raynor: AlumaView AV200" and Replace with "a. Raynor: AlumaView AV200, SleekSightline finish."

B. Page 3, Part 2, paragraph 2.4.A.1. Basis of Design, Add:
"c.. Approved Substitutions noted above may be submitted with more than one panel per door section.

C. Page 3, Part 2, paragraph 2.4.A.13. Glazed Panels, Delete:
"a. Impacted Rated Glass: 11/32 inch thick, UL listed, multi-ply carbonate sheet" and
Replace with
"a. 1/2 inch Insulated Low E Tempered Glass consisting of two panes of 1/8 inch Tempered insulated glass."

10. SECTION 087100 DOOR HARDWARE

A. Replace entire section with SECTION 087100 FOOR HARDWARE attached to this Addendum (54 pages). Includes Deletion and Replacement of 3.5 DOOR HARDWARE SCHEDULE, SETS.

11. SECTION 088300 MIRRORS

A. Page 2, Part 2, paragraph 2.2.A, Add:
"4. Location: Mirrors located in Fitness Rooms."

12. SECTION 092900 GYPSUM BOARD

A. Page 3, Part 2, paragraph 2.3.C. Add article:
"6. GYP-3 to be Cementitious Backer Board with smooth side installed on finish side of rooms to received paint. GYP-3 is located in Holding area Ceilings."

B. Page 3, Part 2, paragraph 2.4. Add (TBP) to end of title to read:
"2.4 TILE BACKING PANELS (TBP)"

13. SECTION 095800 INTEGRATED CEILING ASSEMBLIES

A. Page 4, Part 2, paragraph 2.4.A. Delete (ASC-X) and Replace with (GYP-5) to read:
"Acoustical Panel (GYP-5):"

14. SECTION 102813 TOILET AND BATH ACCESSORIES

A. Page 4, Part 2, Delete paragraph 2.4.A. Liquid Soap Dispenser.

B. Page 5, Part 2, paragraph 2.6.A, Add:
"6. Location: Mirrors located in Restrooms, Showers, Changing Rooms and Locker Rooms."

15. SECTION 113013 RESIDENTIAL APPLIANCES

A. Page 2, Part 2, paragraph 2.3.A. Owner Furnished Products:
Delete "Owner-Furnished Products: Where indicted on Drawings, Owner will furnish the following accessories for installation by Contractor:
1. Ranges.
2. Microwave ovens.
3. Refrigerators.
4. Refrigerator/freezers.
5. Icemakers.
6. Dishwashers.
7. Clothes washers and dryers"
And Replace with: "Owner-Furnished Products: Refer to FFE schedule in specifications for OFOI, OFCI and CFCI appliances.

B. Page 2, Part 2, paragraph 2.4.A. Appliances:
Delete "Products: See Residential Appliance Schedule [Legend] on Drawings for selected appliance Products" and Replace with "Products: See Specification within and FFE schedule."

16. SECTION 104413 FIRE PROTECTION CABINETS

A. Page 2, Part 2, paragraph 2.2.A:
Delete "Cabinet Type-FEC-1" and Replace with "Cabinet Type:"

B. Page 2, Part 2, paragraph 2.2.A.5:
Un-bold "Stainless Steel Sheet."

C. Page 2, Part 2, paragraph 2.2.B:
Delete "Cabinet Type-FEC-2" and Replace with "Cabinet Type:"

D. Page 2, Part 2, paragraph 2.2.B.1.a. J.L.Industries, Inc:
Delete "Cosmopolitan Series 1036" and Replace with "Cosmopolitan Series 1037"

E. Page 2, Part 2, paragraph 2.2.B.4.c. Depth:
Delete "5-3/4 to 6-1/2 inches" and Replace with " Fits in 3-5/8 inch stud wall with 4 inch maximum projection to meet ADA."

17. SECTION 104416 FIRE EXTINGUISHERS

A. Page 2, Part 2, paragraph 2.3.A. Add:
"4. Standard Fire Extinguishers to be UL Rating: 2A:10B:C per the Fire Marshall."

B. Page 2, Part 2, paragraph 2.3.B:
Delete "(FE-1)".

C. Page 2, Part 2, paragraph 2.3.B.5.d:
Delete "Where FE-1 are not indicated but required by the local fire official" and Replace with "Where required by the local fire official."

D. Page 2, Part 2, paragraph 2.2.C:
Delete "(FE-2)"

E. Page 3, Part 2, paragraph 2.3.C.5.b:
Delete "Where FE-2 are not indicated but required by the local fire official" and Replace with "Where required by the local fire official."

18. SECTION 105113 METAL LOCKERS

A. Page 2, Part 2, paragraph 2.3.B. Add "3-tiers in total" to read "Configuration: Multi-tier with 2 doors and built-in external bottom access drawer, 3 tiers in total."

19. SECTION 116723 SHOOTING RANGE EQUIPMENT

A. Page 3, Part 2, paragraph 2.2B. Delete entire paragraph and subparagraphs. (Redundant)

B. Page 4, Part 2, paragraph 2.2C: Delete entire paragraph and subparagraphs: "C. Self-supporting, self-contained bullet backstop and containment unit for heavy use on both indoor and outdoor high-volume ranges. …"

C. Page 9, Part 2, paragraph 2.4: Add the following paragraph following A:

"B. Basis of Design: Wall Baffles; as manufactured by Action Target Inc. Provide ballistic protection for wall structures.
1. 3 Year Trusted partner warranty.
2. Tied directly into existing wall structure.
3. Size (inches): 8 feet x 36 feet (HxL).
4. Thickness, Without Fascia: 3/4 inch (19 mm).
5. Rating: ATI Class 2 (Rifle). Steel Panels: 3/8 inch (9.5 mm) thick AR500.
6. Wall attachment: Concrete or filled CMU block wall
7. Splatter Protection: Includes metal Z-purlin or 2x4s which provides air gap to increase splatter protection material life.
   a. Plywood with 2 inch (51 mm) rubber panel. "

20. SECTION 123553.13 METAL LABORATORY CASEWORK

A. Page 3, Part 2, paragraph 2.4.A: Add the following subparagraphs:
"2. Cabinet Design Style: Overlay Design
3. Cabinet Face Construction: Phenolic Resin Panel Door and Drawer Fronts **"**

21. SECTION 129313 INTERIOR BIKE RACKS

A. Page 1, Part 1, paragraph 1.2.A. Coordination:
Delete "1. Coordinate with Owner to determine size of defibrillator cabinets with AED units." And Replace with "1. Coordinate with Owner to determine size and location of bike racks to be installed"
Delete "2. Coordinate sizes and locations of defibrillator cabinets with wall depths."

22. SECTION 142400 HYDRAULIC ELEVATORS

A. Page 4, Part 2, paragraph 2.3.b.8.k.:
Delete "k. Floor: Not in Contract. Coordinate with Owner for flooring selection and provide appropriate subfloors." And Replace with "k. Floor: Provide Homogeneous Sheet Vinyl as Specified in Material Legend and Specification Section 096516 Resilient Flooring. Provide appropriate sub floor."

23. SECTION 200000 GENERAL MECHANICAL REQUIREMENTS

A. Page 15, part 3: Add new article with the following:

"3.12 COMMISSIONING

A. Selected Division 23 equipment and systems referenced are to be commissioned per Section 019113 General Commissioning and Section 230800 Commissioning of HVAC. The contractor has specific responsibilities for scheduling, coordination, startup, test development, testing and documentation. Coordinate all commissioning activities with the Commissioning Authority. "

24. SECTION 230900 ENERGY MANAGEMENT & CONTROLS (DDC)

A. Page 21, part 3, paragraph 3.5A: Delete sentence that reads "The commissioning agent may be an independent agent, the customer, or the Design Engineer." The commissioning agent will be provided by and coordinated with the Owner.

B. Page 21, part 3, paragraph 3.5: Add the following articles and adjust numbering accordingly:

"3.5 COMMISSIONING

A. The Energy Management and Control System (EMCS) is to be commissioned per Section 019113 General Commissioning Requirements and Section 230800 Commissioning of HVAC. The contractor has specific responsibilities for scheduling, coordination, startup, test development, testing and documentation. Coordinate all commissioning activities with the Commissioning Authority.

B. The control system contractor shall provide the technician responsible for the control system installation to attend a Controls Integration Meeting (CIM). The CIM shall be conducted after the control system submittal are complete and the CxA has reviewed the submittals. The meeting is to be conducted prior to finalizing the functional test procedures and shall be attended by the Commissioning Authority, the design engineer, the controls contractor, and a representative of the Owner's maintenance group at a minimum. The CIM shall include, but not be limited to, the following topics:

1. Sequence of Operations
2. Alarm Points List
3. Trend Points List
4. Displayed/Adjustable Point List
5. Graphical Interface
6. Integration with packaged equipment
7. Point-to-Point Checkout and Commissioning of Existing Equipment
8. Method of Conducting Cx Functional Testing "

25. SECTION 210800 COMMISSIONING OF FIRE SUPPRESSION

A. Add new Section 210800 attached to this Addendum.

26. SECTION 220553 IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

A. Page 1, Part 1, Paragraph 1.2: Delete entire article and adjust numbering accordingly.

B. Page 2, Part 2, Paragraph 2.3C: Revise paragraph to read: "C. Stencil Paint: Provide semi-gloss enamel or other paint compatible with substrate, colors conforming to ASME A13.1."

27. SECTION 220800 COMMISSIONING OF PLUMBING

A. Add new Section 220800 attached to this Addendum.

28. SECTION 23 07 19 HVAC PIPING INSULATIONS

A. 3.3 PIPING INSULATION SCHEDULE: Revise insulation thickness of 'Split system heat pump Refrigerant Suction/Discharge and Hot Gas Bypass' and 'Split system heat pump Refrigerant Liquid Pipe' to be 1-1/2" thick.

29. SECTION 230800 COMMISSIONING OF HVAC
- **A.** Add new Section 220800 attached to this Addendum.

30. SECTION 232100 SLEEVES AND SEALS FOR HVAC PIPING AND EQUIPMENT
- **A.** Add new Section 232100 attached to this Addendum.

31. SECTION 260800 COMMISSIONING OF ELECTRICAL
- **A.** Add new Section 260800 attached to this Addendum.

32. SECTION 26 32 13.13 EMERGENCY GENERATOR
- **A.** Page 1, Part 1, paragraph 1.2(B)., Replace with:
  "Approved Alternate Manufacturers: Caterpillar, Detroit Diesel, Kohler, and MTU. "

33. SECTION 26 32 13.13 EMERGENCY GENERATOR
- **A.** Page 6, Part2, paragraph 2.8(C)., Replace with:
  "The tank shall be sized for 72 hours of generator operation at full load. "

34. SECTION 270800 COMMISSIONING OF COMMUNICATIONS
- **A.** Add new Section 270800 attached to this Addendum.

35. SECTION 280800 COMMISSIONING OF ELECTRONIC SAFETY AND SECURITY
- **A.** Add new Section 280800 attached to this Addendum.

36. SECTION - 323300 SITE FURNISHINGS
- **A.** Page 4, Part 2.1.E.1, Add article: "a. Alternate supplier and product option: MFR Manufacturing (Metalco) 'Twinbar' Fence Panel and Gates."
- **B.** See revised language for bollard and fence clarifications.

37. SECTION - 323100 SITE FENCE AND GATES
- **A.** Add new Section 323100 attached to this Addendum.

All Drawings:

Item Description

38. LOWER LEVEL FINISH FLOOR ELEVATION
- **A.** 178'-6" is the correct finish floor elevation for the Lower Level. Revise all references to Lower Level 176'-0" throughout drawings to 178'-6".

Civil Drawings:

Item Description

39. SHEET C-200
- **A.** PAVING & HORIZONTAL CONTROL PLAN NORTH
  1) Replace callout "Trash Enclosure Area. See Landscape Plas" with "Trash Enclosure Area. 39.5' x 20.0' Concrete Pad. Detail 9 on Sheet C-204" per 8.5x11 sheet C-200-A2 attached to this Addendum.

40. SHEET C-204

A. SITE DETAILS, DETAIL 9

1) Replace DETAIL 9 "NOT USED" with DETAIL 9 "TRASH ENCLOSURE PAD" per 8.5x11 sheet C-204-A2 attached to this Addendum.

41. SHEET C-504

A. STORM DRAINAGE DETAILS

1) Delete "City of Lacey Dwg No. 5-5 "Curb Inlet Grate & Catch Basin Installation"
2) Replace DETAIL 3 "DOWNSPOUT CLEANOUT" per 8.5x11 sheet C-504-A2 attached to this Addendum..

42. SHEET C-600

A. WATER PLAN NORTH

1) Revise plan callouts for building water service, FDC service, and Fire Sprinkler service lines to be installed under base bid for future Training Building for clarity per 8.5x11 sheet C-600-A2 attached to this Addendum.

43. SHEET C-603

A. WATER DETAILS

1) Delete "City of Lacey Dwg No. 6-4.3 "Reduced Pressure Backflow Assembly for 2" or Smaller (Outdoor Application)"
2) Delete "City of Lacey Dwg No. 6-4.5 "Reduced Pressure Backflow Assembly for 3" & Greater"

Landscape Drawings:

Item Description

44. SHEET L-111

A. GENERAL SITE MATERIAL NOTES

1) Delete Note #7.

45. SHEET L-112

A. MATERIALS AND LAYOUT PLAN

1) Add Fire Access Route (Approximately 1,932 SF of additional Grass Pave surfacing) per sheet L-112-A2 attached to this Addendum.

46. SHEET L-001

A. TREE PROTECTION AND REMOVAL SCHEDULE:

1) Keyed Notes: Add Keyed Note #23 to read, "PROVIDE PERMANENT WEATHER-RESISTANT ALUMINUM TREE TAGS FOR ALL EXISTING TREES TO REMAIN. PROVIDE TEMPORARY TREE TAGS FOR TREES TO BE REMOVED. INSTALL TREE TAGS PRIOR TO DEMOLITION AND TREE REMOVAL WORK."

47. SHEET L-006

A. TREE PROTECTION AND REMOVAL SCHEDULE

1) Include additional trees in the table below to the list of trees for removal. Trees in the additional list are outside of the project limit / parcel line. The City of Lacey has an CMOU agreement in place with the adjacent property owner to remove the trees on their behalf as part of the project scope.
2) Tree locations, along the eastern property/parcel line, shall be illustrated on sheets L-001-, L-002, L-003 in ADD-03.

TREE #	TREE DESCRIPTION	DBH (IN.)	TREES TO BE REMOVED (TBR)	TREES TO PROTECT	ROOT PROTECTION ZONE (RADIUS, FT)	SPECIES	CONDITION	NOTES	W/IN PARCEL LIMITS
3614	EVERGREEN	30	X		30	Fir	Dead	LRR	N
3615	EVERGREEN	19	X		19	Fir	Dead	LRR	N
3616	EVERGREEN	30	X		30	Fir	Poor	LRR	N
3617	EVERGREEN	24	X		24	Fir	Poor	LRR	N
3619	DECIDUOUS	12	X		12	Fir	Poor	LRR	N
3620	DECIDUOUS	18	X		18	Fir	Poor	LRR	N
3621	DECIDUOUS	24	X		24	Fir	Poor	LRR	N
3622	DECIDUOUS	24	X		24	Fir	Poor	LRR	N
3623	DECIDUOUS	26	X		26	Fir	Poor	LRR	N
3624	DECIDUOUS	24	X		24	Fir	Dead	LRR	N
3625	DECIDUOUS	28	X		28	Fir	Dead	LRR	N
3626	EVERGREEN	28	X		28	Fir	Poor	LRR	N
3627	EVERGREEN	28	X		28	Fir	Poor	LRR	N
3717	EVERGREEN	12	X		12	Fir	Dead	LRR	N
3751	EVERGREEN	19	X		19	Fir	Dead	LRR	N
3755	EVERGREEN	27	X		27	Fir	Dead	LRR	N
3756	EVERGREEN	27	X		27	Fir	Dead	LRR	N
3762	EVERGREEN	36	X		36	Fir	Poor	LRR	N
3842	EVERGREEN	27	X		27	Fir	Dead	LRR	N
3843	EVERGREEN	21	X		21	Fir	Dead	LRR	N
3887	EVERGREEN	36	X		36	Fir	Dead	LRR	N
3892	EVERGREEN	33	X		33	Fir	Poor	LRR	N
3894	EVERGREEN	23	X		23	Fir	Poor	LRR	N
4014	EVERGREEN	24	X		24	Fir	Poor	LRR	N
4015	EVERGREEN	38	X		38	Fir	Poor	LRR	N
4031	EVERGREEN	15	X		15	Fir	Poor	LRR	N
4032	EVERGREEN	24	X		24	Fir	Poor	LRR	N
4036	EVERGREEN	12	X		12	Fir	Poor	LRR	N
4037	EVERGREEN	26	X		26	Fir	Poor	LRR	N
4038	EVERGREEN	33	X		33	Fir	Poor	LRR	N
4089	EVERGREEN	22	X		22	Fir	Poor	LRR	N
4094	EVERGREEN	23	X		23	Fir	Poor	LRR	N
4096	EVERGREEN	24	X		24	Fir	Poor	LRR	N

TREE #	TREE DESCRIPTION	DBH (IN.)	TREES TO BE REMOVED (TBR)	TREES TO PROTECT	ROOT PROTECTION ZONE (RADIUS, FT)	SPECIES	CONDITION	NOTES	W/IN PARCEL LIMITS
4097	EVERGREEN	21	X		21	Fir	Poor	LRR	N
4098	EVERGREEN	14	X		14	Fir	Poor	LRR	N
4101	EVERGREEN	27	X		27	Fir	Poor	LRR	N
4110	EVERGREEN	20	X		20	Fir	Poor	LRR	N
4129	EVERGREEN	28	X		28	Fir	Poor	LRR	N
4130	EVERGREEN	12	X		12	Fir	Poor	LRR	N
4131	EVERGREEN	8	X		8	Fir	Poor	LRR	N
4132	EVERGREEN	24	X		24	Fir	Poor	LRR	N
4133	EVERGREEN	27	X		27	Fir	Poor	LRR	N
4134	EVERGREEN	18	X		18	Fir	Poor	LRR	N
4135	EVERGREEN	15	X		15	Fir	Poor	LRR	N
4148	EVERGREEN	26	X		26	Fir	Poor	LRR	N

48. SHEET L-503

A. DETAIL # 04 FIXED BOLLARD

1) Design and Material Clarification:
   a) M50 / K12 force protection requirement for (8) entry plaza bollards. Brushed stainless steel finish. Sleeve / cover option acceptable.
   b) M30 / K4 force protection requirement for all other site bollards. Tnemic paint finish. Safety yellow color.

49. SHEET L-503

A. DETAIL #1 FREESTANDING GABION WALL

1) Add notes:
   a) HILFIKER WELDED-WIRE MESH BASKETS. 2" X 2" WIRE GRID SPACING. UNIFINISHED MILD STEEL. NO GALVANIZED COMPONENTS.
   b) ROCK FILL: 2" – 4" QUARRY SPALLS. GREY GRANITE OR BASALT.

50. SHEET L-502

A. DETAIL # 04 GUARDRAIL

1) Material revision for guardrail plate material: Replace Note #1 "STAINLESS STEEL, LIGHT SANDBLAST FINISH" with "GALVANIZED STEEL WITH SHOP APPLIED PRIMER AND MATTE BLACK FINISH TNEMIC PAINT".
2) Maintain stainless steel cables.
3) Add 1" x 6" composite lumber, with countersunk (bottom face) stainless steel screw to affix to the top flat bar of guardrail, full length at entry plaza.

51. SHEET L-502

A. DETAIL # 07 SIGN POST MOUNT

1) Material clarification for post material: "GALVANIZED STEEL WITH SHOP APPLIED PRIMER AND MATTE BLACK FINISH TNEMIC PAINT".
2) Add notes:
   a) "SIGN POST HEIGHT 42" ABOVE FINISHED GRADE UNLESS OTHERWSIE NOTED."
   b) "SEE ELECTRICAL / ACCESS CONTROL SPECS FOR GATE CONTROL AND CARD READER CABINETS."

52. SHEET L-501

A. DETAIL # 05 GUARDRAIL

1) Revise detail name to be "ADA RAMP WALL AND GAURDRAIL".
2) Location clarification: extent of guardrail with handrail exclusively on south egress ramp.
3) Material clarification: Stainless steel handrail, brushed finish, 1.5" diameter round tube, mechanically fasten to guardrail with stainless steel hardware.

53. SHEET L-154

A. PLANT SCHEDULE Clarification of "MEADOW MIX":

1) Add note, "NORTHWEST PRAIRIE MIX. PROVIDED BY NORTHWEST MEADOWSCAPES". OR ACCEPTED EQUAL."
2) Add note, "SEED MIX:
   ANNUAL WILDFLOWERS 16%
   GLOBE GILIA (GILIA CAPITATA), FAREWELL TO SPRING (CLARKIA AMOENA)
   PERENNIAL WILDFLOWERS 14%
   SELF HEAL (PRUNELLA VULGARIS), WESTERN YARROW (ACHILLEA MILLEFOLIUM), LARGE CAMAS (CAMASSIA LEICHTINII), RIVERBANK LUPINE (LUPINUS RIVULARIS), WOOLY SUNFLOWER (ERIOPHYLLUM LANATUM), SHOWY FLEABANE (ERIGERON SPECIOSUS)
   NATIVE GRASSES 70%

ROEMER'S FESCUE (FESTUCA ROMERII), TUFTED HAIRGRASS (DESCHAMPSIA CESPITOSA), MEADOW BARLEY (HOREDUM BRACHYANTHERUM), BLUE WILD RYE (ELYMUS GLAUCUS), CALIFORNIA BROME (BROMUS CARINATUS), RED FESCUE (FESTUCA RUBRA), SLENDER WHEATGRASS (ELYMUS TRACHYCAULIS)"

Architectural Drawings:

Item Description

54. SHEET A-201

A. EXTERIOR ELEVATIONS

1) Elevation View 4, Main Building West: add notes associated with the card reader and audio intercom call station as shown per 8.5x11 sheet A-201-A2 attached to this Addendum.

55. SHEET A-402

A. THIS SHEET AND ALL INTERIOR ELEVATIONS AND DRAWINGS

1) At all instances throughout the Architectural and Interior drawings, replace "T-05 FRAMELESS MIRROR" with "T-05 MIRROR".

B. ENLARGED RESTROOM - PLANS / ELEVATIONS

1) Interior Elevation View 4: revise elevation to show wall tile hatch as shown per 8.5x11 sheet A-402-A2 attached to this Addendum.
2) Interior Elevation View 6: revise elevation to show wall tile hatch as shown per 8.5x11 sheet A-402-A2 attached to this Addendum.

56. SHEET A-541

A. EXTERIOR HM DOOR THRESHOLD

1) Detail View 9: revise detail and notes to show XPS insulation on the inside face of the concrete foundation as shown per 8.5x11 sheet A-541-A2 attached to this Addendum.

B. EXTR OVERHEA DOOR THRESHOLD

1) Detail View 13: revise detail and notes to eliminate threshold at opening as shown per 8.5x11 sheet A-541-A2 attached to this Addendum.

57. SHEET A-548

A. INTERIOR DOOR, FRAME & RELITE DETAILS

1) Add new Detail 17, FITNESS SOUND ISOLATION THRESHOLD per 8.5x11 sheet A-548-A2 attached to this Addendum.

58. SHEET A-602

A. DOOR TYPES

1) OHD-A: revise door type elevation to show single-glazing pane on bottom row, and note "DWF-1" window film instead of "FROSTED" as shown per 8.5x11 sheet A-602-A2 attached to this addendum.

59. SHEET A-611

A. STOREFRONT TYPES

1) Detail View 1, SF-01: revise storefront type elevation to correspond with actual door height per revised door schedule. See related Addendum item herein.
2) Detail View 2, SF-10: relocate elevation on sheet to align FINISH FLOOR to the bottom of storefront type.
3) Detail View 2, SF-14: revise storefront type elevation to correspond with actual door height per revised door schedule. See related Addendum item herein.

60. SHEET A-401a (TRAINING BUILDING)

A. ENLARGED RESTROOM PLANS / ELEVATIONS

1) Interior Elevation View 10: revise elevation to correctly depict 'CT-2' tile (smaller tile than 'CT-1'). No change to finishes or notes, graphics only.
2) Interior Elevation View 11: revise elevation to replace "CONC-1" with "PT-1" and add 'CT-1' finish entire width of wall from finish floor to +7'-2" height.
3) Interior Elevation View 16: revise elevation to correctly depict 'CT-2' tile (smaller tile than 'CT-1'). No changes to finishes or notes, graphics only.
4) Revise plan as shown per 11x17 sheet M-151a-A1 attached to this Addendum.

Electrical Drawings:

Item Description

61. SHEET E-002

A. SYSTEMS LEGEND

1) Legend: add the symbol BTS & description to access control section "INTERCOM BASE STATION - OFCI VOIP VIDEO PHONE."

62. SHEET ES102

A. ELECTRICAL SITE PLAN - NORTH

1) Add circuit designation for vehicle gate power per sheet ES102-A2 attached to this Addendum.

63. SHEET ES103

A. ELECTRICAL SITE PLAN - SOUTH

1) Add connection for vehicle gate power per sheet ES103-A2 attached to this Addendum.
2) Revise PSE underground line extension to accommodate new fire lane per sheet ES103-A2 attached to this Addendum.

64. SHEET E-011

A. OVERALL LOWER LEVEL – SYSTEMS CONDUIT ROUTING PLAN

1) Evidence Technician 046: revise cable tray and DAS conduit as shown per sheet E-011-A2 attached to this Addendum.
2) Bulk Evidence Storage 047: revise cable tray and DAS conduit as shown per sheet E-011-A2 attached to this Addendum.

65. SHEET E-121

A. LOWER LEVEL – LIGHTING PLAN - WEST

1) Copy/Printer/Supplies 032: add low voltage lighting control switch per sheet E-121-A2 attached to this Addendum.
2) LIDAR Storage 011: revise RL2 fixture type to RL1 per sheet E-121-A2 attached to this Addendum.
3) Laundry Drop-off Return 015: revise RL2 fixture type to RL1 per sheet E-121-A2 attached to this Addendum.
4) Rifle Storage 039: revise RL2 fixture type to RL1 per sheet E-121-A2 attached to this Addendum.

66. SHEET E-122

A. LOWER LEVEL – LIGHTING PLAN - EAST

1) Hallway 028: revise RL2 fixture type to RL1 per sheet E-122-A2 attached to this Addendum.
2) Riot Gear Alcove 038A: revise RL2 fixture type to RL1 per sheet E-122-A2 attached to this Addendum.

67. SHEET E-123

A. UPPER LEVEL – LIGHTING PLAN - WEST

1) Copier/Supplies 121A: add low voltage lighting control switch per sheet E-123-A2 attached to this Addendum.
2) Front Desk/Reception 141: add low voltage lighting control switch per sheet E-123-A2 attached to this Addendum.
3) Storage Room 143: revise RL2 fixture type to RL1.

68. SHEET E-124

A. UPPER LEVEL – LIGHTING PLAN - EAST

1) Equipment Storage 172: revise RL2 fixture type to RL1 per sheet E-124-A2 attached to this Addendum.
2) Crime Victims Advocate 184: revise RL2 fixture type to RL1 per sheet E-124-A2 attached to this Addendum.

69. SHEET E-132

A. LOWER LEVEL – POWER PLAN - EAST

1) Less-than-Lethal Storage 040: revise location of panelboards per sheet E-132-A2 attached to this Addendum.

70. SHEET E-133

A. UPPER LEVEL – POWER PLAN - WEST

1) Storage Room 143: revise location of panelboards per sheet E-133-A2 attached to this Addendum.

71. SHEET E-141

A. LOWER LEVEL – SYSTEMS PLAN – WEST

1) Men's Vestibule 021A: delete card reader (CR), door position switch (D), and electronic door hardware wiring (ED) from door D021A.
2) Women's Vestibule 022A: delete card reader (CR), door position switch (D), and electronic door wiring (ED) from door hardware D022A.

72. SHEET E-142

A. LOWER LEVEL – SYSTEMS PLAN – EAST

1) Keyed Notes: add Keyed Note #10 to read:
"MOUNT CAMERA TO BOTTOM OF BASKET CABLE TRAY."
2) Floor Plan, at Bulk Evidence Storage 047: add reference to Keyed Note #10 next to cameras C28 & C-30.

73. SHEET E-144

A. UPPER LEVEL – SYSTEMS PLAN – EAST

1) Corridor 112: revise location of card reader (CR) on door D182 per sheet E-144-A2 attached to this Addendum.
2) Crime Victims Advocate 182: revise location of card reader (CR) on door D184A per sheet E-144-A2 attached to this Addendum.
3) Copier Supplies 178A: revise data outlet location to new printer alcove per sheet E-144-A2 attached to this Addendum.

74. SHEET E-412

A. Replace entire sheet with Full-Size sheet E-412 attached to this Addendum including but not limited to the revisions listed below.

B. SYSTEMS ENLARGED PLANS

1) Keyed Notes: revise Keyed Note #2 as shown on sheet.
2) Keyed Notes: add Keyed Note #3 as shown on sheet.

C. SYSTEMS ENLARGED PLANS / LOWER LEVEL - INTERVIEW 055 AND 053

1) Interview 053: delete data tag on camera C-16 as shown on sheet.

2) Interview 053: revise Keyed Note on camera C-16 to #3 as shown on sheet.
3) Interview 055: delete data tag on camera C-18 as shown on sheet.
4) Interview 055: revise Keyed Note on camera C-18 to #3 as shown on sheet.

D. SYSTEMS ENLARGED PLANS / LOWER LEVEL - HOLDING 054 AND 056
1) Single Holding 054: delete Interview Lights (IL), Interview Switch (IS), Interview Microphone (IM), camera C-21, and Keyed Note 2 as shown on sheet.
2) Single Holding 056: delete Interview Lights (IL), Interview Switch (IS), Interview Microphone (IM), camera C-23, and Keyed Note 2 as shown on sheet.
3) Single Holding 054: revise location of camera C-20 as shown on sheet.
4) Single Holding 056: revise location of camera C-22 as shown on sheet.

E. SYSTEMS ENLARGED PLANS / MAIN LEVEL - INTERVIEW 109 AND EVIDENCE 110
1) Interview Room (Soft) 109: delete data tag on camera C-42 as shown on sheet.
2) Interview Room (Soft) 109: revise Keyed Note on camera C-42 to #3 as shown on sheet.
3) Evidence Release 110: delete data tag on camera C-40 as shown on sheet.
4) Evidence Release 110: revise Keyed Note on camera C-40 to #3 as shown on sheet.
5) Evidence Release 110: delete card reader (CR) from east corridor side as shown on sheet.

F. SYSTEMS ENLARGED PLANS / MAIN LEVEL - IA INTERVIEW 132
1) IA Interview Room 132: delete data tag on camera C-51 as shown on sheet.
2) IA Interview Room 132: revise Keyed Note on camera C-51 to #3 as shown on sheet.

G. SYSTEMS ENLARGED PLANS / MAIN LEVEL - POLYGRAPH 157, INTERVIEW 158, AND INTERVIEW 159
1) Polygraph 157: delete data tag on camera C-56 as shown on sheet.
2) Polygraph 157: revise Keyed Note on camera C-56 to #3 as shown on sheet.
3) Interview 158: delete data tag on camera C-58 as shown on sheet.
4) Interview 158: revise Keyed Note on camera C-58 to #3 as shown on sheet.
5) Interview 159: delete data tag on camera C-60 as shown on sheet.
6) Interview 159: revise Keyed Note on camera C-60 to #3 as shown on sheet.

75. SHEET E-527

A. ACCESS CONTROL DETAILS / GATE ACCESS CONTROL DETAIL
1) Add detail as shown on sketch.

76. SHEET E-529

A. CCTV RISER DIAGRAM
1) Add Keyed Note #14, #15, #16 to riser diagram as shown on E-529-A2 attached to this Addendum.
2) Key Notes: add Keyed Note #14 to read:
"Provide F-series camera sensor cabling per specifications." as shown on E-529-A2 attached to this Addendum.
3) Key Notes: add Keyed Note #15 to read:
"Provide 12AWG 2-conductor (12/2) cabling for sign light switch and 12VDC sign lights." as shown on E-529-A2 attached to this Addendum.
4) Key Notes: add Keyed Note #16 to read:
"Provide shielded pair mic/line cabling for microphone and switch relay." as shown on E-529-A2 attached to this Addendum.

77. SHEET E-601

A. ELECTRICAL ONE-LINE DIAGRAM
1) Revise utility connection to ATS per sheet E-601-A2 attached to this Addendum.

78. SHEET E-612

A. PANEL SCHEDULES
1) Add branch circuits for vehicle gate power per sheet E-612-A2 attached to this Addendum.

79. SHEET E-613

A. PANEL SCHEDULES

1) Revise room numbers in circuit descriptions per sheet E-613-A2 attached to this Addendum.

80. SHEET E-621

A. LIGHTING FIXTURE SCHEDULE

1) Add column clarifying fixtures requiring addressable modules per Full-Size sheet E-621 attached to this Addendum.
2) Revise integral sensor column to coordinate with basis of design fixture selections per Full-Size sheet E-621 attached to this Addendum.

Approved Substitutions:

81. In accordance with Section 012500, the following pre-bid substitution requests have been reviewed and found to be acceptable for this project by the design team and the owner:

Section	Item	Manufacturer(s) Approved
051200	Structural Steel Framing	Niik Steel (fabricator)
066400	Architectural Wood Casework	Vitrulan VRP
095426	Suspended Wood Ceilings (WSC-1)	LINEA
095426	Suspended Wood Ceilings (WSC-2)	LINEA
097723	Fabric-Wrapped Panel	Conwed
098431	Sound-Absorbing Wall and Ceiling Units	CSI Creative
098431	Sound-Absorbing Wall and Ceiling Units	LINEA
105113	Metal Lockers	ASI Storage Solutions
105113	Metal Lockers	Tiffin
230593	Air System TAB (Balancing Firms)	Velocity Building Technical Services
262213	Standard Dry-Type Transformer	Hammond Power Solutions
263213.13	Emergency Generator	Kohler
263213.13	Emergency Generator	MTU
264300	Surge Protection Device	Intermatic Surge Protection

End of Addendum No. 02

This Addendum is being distributed to all listed plan holders. Recipients are responsible for dissemination of this information to all affected sub-bidders, suppliers, etc.

Attachments:

Specifications

007200	GENERAL CONDITIONS OF THE CONTRACT – Addendum No. 02	84 pages
007201	CONSTRUCTION MEMORANDUM OF UNDERSTANDING	2 pages
019113	GENERAL COMMISSIONING REQUIREMENTS – Addendum No. 02	13 pages
062023	INTERIOR FINISH CARPENTRY – Addendum No. 02	8 pages
087100	DOOR HARDWARE – Addendum No. 02	54 pages

210800	COMMISSIONING OF FIRE SUPPRESSION – Addendum No. 02	2 pages
220800	COMMISSIONING OF PLUMBING – Addendum No. 02	2 pages
230800	COMMISSIONING OF HVAC – Addendum No. 02	2 pages
232100	SLEEVES AND SEALS FOR HVAC PIPING AND EQUIPMENT – Addendum No. 02	3 pages
260800	COMMISSIONING OF ELECTRICAL – Addendum No. 02	2 pages
270800	COMMISSIONING OF COMMUNICATIONS – Addendum No. 02	2 pages
280800	COMMISSIONING OF ELECTRONIC SAFETY AND SECURITY – Addendum No. 02	2 pages
323100	SITE FENCE AND GATES – Addendum No. 02	11 pages
323300	SITE FURNISHINGS – Addendum No. 02	11 pages

Supplemental Drawings 24 sheets

C-200-A2	PAVING & HORIZONTAL CONTROL PLAN NORTH
C-204-A2	SITE DETAILS
C-504-A2	STORM DRAINAGE DETAILS
C-600-A2	WATER PLAN NORTH
L-112-A2	MATERIALS AND LAYOUT PLAN (ACCESS ROUTE)
A-201-A2	EXTERIOR ELEVATIONS
A-402-A2	ENLARGED RESTROOM - PLANS / ELEVATIONS
A-541-A2	EXTERIOR HOLLOW METAL DOOR & FRAME DETAIL
A-548-A2	INTERIOR DOOR, FRAME & RELITE DETAILS
A-602-A2	DOOR, FRAME & LOUVER TYPES
ES102-A2	ELECTRICAL SITE PLAN - NORTH
ES103-A2	ELECTRICAL SITE PLAN - SOUTH
E-011-A2	OVERALL LOWER LEVEL - SYSTEMS CONDUIT ROUTING PLAN
E-121-A2	LOWER LEVEL - LIGHTING PLAN - WEST
E-122-A2	LOWER LEVEL - LIGHTING PLAN - EAST
E-123-A2	UPPER LEVEL - LIGHTING PLAN - WEST
E-124-A2	UPPER LEVEL - LIGHTING PLAN - EAST
E-132-A2	LOWER LEVEL - POWER PLAN - EAST
E-133-A2	UPPER LEVEL - POWER PLAN - WEST
E-144-A2	UPPER LEVEL - SYSTEMS PLAN - EAST
E-529-A2	CCTV RISER DIAGRAM
E-601-A2	ELECTRICAL ONE-LINE DIAGRAM
E-621-A2	PANEL SCHEDULES
E-613-A2	PANEL SCHEDULES

Full-size Drawings 4 sheets

A-601	DOOR SCHEDULE
E-412	SYSTEMS ENLARGED PLANS
E-621	LIGHTING FIXTURE SCHEDULE
A-601a	DOOR SCHEDULE (TRAINING BUILDING)

Andy S Cole City Engineer

for Scott Egger, PE
Director of Public Works

CITY OF LACEY, WASHINGTON
DEPARTMENT OF PUBLIC WORKS
420 COLLEGE STREET SE
LACEY, WA 98501-3400 (360) 491-5600

SECTION 007200

GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 DEFINED TERMS

A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
2. *Additive Alternate*—also *Add Alternate* or *Bid Alternate*—A supplemental unit of work or group of bid items, identified separately in the Bid Proposal, which may, at the discretion of the Contracting Agency, be awarded in addition to the base bid.
3. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.
4. *Application for Payment*—The Owner's form which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
5. *Architect*—See *Engineer*.
6. *As-Built Redlines*—A neatly and legibly marked set of all contract drawings showing the final location of structures, piping, equipment, conduits, outlet boxes and cables; as well as additional documents such as schedules, lists, drawings, and electrical and instrumentation diagrams.
7. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
8. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed. When Quotes are requested, the term Bid shall also mean Quotes.
9. *Bidder*—The entity that submits a Bid directly to Owner.
10. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).
11. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.
12. *Business Day*—See *Working Day*.
13. *Calendar Day*—All days including holidays and non-work days.
14. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.
15. *Change Order Proposal*—A document that includes costs, credits, and additional working days associated with changes to the Work. A Change Order Proposal approved by the Owner will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by the Change Order Proposal will be incorporated in a subsequently issued Change Order.
16. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

17. *Construction Inspector*—The construction site representative of the Owner employed to act as advisor and consultant to the Owner in construction matters related to the Contract.
18. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.
19. *Contract Bond*—The definition in the Standard Specifications for "Contract Bond" applies to whatever bond form(s) are required by the Contract Documents, which may be a combination of a Payment Bond and a Performance Bond
20. *Contract Documents*—The writings and drawings embodying the legally binding obligations between the Owner and the Contractor for completion of the Work. The Contract Documents comprise the following documents:
    a. Project Manual
        1. Advertisement for Bids
        2. Instructions to Bidders
        3. Bid Proposal
        4. General Conditions
        5. Specifications and WSDOT Standard Specifications
        6. Contract Drawings
        7. Addenda
    b. Bonds
    c. Agreement
    d. Notice of Award
    e. Notice to Proceed
    f. Change Orders
    g. Directives
21. *Contract Drawings*—The drawings included in the Project Manual plus those prepared by the Owner and the Contractor pursuant to the terms of the Contract. They include:
    a. Drawings in the Project Manual. Drawings included as "Reference Documents" are for reference only and are not part of the Contract documents.
    b. Modified Drawings issued by Addenda.
    c. Drawings submitted by the Contractor during the progress of the Work and accepted by the Owner either as attachments to Change Orders or as non-modifying supplements to drawings and drawings issued by Addenda.
    d. Drawings submitted by the Owner to the Contractor during the progress of the Work either as attachments to the Change Orders or as explanatory supplements to drawings and drawings issued by Addenda.
    e. Drawings submitted as Shop Drawings or manufacturer's drawings that contain key elements of equipment or processes incorporated into the Contract.
22. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).
23. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.
24. *Contractor*—The entity with whom Owner has entered into the Agreement.
25. *Contractor Drawings*—All drawings generated by or for the contractor for use in completing the Work. Including but not limited to shop drawings, routing, installation, calculation, diagrams, schedules, and permit application drawings
26. *Cost of the Work*—See Paragraph 11.01 for definition.

27. *Drawings*—That part of the Contract Documents prepared or approved by Architect and Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
28. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
29. *Engineer*—When the Project has been designed by the engineer of record, such person shall assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents. When there is no engineer of record, the Owner shall act as Engineer. Any reference to *Engineer* in the General Conditions shall mean *Architect* of record.
30. *Field Order*—A written order issued by the *Owner's Representative* which requires minor adjustments in the Work but which is not anticipated to involve a change in the Contract Price or the Contract Times.
31. *Final Completion and Acceptance*—The time at which all the Work is completed and all the obligations of the Contractor under the Contract are fulfilled. All documentation required by the Contract and required by law must be furnished by the Contractor before establishment of the Final Completion and Acceptance date.
32. *General Requirements*—Sections of Division -1 of the Specifications.
33. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
34. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
35. *Holiday*—Any day established by legal authority and marked by restrictions on work and transactions of official business. The following dates are observed by the City of Lacey (or as observed on adjacent weekday if date lands on a Saturday or Sunday):
    i. New Years Day, January 1st
    ii. Martin Luther Kind's Birthday, 3rd Monday in January
    iii. President's Day, 3rd Monday in February
    iv. Memorial Day, Last Monday in May
    v. Juneteenth, June 19th
    vi. Independence Day, July 4th
    vii. Labor Day, 1st Monday in September
    viii. Veteran's Day, November 11
    ix. Thanksgiving Day, 4th Thursday in November
    x. Day after Thanksgiving, 4th Friday in November
    xi. Christmas Day, December 25th
36. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
37. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.
38. *List of Submittals*—A list of required submittals, initially included in the Specifications, and updated and maintained by Contractor.
39. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

40. *Minor Change*—An instruction or interpretation given by Owner that does not involve an adjustment of the Contract Time or Contract Price. The cost of the Minor Change must be below the amount included in the Contract Price under the Minor Change bid item.
41. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.
42. *Notice to Commence Construction*—A written notice given by Owner to Contractor fixing the date on which physical construction Work may begin at the Site.
43. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.
44. *Owner*—The entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed. The terms Lacey, City of Lacey, City of Lacey Public Works, Contracting Agency or Owner refer to the City of Lacey.
45. *Owner's Representative*—See "Construction Inspector" for definition. Owner's Construction Inspector or written designee is the *Owner's Representative* for this project.
46. *PCBs*—Polychlorinated biphenyls.
47. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
48. *Physical Completion*—The time at which all Work is physically completed on the project. All documentation required by the Contract and required by law does not necessarily need to be furnished by the Contractor by this date. However, all Punch List items must be completed.
49. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
50. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
51. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.
52. *Promptly*—Promptly shall be no more than 24 hours unless specified or agreed to in writing.
53. *Punch List*—List of incomplete items of work and of items of work which are not in conformance with the contract that will be issued with Substantial Completion. The list will be prepared by the Contractor and finalized by the *Architect* and *Construction Inspector* when the Contractor (1) notifies the Construction Inspector in writing that the work has been completed in accordance with the contract and (2) requests in writing that the Owner accept the work.
54. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
55. *Record Drawings*—Drawings prepared by the Architect or Engineer or Owner utilizing As-Built Redlines, Contractor Drawings, Subcontractor Drawings, Vendor Drawings, Construction Inspector's field notes, etc.
56. *Reasonable Time*—Reasonable time shall be no longer than 1 day unless specified herein.
57. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

58. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
59. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
60. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.
61. *Specialist*—A person, partnership, firm, or corporation of established reputation (or if newly organized, whose personnel have previously established a reputation in the same field), which is regularly engaged in, and which maintains a regular force of workers skilled in either (as applicable) manufacturing or fabricating items required by the Contract Documents, or otherwise performing Work required by the Contract Documents. Where the Specifications require the installation by a Specialist, that term shall also be deemed to mean either the manufacturer of the item, a person, partnership, firm, or corporation licensed by the manufacturer, or a person, partnership, firm, or corporation who will perform the Work under the manufacturer's direct supervision.
62. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
63. *Standard Specifications*—Wherever in these Contract Documents reference is made to the Standard Specifications, said reference shall be understood as referring to the current WSDOT Standard Specifications for Road, Bridge, and Municipal Construction from which applicable parts are incorporated herein and made a part of these Documents by specific reference thereto. If requirements contained in the Standard Specifications are modified by or are in conflict with supplemental information in these Contract Documents, the requirements of these Contract Documents shall prevail.
64. *Subcontractor*—An entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.
65. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, as determined by the Owner with recommendation from the Architect or Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.
66. *Subcontractor Drawings*—Shop drawings, equipment drawings, details, wiring diagrams, loop diagrams, interconnect diagrams, elementary diagrams and other drawings that depict the 'as-built' and 'as-installed' condition.
67. *Successful Bidder*—The responsible Bidder submitting a responsive Bid to whom Owner makes an award.
68. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.
69. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other

communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

70. *Unit Price Work*—Work to be paid for on the basis of unit prices.
71. *Vendor Drawings*—All equipment drawings, details, wiring diagrams, loop diagrams, interconnect diagrams, elementary diagrams and other drawings as necessary to depict the 'as-built' and 'as-installed' condition.
72. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.
73. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by *Owner's Representative* and recommended by Architect or Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. The Work Change Directive form will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated as a Minor Change or in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.
74. *Working Day*—A working day is any day that is not a nonworking day. A nonworking day is defined as a Saturday, a Sunday, a City of Lacey Holiday, or a whole or half day on which the Contract specifically prohibits Work on the critical path of the Contractor's approved progress schedule.

1.02 TERMINOLOGY

A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. Intent of Certain Terms or Adjectives:

1. The Contract Documents include the terms "as allowed," "as approved," "as ordered," "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.03 or any other provision of the Contract Documents.

C. Day:

1. Unless otherwise specified, all references to "days" shall mean "working days."

D. Defective:

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
   a. Does not conform to the Contract Documents; or
   b. Does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
   c. Has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04).

E. Furnish, Install, Perform, Provide:

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, “provide” is implied.

F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 DELIVERY OF BONDS AND EVIDENCE OF INSURANCE

A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish, except those bonds Contractor has agreed to deliver earlier.

B. *Evidence of Insurance:* When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each additional insured identified in the Agreement, certificates of insurance which Contractor is required to purchase and maintain in accordance with Article 5.

2.02 COPIES OF DOCUMENTS

A. After award of the contract, Owner shall furnish a Conformed Set of documents (Drawings and Project Manual revised to include all Addenda and permit-required revisions) will be issued to the Contractor at no cost as detailed below.

To Prime Contractor	No. of Sets	Basis of Distribution
Reduced plans (11" x 17")	5	Furnished automatically upon award
Contract Provisions	3	Furnished automatically upon award

Large plans (22" x 34")	3	Furnished automatically upon award

Additional copies may be furnished upon request at the cost of reproduction, at the Contractor's own expense.

2.03 COMMENCEMENT OF CONTRACT TIMES

A. The Contract Times will commence to run as indicated in the Agreement.

2.04 STARTING THE WORK

A. Notice to Proceed will be given after the contract has been executed and the contract bond and evidence of insurance have been approved and filed by the Owner. The Contractor shall not commence with the work until the Notice to Proceed has been given by the Owner. The Contractor shall commence construction activities on the project site within ten days of the Notice to Proceed Date, unless otherwise approved in writing. The count of working days begins at this time. The Contractor shall diligently pursue the work to the physical completion date within the time specified in the contract. Voluntary shutdown or slowing of operations by the Contractor shall not relieve the Contractor of the responsibility to complete the work within the time(s) specified in the contract.

2.05 BEFORE STARTING CONSTRUCTION

A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement or at the pre-construction meeting (whichever is sooner), Contractor shall submit a preliminary Progress Schedule, if applicable, to Owner for timely review. It shall indicate the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents.

2.06 PRECONSTRUCTION MEETING; DESIGNATION OF AUTHORIZED REPRESENTATIVES

A. Prior to the Contractor beginning the work, a preconstruction conference will be held between the Contractor, the Owner, the *Engineer*, and such other interested parties as may be invited. The purpose of the preconstruction conference will be:

1. To review the initial progress schedule;
2. To establish a working understanding among the various parties associated or affected by the work;
3. To establish and review procedures for progress payment, notifications, approvals, submittals, etc.;
4. To establish normal working hours for the work;
5. To review safety standards and traffic control; and
6. To discuss such other related items as may be pertinent to the work.

The Contractor shall prepare and submit at the preconstruction conference the following:

1. A breakdown of all lump sum items;
2. A preliminary schedule of working drawing submittals; and
3. A list of material sources for approval if applicable.

B. At this meeting, Owner, *Engineer*, and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit

instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 INITIAL SUBMITTAL AND ACCEPTANCE OF SCHEDULES

A. The Contractor shall submit a construction schedule in accordance with the requirements of Section 01 32 16 (Project Schedules) and a Schedule of Values in accordance with Section 01 20 00 (Measurement and Payment) prior to Preconstruction Meeting. No progress payment shall be made to Contractor until acceptable schedules are submitted to Owner.

1. The Construction Schedule will be acceptable to Owner under the following conditions:
   a. It provides an orderly progression of the Work to completion within the Contract Times.
   b. The Schedule includes all bid items and shall show all critical path elements, start and finish dates, float time, deadlines, milestones, goals, and completion dates.
   c. Schedule shall include permit conditions.
   d. Submittal Schedule shall be included within the Construction Schedule.

   Such acceptance will not impose on Owner responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
2. Contractor's Submittal Schedule will be acceptable to Owner if it provides a workable arrangement for reviewing and processing the required submittals and it appropriately accounts for review, revision, and approval times.
3. Contractor's Schedule of Values will be acceptable to Owner as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

B. Mobilization: Mobilization consists of preconstruction expenses and the costs of preparatory Work and operations performed by the Contractor which occur before 10 percent of the total original amount of an individual Bid Schedule is earned from other Contract items on that Bid Schedule. Items which are not to be included in the item of Mobilization include but are not limited to:
1. Any portion of the Work covered by the specific Contract item or incidental Work which is to be included in a Contract item or items.
2. Profit, interest on borrowed money, overhead, or management costs.
3. Any costs of mobilizing equipment for force account Work.

C. Based on the lump sum Contract price for "Mobilization", partial payments will be made as follows:
1. When 5 percent of the total original Bid Schedule amount is earned from other Contract items on that original Bid Schedule, excluding amounts paid for materials on hand, 50 percent of the Bid Item for mobilization on that original Bid Schedule, 5 percent of the total of that original Bid Schedule, or 5 percent of the total original Contract amount, whichever is the least, will be paid.
2. When 10 percent of the total original Bid Schedule amount is earned from other Contract items on that original Bid Schedule, excluding amounts paid for materials on hand, 100 percent of the Bid Item for mobilization on that original Bid Schedule, 10 percent of the total of that original Bid Schedule, or 10 percent of the total original Contract amount, whichever is the least, will be paid.
3. When the Substantial Completion Date has been established for the project, payment of any remaining amount Bid for mobilization will be paid.

D. Nothing herein shall be construed to limit or preclude partial payments otherwise provided by the Contract.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 INTENT

A. The Contract Documents are complementary; what is required by one is as binding as if required by all.

B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.

C. Clarifications and interpretations of the Contract Documents shall be issued by Owner or Engineer as provided in Articles 8 and 9.

D. Sections of Division 01, General Requirements, govern the execution of the Work of all sections of the Specifications.

E. Owner's actions that do not strictly adhere to the Contract Documents shall not be construed as a waiver of any requirements set forth in the Contract Documents.

F. Order of Precedence: Any inconsistency in the parts of the contract shall be resolved by following this order of precedence (e.g., 1 presiding over 2, 2 presiding over 3, 3 over 4, and so forth):

1. Change Orders,
2. Directives
3. Signed Agreement,
4. Addenda (if any),
5. Technical Specifications (Divisions 02 – 48),
6. Instructions to Bidders
7. General Requirements (Division 01),
8. General Conditions,
9. Bid Proposal (completed and signed),
10. Drawings (in case of conflict within the Drawings, large scale drawings shall take precedence over small scale drawings),
11. Permitting Jurisdiction's Permit requirements, Standard Plans and Development Guidelines,
12. Current WSDOT Standard Specifications for Road, Bridge and Municipal Construction,
13. Advertisement for Bids

G. The current Standard Plans and Specifications for Road, Bridge and Municipal Construction, as issued by the Washington State Department of Transportation (WSDOT) and the American Public Works Association (APWA) Washington State Chapter (hereafter "Standard Specifications"), as modified or supplemented by these General Conditions, all of which are made a part of the Contract Documents, shall govern all of the Work. The deletion, amendment, alteration, or addition to any subsection or portion of the Standard Specifications is meant to pertain only to that particular portion of the section, and in no way should it be interpreted that the balance of the section does not apply.

H. Also incorporated into the Contract Documents by reference are:
   1. Manual on Uniform Traffic Control Devices for Streets and Highways, currently adopted edition, with Washington State modifications, if any
   2. Standard Plans for Road, Bridge and Municipal Construction, as issued by WSDOT/APWA, current edition
   3. City of Lacey Development Guidelines and Public Works Standards, current edition

I. Contractor shall obtain copies of these publications, at the Contractor's own expense.

J. All Work and material for the Contract, including change order Work, shall be at the sole risk of the Contractor until the entire Work has been completed as determined by the Owner, except as provided in this section. The Contractor shall rebuild, repair, restore, and make good all damages to the permanent or temporary Work occurring before the Physical Completion Date and shall bear all the expense to do so, except damage to the permanent Work caused by: (a) acts of God, such as earthquake, floods, or other cataclysmic phenomenon of nature, or (b) acts of the public enemy or of governmental authorities; Provided, however, that these exceptions shall not apply should damages result from the Contractor's failure to take reasonable precautions or to exercise sound Engineering and construction practices in conducting the Work. If the performance of the Work is delayed as a result of damage by others, an extension of time will be evaluated. Nothing contained in this section shall be construed as relieving the Contractor of responsibility for, or damage resulting from, the Contractor's operations or negligence, nor shall the Contractor be relieved from full responsibility for making good defective Work or materials as provided for under Article 13.

3.02 REFERENCE STANDARDS

A. Standards, Specifications, Codes, Laws, and Regulations

   1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time that Bids are due, except as may be otherwise specifically stated in the Contract Documents.
   2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 REPORTING AND RESOLVING DISCREPANCIES

A. Reporting Discrepancies:

   1. *Contractor's Review of Contract Documents Before Starting Work*: Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall be solely responsible for measuring and confirming the layout, configuration, and sizes of all existing

structures, slabs, mechanical equipment, tanks, piping systems, equipment pads, electrical items, instrumentation and control items, and all other pertinent items prior to performing the Work. Contractor shall promptly report in writing to the Owner any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.

2. *Contractor's Review of Contract Documents During Performance of Work*: If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to the Owner in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.

B. Resolving Discrepancies:

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
   a. The provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or
   b. The provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 AMENDING AND SUPPLEMENTING CONTRACT DOCUMENTS

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:

1. A written Directive;
2. Engineer's or Owner's written approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or
3. Engineer's or Owner's written interpretation or clarification.

3.05 REUSE OF DOCUMENTS

A. Contractor and any Subcontractor or Supplier shall not:

1. Have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or
2. Reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.

B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 ELECTRONIC DATA

A. Unless otherwise stated, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 calendar days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.

C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

D. Copies of all data, including but not limited to progress schedule, schedule of values, submittals, RFIs, Drawings, shop drawings, and all other required documentation, shall be furnished to the *Construction Inspector* for the Owner in electronic format and hard copy format. The Owner may elect for either format. Both formats are required if neither is specified.

ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 AVAILABILITY OF LANDS

A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.06.

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 SUBSURFACE AND PHYSICAL CONDITIONS

A. *Reports and Drawings:* No soil exploration has been conducted as part of this project

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, if applicable, but such reports and drawings are not Contract Documents. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. The completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
2. Other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
3. Any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 DIFFERING SUBSURFACE OR PHYSICAL CONDITIONS

A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

1. Is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
2. Is of such a nature as to require a change in the Contract Documents; or
3. Differs materially from that shown or indicated in the Contract Documents; or
4. Is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review*: After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. Possible Price and Times Adjustments:

1. The Contract Price or the Contract Times, or both, may be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
   a. Such condition must meet any one or more of the categories described in Paragraph 4.03.A; and
   b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 11.03.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:

a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or
b. The existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or
c. Contractor failed to give the written notice as required by Paragraph 4.03.A.

3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.06. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project even if arising out of this agreement.

4.04 UNDERGROUND FACILITIES

A. *Shown or Indicated:* Information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Project Manual:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and
2. The cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
   a. Reviewing and checking all such information and data;
   b. Locating all Underground Facilities shown or indicated in the Contract Documents;
   c. Coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and
   d. The safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. Not Shown or Indicated:

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

2. If the *Construction Inspector* concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Contractor may make a Claim therefor as provided in Paragraph 10.06.

4.05 REFERENCE POINTS

A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Owner and Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

B. In accordance with Washington Administrative Code 332 120 030, Contractor shall search records and physical area of Site, including road or street resurfacing projects, for the purpose of locating and referencing any known or existing survey monuments.

C. In accordance with Washington Administration Code WAC 332 120 050, no survey monument shall be removed or destroyed before a permit is obtained from Washington's Department of Natural Resources.

D. After completion of activity that causes the removal or destruction of the monument, if applicable, Contractor shall conduct re-monumentation activities and file survey monumentation records in accordance with Washington Administrative Code 332 120 060.

4.06 HAZARDOUS ENVIRONMENTAL CONDITION AT SITE

A. *Reports and Drawings:* Owner is reasonably certain that there are no asbestos or other hazardous materials within the project scope and therefore no hazardous materials will be disturbed by the project. The availability of hazardous environmental information from the Owner shall not relieve the Bidder from any risks or of any duty to make examinations and investigations as required under this project manual or as may be required by law.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, if applicable, but such reports and drawings are not Contract Documents. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. The completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or

2. Other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
3. Any Contractor interpretation of or conclusion drawn from any “technical data” or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.

D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.

E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, the Contractor may make a Claim therefor as provided in Paragraph 10.06.

F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then the Contractor may make a Claim therefor as provided in Paragraph 10.06. Owner may have such deleted portion of the Work performed by Owner’s own forces or others in accordance with Article 7.

ARTICLE 5 – BONDS AND INSURANCE

5.01 PERFORMANCE, PAYMENT, AND OTHER BONDS

A. When required in the Agreement, Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor’s obligations under the Contract Documents. These bonds shall remain in effect until completion of the correction period specified in Paragraph 13.07, or until the completion of any post-construction activities required by the Contract, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.

B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.

C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

D. Owner may require Sureties or Surety companies on the bonds to appear and qualify themselves. Whenever the Owner deems the Surety or Sureties to be inadequate, it may, upon written demand, require the Contractor to furnish additional Surety to cover any remaining Work. Until the added Surety is furnished, payments on the Contract will stop.

5.02 LICENSED SURETIES AND INSURERS

A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required.

B. The Contractor shall procure and maintain the insurance described in all subsections of this Article, from insurers with a current A. M. Best rating of not less than A-: VII and licensed to do business in the State of Washington. The Owner reserves the right to approve or reject the insurance provided, based on the insurer's financial condition.

5.03 CERTIFICATES OF INSURANCE

A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Agreement, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

B. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

C. By requiring such insurance and insurance limits herein, Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.

D. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 CONTRACTOR'S INSURANCE

A. The Contractor shall keep this insurance in force without interruption from the commencement of the Contractor's Work through the term of the Contract and for thirty (30) days after the Physical Completion date, unless otherwise indicated below.

B. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. Claims under workers' compensation, disability benefits, and other similar employee benefit acts;
2. Claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
3. Claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
4. Claims for damages insured by reasonably available personal injury liability coverage which are sustained:
   a. By any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
   b. By any other person for any other reason;
5. Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
6. Claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

C. The policies of insurance required by this Paragraph 5.04 shall:

1. With respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and any other individuals or entities identified in the Agreement, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;
2. Include at least the specific coverages and be written for not less than the limits of liability provided in the Agreement or required by Laws or Regulations, whichever is greater;
3. Include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20; and
4. Remain in effect for the duration stated in the Agreement including all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and
5. Include completed operations coverage.

D. The minimum scope of insurance and limits of liability for the insurance required by Paragraph 5.04 shall be as stated in the Agreement.

E. If any insurance policy is written on a claims made form, its retroactive date, and that of all subsequent renewals, shall be no later than the effective date of this Contract. The

policy shall state that coverage is claims made, and state the retroactive date. Claims-made form coverage shall be maintained by the Contractor for a minimum of 36 months following the Completion Date or earlier termination of this Contract, and the Contractor shall annually provide the Owner with proof of renewal. If renewal of the claims made form of coverage becomes unavailable, or economically prohibitive, the Contractor shall purchase an extended reporting period ("tail") or execute another form of guarantee acceptable to the Owner to assure financial responsibility for liability for services performed.

F. The Contractor's Automobile Liability, Commercial General Liability and Excess or Umbrella Liability insurance policies shall be primary and non-contributory insurance as respects the Owner's insurance, self-insurance, or self-insured pool coverage. Any insurance, self-insurance, or self-insured pool coverage maintained by the Owner shall be excess of the Contractor's insurance and shall not contribute with it.

G. The Contractor shall provide the Owner and all additional insureds with written notice of any policy cancellation, within two working days of their receipt of such notice.

H. The Contractor shall not begin work under the Contract until the required insurance has been obtained and approved by the Owner.

I. Failure on the part of the Contractor to maintain the insurance as required shall constitute a material breach of contract, upon which the Owner may, after giving five working days' notice to the Contractor to correct the breach, immediately terminate the Contract or, at its discretion, procure or renew such insurance and pay any and all premiums in connection therewith, with any sums so expended to be repaid to the Owner on demand, or at the sole discretion of the Owner, offset against funds due the Contractor from the Owner.

J. All costs for insurance shall be incidental to and included in the unit or lump sum prices of the Contract and no additional payment will be made.

K. Additional Insured: All insurance policies, with the exception of Workers Compensation, and of Professional Liability and Builder's Risk (if required by this Contract) shall name the following listed entities as additional insured(s) using the forms or endorsements required herein:
   1. The Owner and its officers, elected officials, employees, agents, and volunteers
   2. The above-listed entities shall be additional insured(s) for the full available limits of liability maintained by the Contractor, irrespective of whether such limits maintained by the Contractor are greater than those required by this Contract, and irrespective of whether the Certificate of Insurance provided by the Contractor describes limits lower than those maintained by the Contractor.
   3. For Commercial General Liability insurance coverage, the required additional insured endorsements shall be at least as broad as ISO forms CG 20 10 10 01 for ongoing operations and CG 20 37 10 01 for completed operations.

L. Subcontractors: The Contractor shall cause each Subcontractor of every tier to provide insurance coverage that complies with all applicable requirements of the Contractor-provided insurance as set forth herein, except the Contractor shall have sole responsibility for determining the limits of coverage required to be obtained by Subcontractors.
   1. The Contractor shall ensure that all Subcontractors of every tier add all entities listed as additional insureds, and provide proof of such on the policies as required by that section as detailed using an endorsement as least as broad as ISO CG 20 10 10 01 for ongoing operations and CG 20 37 10 01 for completed operations.

2. Upon request by the Owner, the Contractor shall forward to the Owner evidence of insurance and copies of the additional insured endorsements of each Subcontractor of every tier as required in Verification of Coverage below.

M. Verification of Coverage: The Contractor shall deliver to the Owner a Certificate(s) of Insurance and endorsements for each policy of insurance meeting the requirements set forth herein when the Contractor delivers the signed Contract for the work. Failure of Owner to demand such verification of coverage with these insurance requirements or failure of Owner to identify a deficiency from the insurance documentation provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

N. Verification of coverage shall include:
1. An ACORD certificate or a form determined by the Owner to be equivalent.
2. Copies of all endorsements naming Owner and all other entities listed as additional insured(s), showing the policy number. The Contractor may submit a copy of any blanket additional insured clause from its policies instead of a separate endorsement.
3. Any other amendatory endorsements to show the coverage required herein.
4. A notation of coverage enhancements on the Certificate of Insurance shall not satisfy these requirements – actual endorsements must be submitted.

O. Upon request by the Owner, the Contractor shall forward to the Owner a full and certified copy of the insurance policy(s). If Builders Risk insurance is required on this Project, a full and certified copy of that policy is required when the Contractor delivers the signed Contract for the work.

P. Coverages and Limits: The insurance shall provide the minimum coverages and limits set forth below. Contractor's maintenance of insurance, its scope of coverage, and limits as required herein shall not be construed to limit the liability of the Contractor to the coverage provided by such insurance, or otherwise limit the Owner's recourse to any remedy available at law or in equity.

Q. All deductibles and self-insured retentions must be disclosed and are subject to approval by the Owner. The cost of any claim payments falling within the deductible or self-insured retention shall be the responsibility of the Contractor. In the event an additional insured incurs a liability subject to any policy's deductibles or self-insured retention, said deductibles or self-insured retention shall be the responsibility of the Contractor.

R. Commercial General Liability: Commercial General Liability insurance shall be written on coverage forms at least as broad as ISO occurrence form CG 00 01, including but not limited to liability arising from premises, operations, stop gap liability, independent contractors, products-completed operations, personal and advertising injury, and liability assumed under an insured contract. There shall be no exclusion for liability arising from explosion, collapse or underground property damage.

S. The Commercial General Liability insurance shall be endorsed to provide a per project general aggregate limit, using ISO form CG 25 03 05 09 or an equivalent endorsement.

T. Contractor shall maintain Commercial General Liability Insurance arising out of the Contractor's completed operations for at least three years following Substantial Completion of the Work.
1. Such policy must provide the following minimum limits:
   $1,000,000 Each Occurrence
   $2,000,000 General Aggregate
   $2,000,000 Products & Completed Operations Aggregate

$1,000,000 Personal & Advertising Injury each offence
$1,000,000 Stop Gap / Employers' Liability each accident

U. Automobile Liability: Automobile Liability shall cover owned, non-owned, hired, and leased vehicles; and shall be written on a coverage form at least as broad as ISO form CA 00 01. If the work involves the transport of pollutants, the automobile liability policy shall include MCS 90 and CA 99 48 endorsements.

1. Such policy must provide the following minimum limit:
$1,000,000 Combined single limit each accident

V. Workers' Compensation: The Contractor shall comply with Workers' Compensation coverage as required by the Industrial Insurance laws of the State of Washington.

5.05 BUILDER'S RISK INSURANCE

A. Contractor shall purchase and maintain Builder's Risk insurance covering interests of the Owner, the Contractor, and subcontractors of every tier, as Named Insureds, in the Work. An Installation Floater instead of Builders Risk is acceptable for renovation projects. Builder's Risk insurance shall be on a special form policy, and shall insure against the perils of fire and extended coverage and physical loss or damage, theft, vandalism, malicious mischief and collapse; and flood and earthquake when shown below. The Builder's Risk insurance shall include coverage for temporary buildings, debris removal, and damage to materials in transit or stored off-site. Such insurance shall cover resulting "soft costs" including but not limited to design costs, licensing fees, Engineer's and Architect's fees, and costs due to delay in completion.

B. Builder's Risk insurance shall be written in the amount of the completed value of the project, with no coinsurance provisions. Such policy must provide coverage and deductibles that comply with the following:

Coverage:
Total Cost of Project to be Insured: Contract Value
Soft Costs: 5% of the Contract Value
Flood: 10% of the Contract Value
Earthquake: 10% of the Contract Value

Deductibles not to exceed:
Flood: 2% of the Value at Time of Loss, subject to a $250,000 Minimum
Earthquake: 5% of the Value at Time of Loss, subject to a $250,000 Minimum
Earth Movement: 5% of the Value at Time of Loss, subject to a $250,000 Minimum
All Other Perils: $50,000
Soft Costs: $50,000, with no more than 7-day waiting period

C. The Builders Risk insurance covering the work shall have maximum deductibles as listed above for each occurrence. The deductible(s) shall be the responsibility of the Contractor.

D. The Contractor shall provide the Owner with a full and certified copy of the insurance policy when the Contractor delivers the signed Contract for the work. Failure of the Owner to demand such verification of coverage with these insurance requirements or failure of the Owner to identify a deficiency from the insurance documentation provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

E. The Builders Risk insurance shall be maintained until final acceptance of the Work by the Owner.

F. The Contractor and the Owner waive all rights against each other and any of their subcontractors of every tier, agents, and employees, officers, and officials, for damages caused by fire or other perils to the extent covered by Builder's Risk insurance or other property insurance applicable to the work. The policies shall provide such waivers by endorsement.

5.06 PROPERTY INSURANCE

A. Contractor is responsible for any physical loss or damage, except that caused by the Owner, to the Work, temporary buildings, falsework, and materials and equipment in transit or storage, for all perils or causes of loss, including fire, lightning, theft, vandalism, malicious mischief, water damage, and earthquake, until Physical Completion of the Work.

B. If stated in the Agreement, Contractor is required to purchase and maintain property insurance, also known as Builder's Risk policy coverage, upon the Work at the Site.

C. The Contractor shall protect private or public property on or in the vicinity of the Work site. The Contractor shall ensure that it is not removed, damaged, destroyed, or prevented from being used unless the Contract so specifies. Property includes land, utilities, trees, landscaping, improvements legally on the right of way, markers, monuments, buildings, Structures, pipe, conduit, sewer or water lines, signs, and other property of all description whether shown on the Plans or not. If the Owner orders, or if otherwise necessary, the Contractor shall install protection, acceptable to the Owner, for property such as that listed in the previous paragraph. The Contractor is responsible for locating and protecting all property that is subject to damage by the construction operation. If the Contractor (or agents/employees of the Contractor) damage, destroy, or interfere with the use of such property, the Contractor shall restore it to original condition. The Contractor shall also halt all interference with the property's use. If the Contractor refuses or does not respond immediately, the Owner may have such property restored by other means and subtract the cost from money that will be or is due the Contractor.

5.07 WAIVER OF RIGHTS

A. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. Loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
2. Loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization or after Substantial Completion pursuant to Paragraph 14.04 or after final payment pursuant to Paragraph 14.07.

5.08 RECEIPT AND APPLICATION OF INSURANCE PROCEEDS

A. Contractor as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Contractor's exercise of this power. If such objection be made, Contractor as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Contractor as fiduciary shall adjust and settle the loss with the

insurers and, if required in writing by any party in interest, Contractor as fiduciary shall give bond for the proper performance of such duties.

5.09 ACCEPTANCE OF BONDS AND INSURANCE; OPTION TO REPLACE

A. If Owner has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the Contractor in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the Owner shall act in accordance with the Agreement.

ARTICLE 6 – CONTRACTOR'S RESPONSIBILITIES

6.01 SUPERVISION AND SUPERINTENDENCE

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents. Plan or method of work suggested by the Owner or the *Construction Inspector* to the Contractor, but not specified or required, if adopted or followed by the Contractor in whole or in part, shall be at the risk and responsibility of the Contractor. The Owner and the *Construction Inspector* assume no responsibility therefore and in no way will be held liable for any defects in the Work which may result from or be caused by use of such plan or method of work.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent approved by Owner who shall not be replaced without Owner's approval except under extraordinary circumstances.

C. Contractor shall have an authorized representative on site at all times whenever the Work is underway. If the representative is not the Superintendent, then that person shall be identified in writing to the Owner.

6.02 LABOR; WORKING HOURS; WAGE RATES

A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

B. Working days, non-working days, and City of Lacey Holidays shall be as defined in Paragraph 1.01.A.

C. Except in the case of emergency or unless otherwise approved by the Owner, the normal working hours for the Contract shall be any consecutive 8-hour period between 7:00 a.m. and 6:00 p.m. Monday through Friday, exclusive of a lunch break. If the Contractor desires different than the normal working hours stated above, the request must be submitted in writing prior to the preconstruction conference, subject to the provisions below. The working hours for the Contract shall be established at or prior to the preconstruction conference.

D. All working hours and days are also subject to local permit and ordinance conditions (such as noise ordinances).

E. Lacey Municipal Code (LMC) Chapter 14.38.010, prohibits outside construction activities between the hours of 9:00 p.m. and 7:00 a.m. in or adjacent to residential zones of the City. A waiver to this ordinance will not be allowed, except in case of emergency, or where operations are necessary during such hours in order to promote the safety of the traveling public as shown in theses specifications or as determined by the Owner.

F. If the Contractor wishes to deviate from the established working hours, the Contractor shall submit a written request to the Owner for consideration. This request shall state what hours are being requested, and why. Requests shall be submitted for review no later than 5 prior to the day(s) the Contractor is requesting to change the hours.

G. In accordance with RCW 49.28.010, the Contractor or any subcontractor shall not require any more than eight hours of labor in a day from any person employed in the performance of the work under this contract. Notwithstanding the provisions of RCW 49.28, the Contractor or a subcontractor may enter into an agreement with his or her employees in which the employees work up to ten hours in a calendar day. No such agreement may provide that the employees work ten-hour days for more than four calendar days in a week. Any such agreement is subject to approval by the employees. The overtime provisions of RCW 49.28 shall not apply to the hours, up to forty hours per week, worked pursuant to agreements entered into under this section.

H. Subject to RCW 49.28 and any other applicable laws, regulations, ordinances, or policies, overtime and shift work may be established as a regular procedure by the Contractor with reasonable notice and written permission of the Owner. No work other than overtime and shift work established as a regular procedure shall be performed between the hours of 6:00 p.m. and 7:00 a.m. nor on Saturdays, Sundays or City of Lacey Holidays except such work as is necessary for the proper care and protection of the work already performed or in case of an emergency. Permits and local ordinances may be more restrictive of work hour operations. Permits and local jurisdictions shall take precedence over outlined work hours, and may require additional written approval.

I. All necessary overtime work or work on a City of Lacey Holiday, Saturday, Sunday, or other non-work time shall be approved by the Owner prior to the work occurring.

J. Contractor agrees to pay the costs of overtime for Owner's staff, Engineer's staff, or other's inspection or other work, unless otherwise agreed to by Owner in writing. Overtime inspection or other overtime work shall include inspection or other work required during City of Lacey Holidays, Saturdays, Sundays, and weekdays between the hours of 6:00 p.m. and 7:00 a.m. Costs of overtime inspection or other work will cover engineering, inspection, general supervision, and overhead expenses which are directly chargeable to the overtime work. Contractor agrees that Owner shall deduct such charges from payments due the Contractor.

K. The Owner may waive overtime charges if it is in the best interest of the project that work be completed outside the above parameters. A written request will be made to the *Construction Inspector* and will be responded to in a written approval or denial. Unless otherwise agreed, the Owner shall not be responsible for any wages incurred (overtime or regular) by the Contractor or subcontractors for granting approval for work outside of pre-established shift work.

L. Wages: Contractor shall follow wage requirements described in Section 00 73 43 (Wage Rate Requirements). Further, the Contractor shall be responsible for wage rate compliance by all firms engaged in any part of the Work necessary to complete this Contract.

M. Posting Notices: Notices and posters shall be placed in areas readily accessible to read by employees. The Contractor shall ensure the most current edition of the following are posted:

1. WHD 1088 – Employee Rights Under the Fair Labor Standards Act published by US Department of Labor. Post on all projects.
2. WHD 1420 – Employee Rights and Responsibilities Under The Family And Medical Leave Act published by US Department of Labor. Post on all projects.
3. WHD 1462 – Employee Polygraph Protection Act published by US Department of Labor. Post on all projects.
4. F416-081-909 – Job Safety and Health Law published by Washington State Department of Labor and Industries. Post on all projects.
5. F242-191-909 – Notice To Employees published by Washington State Department of Labor and Industries. Post on all projects.
6. F700-074-000 – Your Rights as a Worker in Washington State by Washington State Department of Labor and Industries (L&I). Post on all projects.
7. EMS 9874 – Unemployment Benefits published by Washington State Employment Security Department. Post on all projects.
8. Post one copy of the approved “Statement of Intent to Pay Prevailing Wages” for the Contractor, each subcontractor, and other firms (Suppliers, Manufacturers, or Fabricators) that fall under the provisions of RCW 39.12 because of the definition of “Contractor” in WAC 296-127-010.
9. Post one copy of the prevailing wage rates for the project.

N. All Statements of Intent to Pay Prevailing Wages, Affidavits of Wages Paid and Certified Payrolls shall be submitted to the Owner using the L&I online Prevailing Wage Intent & Affidavit (PWIA) system.

O. The Contractor shall submit via the PWIA system the following documents provided by the Industrial Statistician of the Washington State Department of Labor and Industries (State L&I) for themselves and for each firm covered under RCW 39.12 that will or has provided Work and materials for the Contract:

1. The approved “Statement of Intent to Pay Prevailing Wages”. The Owner will make no payment under this Contract for the Work performed until this statement has been approved by State L&I and reviewed by the Owner.
2. The approved “Affidavit of Prevailing Wages Paid”. The Owner will not grant Completion until all approved Affidavit of Wages paid for the Contractor and all subcontractors have been received by the Owner. The Owner will not release to the Contractor funds retained under RCW 60.28.011 until all of the “Affidavit of Prevailing Wages Paid” forms have been approved by State L&I and all of the approved forms have been submitted to the Owner for every firm that worked on the Contract. The Contractor is responsible paying all fees required by State L&I.

P. Penalties for Non-Compliance: The Contractor is advised, if payrolls or Affidavits of Prevailing Wages Paid are not supplied, any or all payments may be withheld until compliance is achieved. In addition, failure to provide Statement of Intents, Affidavit of Wages Paid, or payrolls may result in other sanctions as provided by State laws (RCW 39.12.050) and/or Federal regulations (29 CFR 5.12).

Q. Audits: The Owner may inspect or audit the Contractor’s wage and payroll records.

R. Worker’s Benefits: The Contractor shall make all payments required for unemployment compensation under Title 50 RCW and for industrial insurance and medical aid required under Title 51 RCW. If payments required by Title 50 or Title 51 is not made when due, the Owner may retain such payments from money due the Contractor and pay the same into the appropriate fund. Such payment will be made only after giving the Contractor 15

days prior written notice of the Owner's intent to disburse the funds to the Washington State Department of Labor and Industries or Washington State Employment Security Department as applicable. The payment will be made upon expiration of the 15 calendar day period if no legal action has been commenced to resolve the validity of the claim. If legal action is instituted to determine the validity of the claim prior to the expiration of the 15-day period, the Owner will hold the funds until determination of the action or written settlement agreement of the appropriate parties.

S. The Contractor shall include in the various items in the Bid Proposal all costs for payment of unemployment compensation and for providing either or both of the insurance coverages. The Contractor will not be entitled to additional payment for: (1) failure to include such costs, or (2) determinations made by the U.S. Department of Labor or the Washington State Department of Labor and Industries regarding the insurance coverage. The Public Works Contract Division of the Washington State Department of Labor and Industries will provide the Contractor with applicable industrial insurance and medical aid classification and premium rates. After receipt of a Revenue Release from the Washington State Department of Revenue, the Owner will verify through the Department of Labor and Industries that the Contractor is current with respect to the payments of industrial insurance and medical aid premiums.

T. Discrimination in all phases of contracted employment, contracting activities and training is prohibited by Title VI of the Civil Rights Act of 1964, Section 162(a) of the Federal-Aid Highway Act of 1973, Section 504 of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, the Justice System Improvement Act of 1979, the American with Disabilities Act of 1990, the Civil Rights Restoration Act of 1987, 49 CFR Part 21, RCW 49.60 and other related laws and statutes. The referenced legal citations establish the minimum requirements for affirmative action efforts and define the basic nondiscrimination provisions as required by this section of these Standard Specifications.

U. Standard Title VI Statutory/Regulatory Authorities: References to the term "Acts and Regulations" within this Section will refer to the following:

1. Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin);
2. 49 C.F.R. Part 21 (entitled Non-discrimination In Federally-Assisted Programs Of The Department Of Transportation-Effectuation Of Title VI of the Civil Rights Act Of 19640;
3. 28 C.F.R. section 50.3 (US Department of Justice Guidelines for Enforcement of Title VI of the Civil Rights Act of 1964).

V. Nondiscrimination Authorities: During the performance of this Contract, the Contractor, for itself, its assignees, and successors in interest agrees to comply with the following nondiscrimination statues and authorities; including but not limited to:

1. Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin) and C.F.R. Part 21.
2. The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C §4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects).
3. Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et. seq.), as amended, (prohibits discrimination on the basis of sex).
4. Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended (prohibits discrimination on the basis of disability); and 49 C.F.R. Part 27.

5. The Age of Discrimination Act of 1975, as amended (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age).
6. Airport and Airway Improvement Act of 1982, (49 U.S.C. § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex).
7. The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age of Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition and terms “programs or activities” to include all of the program or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not).
8. Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. § 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38.
9. The Federal Aviation Administration’s Nondiscrimination statute (49 U.S.C. § 47123), (prohibits discrimination on the basis of race, color national origin, and sex).
10. Executive Order 12898 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations.
11. Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to-ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100).
12. Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq.).

W. Contractual Requirements:
1. The Contractor shall maintain a Work site that is free of harassment, humiliation, fear, hostility and intimidation at all times. Behaviors that violate this requirement include but are not limited to: a. Persistent conduct that is offensive and unwelcome. b. Conduct that is considered to be hazing. c. Jokes about race, gender, or sexuality that are offensive. d. Unwelcome, unwanted, rude or offensive conduct or advances of a sexual nature which interferes with a person’s ability to perform their job or creates an intimidating, hostile, or offensive work environment. e. Language or conduct that is offensive, threatening, intimidating or hostile based on race, gender, or sexual orientation. f. Repeating rumors about individuals in the Work Site that are considered to be harassing or harmful to the individual’s reputation.
2. The Contractor shall not discriminate against any employee or applicant for contracted employment because of race, religion, color, national origin, sex, age, marital status, or the presence of any physical, sensory or mental disability.
3. The Contractor shall, in all solicitations or advertisements for employees, state that all qualified applicants will be considered for employment, without regard to race, religion, color, national origin, sex, age, marital status, or the presence of any physical, sensory, or mental disability.
4. The Contractor shall insert the following notification in all solicitations for bids for Work or material subject to the Acts and Regulations and made in connection with all FHWA programs and, in adapted form in all proposals for negotiated

agreements regardless of funding source: The Contractor in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S. C § 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

5. The Contractor shall make decisions with regard to selection and retention of subcontractors, procurement of materials and equipment and similar actions related to the Contract without regard to race, religion, color, national origin, sex, age, marital status, or the presence of any physical, sensory, or mental disability.
6. The Contractor shall send to each labor union, employment agency, or representative of workers with which the Contractor has a collective bargaining agreement or other contract or understanding, a notice advising the labor union, employment agency or worker's representative, of the Contractor's commitments under this Contract with regard to nondiscrimination.
7. The Contractor shall permit access to its books, records and accounts by the Owner for the purpose of investigating to ascertain compliance with these Specifications. In the event that information required of a Contractor is in the possession of another who fails or refuses to furnish this information, the Contractor shall describe, in writing, what efforts were made to obtain the information.
8. The Contractor shall maintain records with the name and address of each minority/ female worker referred to the Contractor and what action was taken with respect to the referred worker.
9. The Contractor shall notify the Owner whenever the union with which the Contractor has a collective bargaining agreement has impeded the Contractor's efforts to effect minority/female workforce utilization. This being the case, the Contractor shall show what relief they have sought under such collective bargaining agreements.
10. The Contractor is encouraged to participate in Owner and Washington State Human Rights Commission approved program(s) designed to train craft-workers for the construction trades.

6.03 SERVICES, MATERIALS, AND EQUIPMENT

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If applicable, a summary of items with extended warranty periods is included in Section 00 62 00 (Reference Forms). The Contractor shall furnish to the Owner any guarantee or warranty furnished as a customary trade practice in connection with the purchase of any equipment, materials, or items incorporated into the Work. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

D. The Owner may reject equipment used in the performance of the Work that repeatedly breaks down or fails to produce results within the required tolerances. The Contractor shall have no claim for additional payment or for extension of time due to rejection and replacement of equipment.

6.04 PROGRESS SCHEDULE

A. The Schedule and all elements within the Schedule will be updated and provided with each pay request. The Schedule will be used to produce a two-week look-ahead Schedule for each construction meeting.

B. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Owner for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
2. Working days shall be counted as defined in Article 1.01.A unless the Contractor submits a written request to Owner for a non-workable day and Owner approves the request.
3. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.
4. Contractor shall make all reasonable efforts to mitigate any damages resulting from delays in labor, materials, supplies, or permitting. In the event the Contractor believes such a delay is about to occur, or has occurred, it must notify Owner and Engineer immediately upon learning of such condition. Under no circumstances will Owner be liable to Contractor should this paragraph be violated.
5. When requested by Owner, the Contractor shall make all reasonable efforts to accelerate the schedule. Such efforts shall be at Owner’s cost.

C. The Contractor shall furnish such manpower, materials, facilities, and equipment as may be necessary to ensure the prosecution and completion of the work in accordance with the accepted schedule. If work falls 14 days or more behind the accepted construction schedule, the Contractor agrees that he will take some or all of the following actions to return the project to the accepted schedule. These actions may include the following:

1. Increase manpower in quantities and crafts
2. Increase the number of working hours per shift, shifts per working day, working days per week, or the amount of equipment, or any combination of the foregoing.
3. Reschedule activities.

D. If requested by the *Construction Inspector*, the Contractor shall prepare a proposed schedule revision demonstrating a plan to make up the lag in progress and ensure completion of the work within the contract time. The proposed revision shall be submitted to the *Construction Inspector*. All actions to return the project to the accepted schedule are at the Contractor's expense.

E. The Contractor shall pay all costs incurred by the Owner which result from the Contractor's action to return the project to its accepted schedule. Contractor agrees that

Owner shall deduct such charges from payments due the Contractor. It is further understood and agreed that none of the services performed by the *Construction Inspector* in monitoring, reviewing and reporting project status and progress shall relieve the Contractor of responsibility for planning and managing construction work in conformance with the construction schedule.

6.05 SUBSTITUTES AND "OR-EQUALS"

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to the Owner for review under the circumstances described below

1. *"Or-Equal" Items:* If in Owner's sole discretion, with input from Engineer, an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Owner, with input from Engineer, as an "or-equal" item, in which case review and approval of the proposed item may, in Owner's sole discretion, with input from Engineer, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:
    a. In the exercise of reasonable judgment Engineer determines that:
        1. It is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
        2. It will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and
        3. It has a proven record of performance and availability of responsive service.
    b. Contractor certifies that, if approved and incorporated into the Work:
        1. There will be no increase in cost to the Owner or increase in Contract Times; and
        2. It will conform substantially to the detailed requirements of the item named in the Contract Documents.
2. Substitute Items:
    a. If in Owner's sole discretion, with input from Engineer, an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.
    b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.
    c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d and as Engineer may decide is appropriate under the circumstances.
    d. Contractor shall make written application to Owner for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
        1. Shall certify that the proposed substitute item will:

1) Perform adequately the functions and achieve the results called for by the general design,
2) Be similar in substance to that specified, and
3) Be suited to the same use as that specified;

2. Will state:
   1) The extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,
   2) Whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
   3) Whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;
3. Will identify:
   1) All variations of the proposed substitute item from that specified, and
   2) Available engineering, sales, maintenance, repair, and replacement services; and
4. Shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.

B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Owner, with input from Engineer. Contractor shall submit sufficient information to allow Owner, in Owner's sole discretion with input from Engineer, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Owner, with input from Engineer, will be similar to those provided in Paragraph 6.05.A.2.

C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Owner in writing of any negative determination. Owner, with input from the Engineer, will be the sole judge of acceptability.

D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

E. *Engineer's Cost Reimbursement*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute. Reimbursement rates for Engineer or Related Entities for evaluation

of proposed substitutes shall be available upon written request. Reimbursement for service shall be compensated as established in Article 14.

F. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 CONCERNING SUBCONTRACTORS, SUPPLIERS, AND OTHERS

A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection. Owner requires that Contractor self-perform at least 10% of the contract price. Upon request, Contractor shall provide documents to Owner to demonstrate compliance. Noncompliance may be considered in the determination of bidder responsibility on future projects.

B. If the identity of certain Subcontractors, Suppliers, or other individuals or entities is required to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Contract Documents, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:

1. Shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor
2. Shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor. While Subcontractors, Suppliers, or other individuals or entities are preforming Work, the Contractor shall continuously supervise that Work and be present at the site of Work.

E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Owner or Engineer through Contractor.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.

H. Prior to subcontracting any work, the Contractor shall verify that every first tier subcontractor meets the responsibility criteria in RCW 39.04.350(1) as amended. The Contractor shall require first tier subcontractors to verify that their subcontractors meet the responsibility criteria.

I. Refer to WSDOT Standard Specifications for Road, Bridge and Municipal Construction 1-08.1 for further provisions. Supplement Standard Specifications with the following:
   1. A subcontractor or lower tier subcontractor will not be permitted to perform any work under the contract until the following documents have been competed and submitted to the Owner:
      a. Request to Sublet Work (WSDOT Form 421-012 or equivalent)

6.07 PATENT FEES AND ROYALTIES

A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.

C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and its officers, directors, members, partners, employees, agents, consultants and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

D. Contractor shall, at its sole expense, defend and pay all damages, fees, royalties, and costs awarded in any proceeding brought against Owner, its employees and Related Entities, in which it is claimed that the use of any treatment process, material, equipment,

or parts thereof furnished constitutes an infringement of any patent or other proprietary information right, provided Contractor is promptly notified of the commencement of any such proceedings. Contractor's indemnity applies only when infringement occurs from the normal use for which such treatment process, material, or equipment were designed. Owner may, at its option, be represented at any such proceeding. If use is held in any such proceeding to constitute an infringement and is enjoined, Contractor, at its expense, shall either procure for Owner the right to use such treatment process, material and equipment or manufacture and sell product generated from the use of the treatment process; or pay the costs for damages, fees, or royalties.

6.08 PERMITS

A. The City of Lacey will issue construction permits to the Contractor at no cost. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. All City of Lacey charges and inspection fees for the prosecution of the Work shall be waived. Owner shall pay all charges of and coordinate with utility owners for connections for providing permanent service to the Work.

B. The Owner will support the Contractor in efforts to obtain a temporary operating permit in its name if:

1. A local rule or an agency policy prevent issuing the permit to a private firm;
2. The Contractor takes all action to obtain the permit;
3. The permit will serve the public interest;
4. The permit applies only to Work under the Contract;
5. The Contractor agrees in writing: (a) to comply with all the issuing agency requires, and (b) to hold the Owner harmless for all Work-related liability incurred under the permit; and
6. The permit costs the Owner nothing.

6.09 LAWS AND REGULATIONS

A. The Contractor shall always comply with all Federal, State, tribal, or local laws, ordinances, and regulations that affect Work under the Contract. The Contractor shall indemnify, defend, and save harmless the State (including the Governor, Commission, Secretary, and agents, officers, and employees) against claims that may arise because the Contractor (or employees of the Contractor, subcontractors or material persons) violated a legal requirement.

B. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

C. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

D. Without usurping the authority of other agencies, the Owner will cooperate with them in their efforts to enforce legal requirements. Upon awareness of a violation of a legal requirement, the Engineer will notify the Contractor in an effort to achieve compliance.

The Engineer may also notify the agency responsible for enforcement if the Engineer deems that action is necessary to achieve compliance with legal requirements. The Owner will also assist the enforcement agency to obtain Contractor compliance to the extent such assistance is consistent with the provisions of the Contract.

E. In cases of conflict between different safety regulations, the more stringent regulation shall apply.

F. The Washington State Department of Labor and Industries shall be the sole and paramount administrative agency responsible for the administration of the provisions of the Washington Industrial Safety and Health Act of 1973 (WISHA).

G. Changes in Laws or Regulations not known at the time that Bids were due having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.06.

H. The Contractor shall maintain at the project site office, or other well-known place at the project site, all articles necessary for providing first aid to the injured. The Contractor shall establish, publish, and make known to all employees, procedures for ensuring immediate removal to a hospital, or doctor's care, persons, including employees, who may have been injured on the project site. Employees should not be permitted to work on the project site before the Contractor has established and made known procedures for removal of injured persons to a hospital or a doctor's care.

I. The Contractor shall have sole responsibility for the safety, efficiency, and adequacy of the Contractor's plant, appliances, and methods, and for any damage or injury resulting from their failure, or improper maintenance, use, or operation. The Contractor shall be solely and completely responsible for the conditions of the project site, including safety for all persons and property in the performance of the work. This requirement shall apply continuously, and not be limited to normal working hours. The required or implied duty of the *Construction Inspector* to conduct construction review of the Contractor's performance does not, and shall not, be intended to include review and adequacy of the Contractor's safety measures in, on, or near the project site.

J. The Contractor shall be responsible for the safety of all workers and shall comply with all appropriate state safety and health standards, codes, rules, and regulations, including, but not limited to, those promulgated under the Washington Industry Safety and Health Act RCW 49.17 (WISHA) and as set forth in Title 296 WAC (Department of Labor and Industries). In particular the Contractor's attention is drawn to the requirements of WAC 296.800 which requires employers to provide a safe workplace. More specifically WAC 296.800.11025 prohibits alcohol and narcotics from the workplace. The Contractor shall likewise be obligated to comply with all federal safety and health standards, codes, rules, and regulations that may be applicable to the Contract Work. A copy of all safety plans (e.g., fall protection work plan) that are developed by the Contractor shall be submitted to the Owner as a Type 1 Working Drawing. When requested by the *Construction Inspector*, the Contractor shall provide training to Owner employees working on-site for any activity covered by a safety plan.

6.10 TAXES

A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

B. The Washington State Department of Revenue has issued special rules on the State sales tax. The following articles are meant to clarify those rules. The Contractor should contact the Washington State Department of Revenue for answers to questions in this area. The Owner will not adjust its payment if the Contractor bases a bid on a misunderstood tax liability.

C. The Owner will pay the retained percentage (or release the Contract Bond if a FHWA-funded Project) only if the Contractor has obtained from the Washington State Department of Revenue a certificate showing that all contract-related taxes have been paid (RCW 60.28.051). The Owner may deduct from its payments to the Contractor any amount the Contractor may owe the Washington State Department of Revenue, whether the amount owed relates to this contract or not. Any amount so deducted will be paid into the proper State fund.

D. WAC 458-20-170 and its related rules apply to the constructing and repairing of new or existing buildings, or other structures, upon real property. This includes, but is not limited to, the construction of streets, roads, highways, etc., owned by the state of Washington; water mains and their appurtenances; sanitary sewers and sewage disposal systems unless such sewers and disposal systems are within, and a part of, a street or road drainage system; telephone, telegraph, electrical power distribution lines, or other conduits or lines in or above streets or roads, unless such power lines become a part of a street or road lighting system; and installing or attaching of any article of tangible personal property in or to real property, whether or not such personal property becomes a part of the realty by virtue of installation.

E. For work performed in such cases, the Contractor shall collect from the Owner, retail sales tax on the full contract price. The Owner will automatically add this sales tax to each payment to the Contractor. For this reason, the Contractor shall not include the retail sales tax in the unit bid item prices, or in any other contract amount subject to WAC 458-20-170, with the following exception.

> Exception: The Owner will not add in sales tax for a payment the Contractor or a subcontractor makes on the purchase or rental of tools, machinery, equipment, or consumable supplies not integrated into the project. Such sales taxes shall be included in the unit bid item prices or in any other contract amount.

F. WAC 458-20-171, and its related rules, apply to building, repairing, or improving streets, roads, etc., which are owned by a municipal corporation, or political subdivision of the state, or by the United States, and which are used primarily for foot or vehicular traffic. This includes storm or combined sewer systems within and included as a part of the street or road drainage system and power lines when such are part of the roadway lighting system. For work performed in such cases, the Contractor shall include Washington State Retail Sales Taxes in the various unit bid item prices, or other contract amounts, including those that the Contractor pays on the purchase of the materials, equipment, or supplies used or consumed in doing the work.

G. The Contractor shall not collect retail sales tax from the Owner on any contract wholly for professional or other services (as defined in Washington State Department of Revenue Rules 138 and 244).

6.11 USE OF SITE AND OTHER AREAS

A. Limitation on Use of Site and Other Areas:

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the areas designated by the Owner

on the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and its officers, directors, members, partners, employees, agents, consultants and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

B. Contractor shall enforce any instructions of the Owner regarding signs, advertising, fires, danger signals, barricades, and smoking; and shall require all persons employed on the Work to comply with all Owner regulations while on premises.

C. Removal of Debris During Performance of the Work: During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

D. Cleaning: Prior to Substantial Completion of the Work, Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the Physical Completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents. Contractor shall be solely responsible for the lawful disposal of items removed from the site.

E. Loading Structures: Contractor shall not load nor permit any part of any existing building, structure, piping, or equipment to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

F. Owner Property: The Contractor shall not use Owner owned or controlled property other than that directly affected by the Contract Work without the approval of the Owner. If the Owner grants such approval, the Contractor shall then vacate the area when ordered to do so by the Owner. Approval to temporarily use the property shall not create entitlement to further use or to compensation for conditions or requirements imposed.

G. Private Property: The Contractor may access the worksite from adjacent properties. The Contractor shall not use or allow others to use this access to merge with public traffic. During non-working hours, the Contractor shall provide a physical barrier that is either locked or physically unable to be moved without equipment. The access shall not go through existing Structures. The access may go through fencing. The Contractor shall control or prevent animals from entering the worksite to the same degree that they were controlled before the fence was removed. The Contractor shall prevent persons not involved in the Contract Work from entering the worksite through the access or through Trails and Pathways intersected by the access. If the Contract documents require that existing Trails or Pathways be maintained during construction, the Contractor will insure

the safe passage of Trail or Pathway users. The Contractor shall effectively control airborne particulates that are generated by use of the access. The location and use of the access shall not adversely affect wetlands or sensitive areas in any manner. The Contractor shall be responsible for obtaining all haul road agreements, permits and/or easements associated with the access. The Contractor shall replace fences, repair damage and restore the site to its original state when the access is no longer needed. The Contractor shall bear all costs associated with this worksite access.

H. Vegetation Protection and Restoration: Existing trees and other vegetation, where shown in the Plans or designated by the Owner, shall be saved and protected through the life of the Contract. The Owner will designate the vegetation to be saved and protected by a site preservation line, high visibility fencing, or individual flagging. Damage which may require replacement of vegetation includes torn bark stripping, broken branches, exposed root systems, cut root systems, poisoned root systems, compaction of surface soil and roots, puncture wounds, drastic reduction of surface roots or leaf canopy, changes in grade greater than 6 inches, or other changes to the location that may jeopardize the survival or health of the vegetation to be preserved. When large roots of trees designated to be saved are exposed by the Contractor's operation, they shall be wrapped with heavy, moist material, such as burlap or canvas, for protection and to prevent excessive drying. The material shall be kept moist and securely fastened until the roots are covered to finish grade. All material and fastening material shall be removed from the roots before covering. All roots 1 inch or larger in diameter, that are damaged, shall be pruned with a sharp saw or pruning shear. Damaged, torn, or ripped bark shall be removed as ordered by the Owner at no additional cost to the Owner. Pruning activity required to complete the Work as specified shall be performed by a Certified Arborist at the direction of the Owner. If due to, or for reasons related to the Contractor's operation, trees, shrubs, ground cover or herbaceous vegetation designated to be saved is destroyed, disfigured, or damaged to the extent that continued life is questionable as determined by the Owner, it shall be removed by the Contractor at the direction of the Owner. The Contractor will be assessed damages equal to triple the value of the vegetation as determined in the Guide for Plant Appraisal, Current Edition, published by the International Society of Arboriculture or the estimated cost of restoration with a similar species. Shrub, ground cover, and herbaceous plant values will be determined using the Cost of Cure Method. Damage so assessed will be deducted from the monies due or that may become due the Contractor.

I. Fences, Mailboxes, Incidentals: The Contractor shall maintain all temporary fencing to prevent pedestrians from entering the worksite and to preserve property when working through or adjacent to private property. The Contractor is liable for all damages resulting from not complying with this requirement.

J. Archaeological and Historical Objects: Archaeological or historical objects, such as ruins, sites, buildings, artifacts, fossils, or other objects of antiquity that may have significance from a historical or scientific standpoint, which may be encountered by the Contractor, shall not be further disturbed. The Contractor shall immediately notify the Owner of any such finds. The Owner will determine if the material is to be salvaged. The Contractor may be required to stop Work in the vicinity of the discovery until such determination is made. The Owner may require the Contractor to suspend Work in the vicinity of the discovery until salvage is accomplished. If the Owner finds that the suspension of Work in the vicinity of the discovery increases or decreases the cost or time required for performance of any part of the Work under this Contract, the Owner will make an adjustment in payment or the time required for the performance of the Work in accordance with Article 12.

K. Inadvertent Discovery of Human Skeletal Remains: If human skeletal remains are encountered by the Contractor, they shall not be further disturbed. The Contractor shall immediately notify the Owner of any such finds, and shall cease all work adjacent to the

discovery, in an area adequate to provide for the total security and protection of the integrity of the skeletal remains. The Owner may require the Contractor to suspend Work in the vicinity of the discovery until final determinations are made and removal of the skeletal remains is completed. If the Owner finds that the suspension of Work in the vicinity of the discovery increases or decreases the cost or time required for performance of any part of the Work under this Contract, the Owner will make an adjustment in payment or the time required for the performance of the Work in accordance with Article 12.

L. Discovery of Unidentified Wells: If unidentified wells are encountered by the Contractor, they shall not be further disturbed. The Contractor shall ensure unidentified wells encountered are protected from all construction activities including spills. Contractor shall notify the Owner and Engineer for further instruction.

M. Payment: All costs to comply with this section and for the protection and repair specified in this section, unless otherwise stated, are incidental to the Contract and are the responsibility of the Contractor. The Contractor shall include all related costs in the unit Bid prices of the Contract.

N. Utilities and Similar Facilities: The Contractor shall protect all private and public utilities from damage resulting from the Work. Among others, these utilities include: telephone, telegraph, and power lines; pipelines, sewer and water lines; railroad tracks and equipment; and highway lighting and signing systems, and intelligent transportation systems (ITS). All costs required to protect public and private utilities shall be at the Contractor's expense, except as provided otherwise in this section. RCW 19.122 relates to underground utilities. In accordance with this RCW, the Contractor shall call the One-Number Locator Service for field location of utilities. If no locator service is available for the area, notice shall be provided individually to those owners of utilities known to, or suspected of, having underground facilities within the area of the proposed excavation.

O. Utility Construction, Removal, or Relocation by the Contractor: If the Work requires removing or relocating a utility, the Contract will assign the task to the Contractor or the utility owner. When the task is assigned to the Contractor it shall be performed in accordance with the Contract Documents. New utility construction shall be performed according to the appropriate Contract requirements. To ease or streamline the Work for its own convenience, the Contractor may desire to ask utility owners to move, remove, or alter their equipment in ways other than those listed in the Plans or Special Provisions. The Contractor shall make the arrangements and pay all costs that arise from work performed by the utility owner at the Contractor's request. The Contractor shall submit a Type 2 Working Drawing consisting of plans and details describing the scope and schedule of all work performed at the Contractor's request by the utility owner. In some cases, the Plans or Special Provisions may not show all underground facilities. If the Work requires these to be moved or protected, the Owner will assign the task to others or issue a written change order requiring the Contractor to do so as provided Article 10.

6.12 RECORD DOCUMENTS

A. The Contractor shall maintain one set of full size plans for Record Drawings, updated with clear and accurate red-lined field revisions on a daily basis, and within 2 working days after receipt of information that a change in Work has occurred. The Contractor shall not conceal any work until the required information is recorded.

B. This Record Drawing set shall be used for this purpose alone, shall be kept separate from other Plan sheets, and shall be clearly marked as Record Drawings. These Record Drawings shall be kept on site at the Contractor's field office, and shall be available for

review by the Owner at all times. The Contractor shall bring the Record Drawings to each progress meeting for review.

C. The preparation and upkeep of the Record Drawings is to be the assigned responsibility of a single, experienced, and qualified individual. The quality of the Record Drawings, in terms of accuracy, clarity, and completeness, is to be adequate to allow the Owner to modify the computer-aided drafting (CAD) Contract Drawings to produce a complete set of Record Drawings for the Owner without further investigative effort by the Owner.

- The Record Drawing markups shall document all changes in the Work, both concealed and visible. Items that must be shown on the markups include but are not limited to: Actual dimensions, arrangement, and materials used when different than shown in the Plans.
- Changes made by Change Order or Field Order.
- Changes made by the Contractor.
- Accurate locations of storm sewer, sanitary sewer, water mains and other water appurtenances, structures, conduits, light standards, vaults, width of roadways, sidewalks, landscaping areas, building footprints, channelization and pavement markings, etc. Include pipe invert elevations, top of castings (manholes, inlets, etc.).

D. If the Contract calls for the Owner to do all surveying and staking, the Owner will provide the elevations at the tolerances the Owner requires for the Record Drawings.

E. When the Contract calls for the Contractor to do the surveying/staking, the applicable tolerance limits include, but are not limited to the following:

	Vertical	Horizontal
As-built sanitary & storm invert and grate elevations	± 0.01 foot	± 0.01 foot
As-built monumentation	± 0.01 foot	± 0.01 foot
As-built waterlines, inverts, valves, hydrants	± 0.01 foot	± 0.01 foot
As-built ponds/swales/water features	± 0.01 foot	± 0.01 foot
As-built buildings (fin. Floor elev.)	± 0.01 foot	± 0.01 foot
As-built gas lines, power, TV, Tel, Com	± 0.01 foot	± 0.01 foot
As-built signs, signals, etc.	N/A	± 0.01 foot

F. Making Entries on the Record Drawings:
Use erasable colored pencil (not ink) for all markings on the Record Drawings, conforming to the following color code:

Additions - Red
Deletions - Green
Comments - Blue
Dimensions - Graphite

G. Provide the applicable reference for all entries, such as the change order number, the request for information (RFI) number, or the approved shop drawing number.

H. Date all entries and clearly identify all items in the entry with notes similar to those in the Contract Drawings (such as pipe symbols, centerline elevations, materials, pipe joint abbreviations, etc.).

I. The Contractor shall certify on the Record Drawings that said drawings are an accurate depiction of built conditions, and in conformance with the requirements detailed above. The Contractor shall submit final Record Drawings to the Owner. Owner acceptance of the Record Drawings is one of the requirements for achieving Physical Completion.

J. Costs anticipated or incurred by the Contractor for the work shall be included in the various lump sum unit price bid items as found in the Proposal. Payment for this item will be made once Record Drawings have been submitted and approved.

6.13 SAFETY AND PROTECTION

A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. All persons on the Site or who may be affected by the Work;
2. All the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
3. Other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. Owner will make available applicable safety procedures to Contractor.

D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as Owner accepts the Work as physically complete (except as otherwise expressly provided in connection with Substantial Completion).

G. Public Safety and Convenience: The Contractor shall conduct Work so as to ensure the least possible obstruction to traffic and inconvenience to the general public and the residents in the vicinity of the work and to ensure the protection of persons and property. No road or street shall be closed to the public except with the permission of the *Construction Inspector* and the proper governmental authority. Fire hydrants on or adjacent to the work shall be accessible to firefighting equipment. Temporary provisions

shall be made by the Contractor to ensure the use of sidewalks, private and public driveways and proper functioning of gutters, sewer inlets, drainage ditches and culverts, irrigation ditches, and natural watercourses.

H. The Contractor shall comply with Section 01 35 20 (Safety and Health Requirements). If, at any time, the Contractor is not in compliance with this section, work may be terminated or suspended until compliance is met. Compensation for losses of any nature shall not be allowed for termination or suspension of work due to non-compliance. In addition, no additional extension of contract schedule shall be allowed for non-compliance with the Safety and Health Agreement.

I. High-Visibility Apparel: The Contractor shall require all personnel including service providers, subcontractors or material persons that are on foot in the work zone and are exposed to vehicle traffic or construction equipment to wear the high-visibility apparel described in this section. The Contractor shall ensure that a competent person as identified in the MUTCD (Manual on Uniform Traffic Control Devices) selects the appropriate high-visibility apparel suitable for the jobsite conditions. High-visibility garments shall always be the outermost garments. High-visibility garments shall be labeled as, and in a condition compliant with the ANSI/ ISEA 107-2015 (or later version) and shall be used in accordance with manufacturer recommendations.

J. Traffic Control Personnel: All personnel performing the Work (including traffic control supervisors, flaggers, and others performing traffic control labor of any kind) shall comply with the following:

1. During daylight hours with clear visibility, workers shall wear a high-visibility ANSI/ ISEA 107 Type R Class 2 or 3 vest or jacket, and hardhat meeting the high-visibility headwear requirements of WAC 296-155-305; and
2. During hours of darkness (½ hour before sunset to ½ hour after sunrise) or other low-visibility conditions (snow, fog, etc.), workers shall wear a high-visibility ANSI/ISEA 107 Type R Class 2 or 3 vest or jacket, high-visibility lower garment meeting ANSI/ ISEA 107 Class E, and hardhat meeting the high-visibility headwear requirements of WAC 296-155-305.

K. Non-Traffic Control Personnel: All personnel, except those performing the Work described in Section 1-10, shall wear high-visibility apparel meeting the ANSI/ISEA 107 Type R Class 2 or 3 standard.

6.14 SAFETY REPRESENTATIVE

A. Contractor shall designate a qualified and experienced safety representative at the Site in accordance with Section 01 35 20 (Safety and Health Requirements).

6.15 HAZARD COMMUNICATION PROGRAMS

A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 EMERGENCIES

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss and must promptly notify *Construction Inspector*, Owner, and Engineer of any such actions taken. Contractor shall give Owner prompt written notice if Contractor

believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Owner determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

B. Contractor shall provide Owner with an "Emergency Contact List" listing phone numbers for at least three individuals that may be contacted in an emergency related to the Contract Work that can respond as required. If the Contractor cannot be reached or does not correct the emergency situation, the Owner will take actions and charge the contractor for work performed to correct the emergency.

6.17 SUBMITTALS, SHOP DRAWINGS, AND SAMPLES

A. Contractor shall provide Submittals, Shop Drawings and Samples to the Owner for review by Engineer and approval in accordance with the accepted List of Submittals (as required by Paragraph 2.07). Each submittal will be identified as the Owner may require.

1. Submittals:
    a. Submit number of copies specified in Section 01 33 00 (Submittals).
    b. Clearly identify materials that are being submitted for this project. Cross out items that do not apply.
2. Shop Drawings:
    a. Submit number of copies specified in Section 01 33 00 (Submittals).
    b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.
3. Samples:
    a. Submit number of Samples specified in the Specifications.
    b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the List of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. Submittal Procedures:

1. Contractor shall follow submittal requirements in Section 01 33 00 (Submittals).
2. Before submitting each Shop Drawing or Sample, Contractor shall have:
    a. Reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
    b. Determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
    c. Determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and

d. Determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.

3. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.

4. With each submittal, Contractor shall give specific written notice of any variations that the item may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the submittal; and, in addition, by a specific notation made on each item submitted to Owner for review and approval of each such variation.

D. Engineer's Review:

1. Engineer will provide review to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. Resubmittal Procedures:

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Submittals or Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 CONTINUING THE WORK

A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 CONTRACTOR'S GENERAL WARRANTY AND GUARANTEE

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.

B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. Abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
2. Normal wear and tear under normal usage.

C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
1. Observations by Engineer or Owner;
2. Recommendation by Engineer or payment by Owner of any progress or final payment;
3. The issuance of a certificate of Substantial Completion by Owner or any payment related thereto by Owner;
4. Use or occupancy of the Work or any part thereof by Owner;
5. Any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;
6. Any inspection, test, or approval by others; or
7. Any correction of defective Work by Owner.

D. One-Year Guarantee Period: The Contractor shall return to the project and repair or replace all defects in workmanship and material discovered within one year after Final Acceptance of the Work. The Contractor shall start work to remedy any such defects within 7 calendar days of receiving Owner's written notice of a defect, and shall complete such work within the time stated in the Owner's notice. In case of an emergency, where damage may result from delay or where loss of services may result, such corrections may be made by the Owner's own forces or another contractor, in which case the cost of corrections shall be paid by the Contractor. In the event the Contractor does not accomplish corrections within the time specified, the work will be otherwise accomplished and the cost of same shall be paid by the Contractor.

E. When corrections of defects are made, the Contractor shall then be responsible for correcting all defects in workmanship and materials in the corrected work for one year after acceptance of the corrections by the Owner.

F. This guarantee is supplemental to and does not limit or affect the requirements that the Contractor's work comply with the requirements of the Contract or any other legal rights or remedies of the Owner.

6.20 INDEMNIFICATION

A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and its officers, directors, members, partners, employees, agents, consultants and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or

indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.

B. In any and all claims against Owner or any of its officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Owner and its officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:

1. The preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
2. Giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

D. For suits, actions, legal or administrative proceedings, Claims, demands, damages, losses, penalties, fines, costs, and expenses caused by or resulting from the concurrent negligence of Owner or Owner's agents or employees and Contractor or Contractor's agents of employees, in situations where liability for damages arises from Claims of bodily injury to persons or damage to property, the preceding indemnity provision shall be valid and enforceable only to the extent of Contractor's negligence.

E. Contractor acknowledges that by entering into a Contract with Owner, Contractor has mutually negotiated the above indemnity provision with Owner.

F. Contractor's indemnity and defense obligations shall survive the termination or completion of the Work and remain in full force and effect until satisfied in full.

G. The State, Governor, Commission, Secretary, and all officers and employees of the State, including but not limited to those of the Department, will not be responsible in any manner: for losses or damage that may happen to the Work or any part; for losses of material or damage to any of the materials or other things used or employed in the performance of Work; for injury to or death of either workers or the public; or for damage to the public for causes which might have been prevented by the Contractor, or the workers, or anyone employed by the Contractor. The Contractor shall be responsible for all liability imposed by law for injuries to, or the death of, any persons or damages to property resulting from any cause whatsoever during the performance of the Work, or before final acceptance. Subject to the limitations in this section, and RCW 4.24.115, the Contractor shall indemnify, defend, and save harmless the State, Governor, Commission, Secretary, and all officers and employees of the State from all claims, suits, or actions brought for injuries to, or death of, any persons or damages resulting from construction of the Work or in consequence of any negligence or breach of Contract regarding the Work, the use of improper materials in the Work, caused in whole or in part by an act or omission by the Contractor or the agents or employees of the Contractor during performance or at any time before final acceptance. In addition to a remedy authorized by law, the State may retain so much of the money due the Contractor as deemed necessary by the Owner to ensure the defense and indemnification obligations of this section until disposition has been made of such suits or claims. Subject to the limitations

in this section and RCW 4.24.115, the Contractor shall indemnify, defend, and save harmless any county, city, or region, its officers, and employees connected with the Work, within the limits of which county, city, or region the Work is being performed, all in the same manner and to the same extent as provided above for the protection of the State, its officers and employees, provided that no retention of money due the Contractor be made by the State except as provided in RCW 60.28, pending disposition of suits or claims for damages brought against the county, city, or district. Pursuant to RCW 4.24.115, if such claims, suits, or actions result from the concurrent negligence of (a) the indemnitee or the indemnitee's agents or employees and (b) the Contractor or the Contractor's agent or employees, the indemnity provisions provided in the preceding paragraphs of this section shall be valid and enforceable only to the extent of the Contractor's negligence or the negligence of its agents and employees. The Contractor shall bear sole responsibility for damage to completed portions of the project and to property located off the project caused by erosion, siltation, runoff, or other related items during the construction of the project. The Contractor shall also bear sole responsibility for any pollution of rivers, streams, ground water, or other waters that may occur as a result of construction operations. The Contractor shall exercise all necessary precautions throughout the life of the Project to prevent pollution, erosion, siltation, and damage to property. The Owner will forward to the Contractor all claims filed against the State according to RCW 4.92.100 that are deemed to have arisen in relation to the Contractor's Work or activities under this Contract, and, in the opinion of the Owner, are subject to the defense, indemnity, and insurance provisions of these Standard Specifications. Claims will be deemed tendered to the Contractor and insurer, who has named the State as a named insured or an additional insured under the Contract's insurance provisions, once the claim has been forwarded via email with delivery confirmation to the Contractor. The Contractor shall be responsible to provide a copy of the claim to the Contractor's designated insurance agent who has obtained/met the Contract's insurance provision requirements.

H. Within 60 calendar days following the date a claim is sent by the Owner to the Contractor, the Contractor shall notify both the Claimant as specified on the Claimaint's contact information by responding to the tendering email: a. Whether the claim is allowed or is denied in whole or in part, and, if so, the specific reasons for the denial of the individual claim, and if not denied in full, when payment has been or will be made to the claimant(s) for the portion of the claim that is allowed, or b. If resolution negotiations are continuing. In this event, status updates will be reported no longer than every 60 calendar days until the claim is resolved or a lawsuit is filed. If the Contractor fails to provide the above notification within 60 calendar days, then the Contractor shall yield to the Owner sole and exclusive discretion to allow all or part of the claim on behalf of the Contractor, and the Contractor shall be deemed to have WAIVED any and all defenses, objections, or other avoidances to the Owner's allowance of the claim, or the amount allowed by the Owner, under common law, constitution, statute, or the Contract and these Standard Specifications. If all or part of a claim is allowed, the Owner will notify the Contractor via email with delivery confirmation that it has allowed all or part of the claim and make appropriate payments to the claimant(s) with State funds. Payments of State funds by the Owner to claimant(s) under this section will be made on behalf of the Contractor and at the expense of the Contractor, and the Contractor shall be unconditionally obligated to reimburse the Owner for the "total reimbursement amount", which is the sum of the amount paid to the claimant(s), plus all costs incurred by the Owner in evaluating the circumstances surrounding the claim, the allowance of the claim, the amount due to the claimant, and all other direct costs for the Owner's administration and payment of the claim on the Contractor's behalf. The Owner will be authorized to withhold the total reimbursement amount from amounts due the Contractor, or, if no further payments are to be made to the Contractor under the Contract, the Contractor shall directly reimburse the Owner for the amounts paid within 30 days of the date notice that the claim was allowed was sent to the Contractor. In the event reimbursement from the Contractor is

not received by the Owner within 30 days, interest shall accrue on the total reimbursement amount owing at the rate of 12 percent per annum calculated at a daily rate from the date the Contractor was notified that the claim was allowed. The Owner's costs to enforce recovery of these amounts are additive to the amounts owing. The Contractor specifically assumes all potential liability for actions brought by employees of the Contractor and, solely for the purpose of enforcing the defense and indemnification obligations set forth in Section 1-07.14, the Contractor specifically waives immunity granted under the State industrial insurance law, Title 51 RCW. This waiver has been mutually negotiated by the parties. The Contractor shall similarly require that each subcontractor it retains in connection with the project comply with the terms of this paragraph, waive any immunity granted under Title 51 RCW, and assume all liability for actions brought by employees of the subcontractor.

6.21 DELEGATION OF PROFESSIONAL DESIGN SERVICES

A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.

B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.

E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 RELATED WORK AT SITE

A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. Written or verbal notice thereof will be given to Contractor prior to starting any such other work; and

2. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.06.

B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site; provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work; and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Owner and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Owner in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

D. The Contractor shall promptly compensate for any injury or damage that may be sustained by other contractors or employees of the Owner as a result of Contractor's actions. The Contractor shall join his work to that of others and perform his work in proper sequence in relation to that of others.

E. Owner may perform miscellaneous maintenance projects throughout the Site. Owner will notify the Contractor prior to starting such projects. Contractor shall be responsible for reviewing the scope of the Owner's work, notifying Owner of impacts to the Contractor's work, and continuously coordinating its work with the Owner for the duration of Owner maintenance projects.

7.02 COORDINATION

A. If Owner intends to contract with others for the performance of other work on the Project at the Site, Owner shall have sole authority and responsibility for such coordination unless otherwise provided in the Contract Documents.

B. If requested by the Contractor, the Owner shall arrange meetings with other contractors performing work on behalf of the Owner to plan coordination of construction activities. The Owner shall keep the Contractor informed of the planned activities of other contractors.

C. Contractor shall be responsible for coordinating its construction activities with Owner at all times during start-up, testing, and commissioning such that normal operation of Owner's facility is unaffected by the Contractor's work.

7.03 LEGAL RELATIONSHIPS

A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.

B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.

C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

D. Differences or conflicts arising between the Contractor and other contractors employed by the Owner or between the Contractor and the workers of the Owner with regard to their work, shall be submitted to the *Construction Inspector* for his decision in the matter. If the work of the Contractor is affected or delayed because of any act or omission of other contractors or of the Owner, the Contractor may submit for the Owner's consideration, a documented request for a change order.

ARTICLE 8 – OWNER'S RESPONSIBILITIES

8.01 COMMUNICATIONS TO CONTRACTOR

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through *Owner's Representative*.

8.02 REPLACEMENT OF ENGINEER

A. In case of termination of the employment of Engineer, Owner shall appoint an engineer whose status under the Contract Documents shall be that of the former Engineer.

8.03 LIMITATIONS ON OWNER'S RESPONSIBILITIES

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.04 EVIDENCE OF FINANCIAL ARRANGEMENTS

A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

ARTICLE 9 – RESPONSIBILITIES OF ENGINEER AND CONSTRUCTION INSPECTOR

9.01 CONSTRUCTION INSPECTOR

A. The Contractor shall look initially to the Construction Inspector in matters relating to the contract.

B. Limitations of Authority: The limitations upon Engineer's authority and responsibility set forth in Paragraph 9.03 shall also apply to the Construction Inspector. Further, the Construction Inspector will not:

1. Undertake any of the responsibilities of Contractor, Subcontractors, or Contractor's superintendent; or
2. Accept Submittals from anyone other than Contractor.

9.02 DECISIONS ON REQUIREMENTS OF CONTRACT DOCUMENTS AND ACCEPTABILITY OF WORK

A. Construction Inspector will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Construction Inspector in writing within 30 days of the event giving rise to the question.

B. Construction Inspector will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.06. The date of Construction Inspector's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.06.B.

9.03 LIMITATIONS ON ENGINEER'S AUTHORITY AND RESPONSIBILITIES

A. Direction from the Engineer will come through the Owner or Construction Inspector.

B. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

C. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

D. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

E. The limitations upon authority and responsibility set forth in this Paragraph 9.03 shall also apply to the Construction Inspector and assistants, if any.

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 AUTHORIZED CHANGES IN THE WORK

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive,

1. The Owner can direct the Contractor to execute the work and provide detailed force account records to the Owner describing the work, craft hours, materials, and equipment required to perform the work on a daily basis to be signed by the Construction Inspector; or
2. The Contractor can submit a Claim as provided in Paragraph 10.06.

C. Change Order Proposals shall be in accordance with Section 01 26 00 (Modification Procedures).

10.02 UNAUTHORIZED CHANGES IN THE WORK

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

10.03 AUTHORIZED VARIATIONS IN WORK

A. Owner may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.06.

10.04 EXECUTION OF CHANGE ORDERS

A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer and Construction Inspector, covering:

1. Changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;
2. Changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and

3. Changes in the Contract Price or Contract Times which embody the substance of any written decision by the Owner pursuant to Paragraph 10.06; provided that the Contractor may appeal any decision by the Owner in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.05 NOTIFICATION TO SURETY

A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.06 CLAIMS

A. Owner's Decision Required: All Claims shall be referred to the Owner for decision. A decision shall be required as a condition precedent to any exercise by Contractor of any rights or remedies Contractor may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.

B. Notice: Written notice stating the general nature of each Claim shall be delivered by the Contractor to the Owner promptly (but in no event later than 30 calendar days) after the start of the event giving rise thereto, which shall be the date that Change Order or Work Change Directive work is first performed. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data, shall be delivered to the Owner within 30 calendar days after the completion of such event (unless Owner allows additional time for Contractor to submit additional or more accurate data in support of such Claim). As minimum, supporting data shall include:

1. A detailed factual statement of the claim for additional compensation and time, if any, providing all necessary dates, locations, and items of Work affected by the Claim;
2. The date on which facts arose which gave rise to the Claim;
3. The name of each of Owner individual, official, or employee involved in or knowledgeable about the Claim;
4. The specific provisions of the Contract Documents which support the Claim and a statement of the reasons why such provisions support the Claim;
5. If the Claim relates to a decision of the Owner which the Contract leaves to the Owner's discretion or as to which the Contract Documents provide that the Owner's decision is final, the Contractor shall set out in detail all facts supporting its position relating to the decision of the Owner:
6. The identification of any documents and the substance of any oral communications that support the Claim;
7. Copies of any identified documents that support the Claim (manuals which are standard to the industry, used by the Contractor, may be included by reference;
8. If an adjustment in Contract Times is sought:
    a. The specific days and dates for which it is sought;
    b. The specific reasons the Contractor believes a time extension should be granted; and
    c. The Contractor's analysis of its progress schedule in accordance with Section 01 26 00 (Modification Procedures).
9. If additional compensation is sought, the exact amount sought and a breakdown of that amount into the following categories:

a. Labor;
b. Materials;
c. Direct Equipment. The actual cost for each piece of equipment shall be in accordance with Section 01 26 00 (Modification Procedures). The following information shall be provided for each piece of equipment:
    1. Detailed description
    2. The hours of use or standby; and
    3. The specific day and dates of use or standby
d. Job overhead;
e. Overhead (general and administrative);
f. Subcontractor's claims (in the same level of detail as specified herein is required for any Subcontractor's claims); and
g. Other categories as specified by Owner.

10. A notarized statement containing certification that the Claim for extra compensation and time, if any, is a true statement of the actual costs incurred and time sought, and that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event.

C. Owner's Action: Owner will review each Claim and, within 30 calendar days after receipt of the last submittal of the claimant, take one of the following actions in writing:

1. Deny the Claim in whole or in part;
2. Approve the Claim in whole or in part; or
3. Notify the parties that the Owner is unable to resolve the Claim if, in the Owner's sole discretion, it would be inappropriate for the Owner to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.

D. Owner's action under Paragraphs 10.06.C will be final and binding upon the Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 7 calendar days of such action or denial.

E. In the event that Owner does not take action on a Claim within said 30 calendar days, the Claim shall be deemed denied. The denial of the Claim shall be final and binding upon the Contractor, unless Contractor invokes the dispute resolution procedure set forth in Article 16 within 7 calendar days after the latest date that the Owner was to issue a determination.

F. No claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.06.

G. Owner and Engineer do not waive any of the claims requirements by discussing or attempting to resolve any claims made by the Contractor.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 COST OF THE WORK

A. The Cost of the Work will be as defined in the Bid Proposal and Section 01 20 00 (Measurement and Payment). The cost of any changes to the Work will be determined as defined in Section 01 26 00 (Modification Procedures).

11.02 ALLOWANCES

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed

for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. Minor Change Allowance:

1. Contractor agrees that a Minor Change allowance, if any, is for the sole use of Owner to cover unanticipated costs.

C. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 UNIT PRICE WORK

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by the Owner subject to the provisions of Paragraph 14.02.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

D. The unit price of an item of Unit Price Work may be subject to re-evaluation and adjustment as described in Section 01 26 00 (Modification Procedures).

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 CHANGE OF CONTRACT PRICE

A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the Contractor to the Owner in accordance with the provisions of Paragraph 10.06.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as described in Section 01 26 00 (Modification Procedures).

12.02 CHANGE OF CONTRACT TIMES

A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the Contractor to the Owner in accordance with the provisions of Paragraph 10.06.

B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12 and Section 01 26 00 (Modification Procedures).

C. Unless otherwise stated in the change order, all change orders include any claim for delay by the Contractor concerning the work described in the change order. The terms of the signed change order supersede any terms of the Contractor's proposal.

D. Submittal of the Construction Schedule described in Part 2.07.A.1 and subsequent updates described in Section 6.04 is required as a predicate condition of any Contractor claims. Contractor agrees to waive any claim if it fails to submit such schedule submittals.

12.03 DELAYS

A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.

D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

E. Unless authorized by the Owner, Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

F. The Owner may grant an extension of time for avoidable delay. In exchange, the Owner shall be compensated by the Contractor for the actual costs to the Owner of engineering, inspection, general supervision and overhead expenses which are directly chargeable to the work and which accrue during the period of such extension. The actual costs do not include charges for final inspection and preparation of the final estimate by the Owner.

ARTICLE 13 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 NOTICE OF DEFECTS

A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 ACCESS TO WORK

A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

13.03 TESTS AND INSPECTIONS

A. Contractor shall give the Owner and Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests. The Contractor shall provide the Owner and/or Engineer with any information requested in connection with the inspection of the work.

B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

1. For inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
2. That costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C;
3. As otherwise specifically provided in the Contract Documents;
4. For inspections, tests, or approvals required due to failed tests on the Work; and
5. For costs incurred by the Owner for standby or show up time when the Contractor failed to complete the Work for which tests are scheduled.

C. Contractor shall schedule all inspections, tests, and approvals with the testing laboratory and shall provide the Owner with 48 hours' notice of the scheduled inspection or testing date. The Owner shall provide the testing laboratory with any information requested in connection with the inspection of the work.

D. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish the Owner the required certificates of inspection or approval.

E. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.

F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Owner or Engineer, Contractor shall, if requested by Owner, uncover such Work for observation.

G. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Owner or Engineer timely notice of Contractor's intention to cover the same and Owner or Engineer has not acted with reasonable promptness in response to such notice.

13.04 UNCOVERING WORK

A. If any Work is covered contrary to the written request of Owner, it must, if requested by Owner, be uncovered for Owner's observation and replaced at Contractor's expense.

B. If Owner or Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Owner's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Owner may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.

C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution and defense costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price.

D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.06.

13.05 OWNER MAY STOP THE WORK

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 CORRECTION OR REMOVAL OF DEFECTIVE WORK

A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Owner, with input from Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution and defense costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

C. The Contractor shall appoint a representative to be the point-of-contact for response to defective work during the one-year guarantee period. Upon notification by the Owner, the Contractor shall evaluate the problem and correct it or initiate the guarantee response by the appropriate vendor or subcontractor as applicable.

D. The Owner will not pay for unauthorized or defective Work. Unauthorized or defective Work includes: Work and materials that do not conform to Contract requirements; Work done beyond the lines and grades set by the Plans or the Engineer; and extra Work and materials furnished without the Owner's written approval. The Contractor shall be responsible to immediately report to the Owner all unauthorized or defective Work. The Contractor shall immediately remedy, remove, replace, or dispose of unauthorized or defective Work or materials and bear all costs of doing so.

E. If the Contractor fails to remedy defective or unauthorized work within the time specified in a written notice from the Owner, or fails to perform any part of the work required by the Contract Documents, the Owner may correct and remedy such work as may be identified in the written notice, with Owner forces or by such other means as the Owner may deem necessary.

F. If the Contractor fails to comply with a written order to remedy what the Owner determines to be an emergency situation, the Owner may have the defective and unauthorized work corrected immediately, have the rejected work removed and replaced, or have work the Contractor refuses to perform completed by using Owner or other forces. An emergency situation is any situation when, in the opinion of the Construction Inspector, a delay in its remedy could be potentially unsafe, or might cause serious risk of loss or damage to the public.

G. Direct or indirect costs incurred by the Owner attributable to correcting and remedying defective or unauthorized work, or work the Contractor failed or refused to perform, shall be paid by the Contractor. Payment will be deducted by the Owner from monies due, or to become due, the Contractor. Such direct and indirect costs shall include in particular, but without limitation, compensation for additional professional services required, and costs for repair and replacement of work of others destroyed or damaged by correction, removal, or replacement of the Contractor's unauthorized work.

H. No adjustment in contract time or compensation will be allowed because of the delay in the performance of the work attributable to the exercise of the Owner's rights provided by this Section.

I. The rights exercised under the provisions of this section shall not diminish the Owner's right to pursue any other avenue for additional remedy or damages with respect to the Contractor's failure to perform the work as required.

13.07 CORRECTION PERIOD

A. If within the one-year guarantee period, (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents), any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. Repair such defective land or areas; or
2. Correct such defective Work; or
3. If the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
4. Satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.

B. Upon notification of need for guarantee response, the Contractor shall provide written notification to the Owner initiator, indicating scheduled time of response so that Owner maintenance personnel may be scheduled to be on hand to provide assistance and witness the repair. Guarantee work may only be undertaken on Mondays through Fridays, from 8 a.m. to 5 p.m., unless the Owner gives express written consent for the performance of the work at other times.

C. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution and defense costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

D. In special circumstances where Substantial Completion is issued for a particular item(s) of equipment before Substantial Completion of all the Work, the correction period for that item(s) shall start to run from its Substantial Completion date.

E. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

F. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 ACCEPTANCE OF DEFECTIVE WORK

A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution and defense costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted.

13.09 OWNER MAY CORRECT DEFECTIVE WORK

A. If Contractor fails within a reasonable time after written notice from Owner to correct defective Work, or to remove and replace rejected Work as required by Owner in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed within a reasonable period of time. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, *Owner's Representative*s, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.

C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution and defense costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. Claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work. The rights exercised under the provisions of this section shall not diminish the Owner's right to pursue any other avenue for additional remedy or damages with respect to the Contractor's failure to perform the work as required.

D. Contractor shall not be allowed an extension of the Contract Times or compensation therefore because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 SCHEDULE OF VALUES

A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to the Owner. The determination of the cost of work shall be final. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 PROGRESS PAYMENTS

A. Applications for Payments:

1. Not more often than once a month, Contractor shall submit to Owner and Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents.

2. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation showing the price paid and warranting that the materials and equipment are free and clear of all Liens and by evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein. Contractor shall complete and submit the Owner's "Material Stored On or Off Job Site" form with required documentation, all of which must be satisfactory to Owner. Payment for stored materials shall be at the sole discretion of the Owner and shall not exceed 75% of the installed cost in the Schedule of Values unless otherwise approved by Owner, Contractor will be responsible for stored materials regardless of Owner's payment for such material.
3. Each Application shall include Contractor's Certificate on Owner's form stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
4. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. Review of Applications:

1. Construction Inspector will, within 10 working days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Construction Inspector's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Construction Inspector will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Construction Inspector will review with Contractor preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Written decision of the Construction Inspector thereon will be final and binding (except as modified by Construction Inspector to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.06.
3. Construction Inspector's recommendation of any payment requested in an Application for Payment will constitute a representation by Construction Inspector to Owner, based on review of the Application for Payment and the accompanying data and schedules, and on Engineer's observations of the executed Work as an experienced and qualified design professional, that to the best of Construction Inspector's knowledge, information and belief:
    a. The Work has progressed to the point indicated;
    b. The quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 14.02.B.2, and any other qualifications stated in the recommendation); and
    c. The conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Construction Inspector's responsibility to observe the Work.
4. By recommending any such payment Construction Inspector will not thereby be deemed to have represented that:

a. Inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Construction Inspector and Engineer in the Contract Documents; or
b. There may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

5. Neither Construction Inspector's and Engineer's review of Contractor's Work for the purposes of recommending payments nor Construction Inspector's recommendation of any payment, including final payment, will impose responsibility on Construction Inspector and Engineer:
   a. To supervise, direct, or control the Work, or
   b. For the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
   c. For Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
   d. To make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
   e. To determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
6. Construction Inspector may refuse to recommend the whole or any part of any payment if, in Construction Inspector's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.3. Construction Inspector may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Construction Inspector's opinion to protect Owner from loss because:
   a. The Work is defective, or completed Work has been damaged, requiring correction or replacement;
   b. The Contract Price has been reduced by Change Orders;
   c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
   d. Construction Inspector has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. Progress payments and the Final Contract Voucher Certification (FCVC) will be transmitted electronically to the Contractor for signature. The Contractor shall apply all signatures electronically using the software provided by the Owner. Within 21 days of execution of the Contract, the Contractor shall submit the names, email addresses, and text-message capable phone numbers for the authorized signers and shall bear the name, phone number and email of the officer providing this authorization. Delegation of authority to sign progress payments and the FCVC shall be by the officer authorized to sign the Contract.

D. Payment Becomes Due:

1. In accordance with RCW 39.76.011, within 30 days after presentation of the Application for Payment to Owner with Construction Inspector's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.
2. In accordance with RCW 39.12.040, the first payment shall not be made until the Contractor has submitted the "Statement of Intent to Pay Prevailing Wages (Intent)", approved by the Department of Labor and Industries (L&I), for itself and

all Subcontractors that performed work to be paid on the Pay Application. Each subsequent payment shall not be made until the Contractor submits the Intent, approved by L&I, for each new subcontractor performing work since the last invoice.

E. Reduction in Payment:

1. Owner may refuse to make payment of the full amount recommended by Engineer because:
   a. Claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
   b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
   c. There are other items entitling Owner to a set-off against the amount recommended; or
   d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.6.a through 14.02.B.6.c or Paragraph 15.02.A.
2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor written notice (with a copy to Engineer) stating the reasons for such action and pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action.
3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in RCW 39.76.011.
4. Items entitling Owner to retain set-offs from the amount recommended include, but are not limited to:
   a. Witnessing retesting of corrected or replaced defective Work;
   b. Return visits to manufacturing facilities to witness factory testing or retesting;
   c. Submittal review in excess of three reviews (initial submittal and up to two re-submittals) by Engineer for substantially the same Submittal;
   d. Evaluation of proposed substitutes and making changes to Contract Documents occasioned thereby;
   e. Overtime worked by Contractor necessitating Engineer, Engineer's site staff, Construction Inspector, or Owner's site staff, if any, to work extraordinary overtime. Such overtime would not have been contemplated by Owner at time of Bid opening; or
   f. Delays necessitating a time extension for the performance of Engineer's services.

14.03 CONTRACTOR'S WARRANTY OF TITLE

A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment will pass to Owner upon incorporation in the Project and payment in full free and clear of all Liens.

14.04 SUBSTANTIAL COMPLETION

A. Contractor shall complete all the work within the time designated in the Agreement unless modified by Change Order or the Certificate of Substantial Completion.

B. The Work is substantially complete when the Owner can be provided full time, uninterrupted, and continuous beneficial operation of the facilities. In addition, all required functional, performance, and acceptance or startup testing must have been demonstrated for all components, devices, equipment and instrumentation and control to the satisfaction of the Engineer in accordance with the requirements of the Specifications. If applicable, training of Owner personnel by an authorized representative of the manufacturer must also have been completed.

C. Partial Utilization: Prior to Substantial Completion of all the Work, the Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Construction Inspector, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when the Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, Construction Inspector, and Engineer will follow the procedures of Parts 14.04.F-I of this Section.
2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and requires Owner to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Construction Inspector, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Construction Inspector does not consider that part of the Work to be substantially complete, Construction Inspector will notify Owner and Contractor in writings giving the reasons therefor. If Construction Inspector considers that part of the Work to be substantially complete, the provision of Parts 14.04.G and I of this Section will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

D. When the Contractor considers the work to be substantially complete, the Contractor shall so notify the Owner and Engineer and request the Owner establish the Substantial Completion Date. The Contractor's request shall provide a Punch List (list the specific items of work that remain to be completed in order to reach physical completion). The Owner or *Owner's Representative* will schedule an inspection of the work with the Contractor, Engineer, and Construction Inspector to determine the status of completion. The Owner may also establish the Substantial Completion Date unilaterally.

E. If, after this inspection, the Construction Inspector and Engineer concurs with the Contractor that the work is substantially complete and ready for its intended use, the Engineer, by written notice to the Contractor, will set the Substantial Completion Date. If, after this inspection the Construction Inspector or Engineer does not consider the work substantially complete and ready for its intended use, the Owner will, by written notice, so notify the Contractor giving the reasons therefore.

F. Should the Owner determine that work is not Substantially Complete:

1. Owner shall notify the Contractor in writing stating reasons thereof.

2. Contractor shall complete work and send subsequent written notice(s) to Owner and Engineer certifying that work or designated portion of work is Substantially Complete.

G. The above process shall be repeated until the Owner establishes the Substantial Completion Date and the Contractor considers the work physically complete and ready for final inspection.

H. The guarantee and warranty periods begin with the date of Substantial Completion.

I. Upon receipt of written notice concurring in or denying substantial completion, whichever is applicable, the Contractor shall pursue vigorously, diligently and without unauthorized interruption, the work necessary to reach Substantial and Physical Completion. The Contractor shall provide the Owner with a revised schedule indicating when the Contractor expects to reach substantial and physical completion of the work.

J. The Contracting Agency will issue Substantial Completion on all work except the generator once the provisions of this section and Article 14.04 have been met. Warranty on completed work will commence once the provisions of Article 14.05 have been met.

14.05 PHYSICAL COMPLETION

A. The Work is physically complete when the Owner can be provided a complete and operable system. At a minimum, the following must occur:

1. All physical work must be completed;
2. Punch list items must be completed to the satisfaction of the Owner;
3. All spare parts must be delivered to Owner;
4. All permits must be closed; and
5. Certificate of Occupancy must be issued.

B. When the Contractor considers the work physically complete and ready for final inspection, the Contractor by written notice, shall request the Owner to schedule a final inspection. The Owner will set a date for final inspection with the Construction Inspector, the Engineer, and the Contractor.

C. Should the Owner determine that work is not Physically Complete:

1. Owner shall notify the Contractor in writing of all particulars in which the final inspection reveals the work to be incomplete or unacceptable.
2. Contractor shall immediately take such corrective measures as are necessary to remedy the listed deficiencies. Corrective work shall be pursued vigorously, diligently, and without interruption until physical completion of the listed deficiencies. This process will continue until the Owner is satisfied that the listed deficiencies have been corrected.

D. If action to correct the listed deficiencies is not initiated within 7 days after receipt of the written notice listing the deficiencies, the Owner may, upon written notice to the Contractor, take whatever steps are necessary to correct those deficiencies pursuant to Paragraph 13.06. The Contractor will not be allowed an extension of contract time because of a delay in the performance of the work attributable to the exercise of the Owner's right hereunder.

E. Upon correction of all deficiencies, with recommendation from the Engineer, the Construction Inspector will notify the Contractor and the Owner, in writing, of the date upon which the work was considered physically complete. That date shall constitute the

Physical Completion Date of the contract, but shall not imply acceptance of the work or that all the obligations of the Contractor under the contract have been fulfilled.

F. Operational Testing and Commissioning: It is the intent of the Owner to have at the Physical Completion Date a complete and operable system. Therefore when the work involves the installation of machinery or other mechanical equipment; street lighting, electrical distribution or signal systems; irrigation systems; buildings; or other similar work it may be desirable for the Owner to have the Contractor operate and test the work for a period of time after final inspection but prior to the physical completion date. Whenever items of work are listed in the Contract Provisions for operational testing they shall be fully tested under operating conditions for the time period specified to ensure their acceptability prior to the Physical Completion Date. During and following the test period, the Contractor shall correct any items of workmanship, materials, or equipment which prove faulty, or that are not in first class operating condition. Equipment, electrical controls, meters, or other devices and equipment to be tested during this period shall be tested under the observation of the Owner, so that the Owner may determine their suitability for the purpose for which they were installed. The Physical Completion Date cannot be established until testing and corrections have been completed to the satisfaction of the Owner.

G. The costs for power, gas, labor, material, supplies, and everything else needed to successfully complete operational testing, shall be included in the unit contract prices related to the system being tested, unless specifically set forth otherwise in the proposal.

H. Operational and test periods, when required, shall not affect a manufacturer's guaranties or warranties furnished under the terms of the Contract.

I. Upon Physical Completion, Owner may pay the Mobilization/Demobilization bid item in full.

J. Physical Completion shall not imply acceptance of the work or that all the obligations of the Contractor under the contract have been fulfilled.

14.06 FINAL COMPLETION AND ACCEPTANCE

A. The Contractor must perform all obligations under the Contract before the Final Completion and Acceptance Date can be established. A Certificate of Completion and Acceptance of the work issued by the Owner will establish the Completion and Acceptance Date and certify the work as complete. The following must occur before the Final Contract Price can be calculated and the Completion and Acceptance Date can be established:

1. The physical work on the project must be complete.
2. The Contractor must furnish all documentation and parts required by the Contract and required by law, necessary to allow the Owner to certify the Contract as complete. This includes, but is not limited to:
    a. Final Pay Application
    b. Final Change Order, if applicable
    c. Certificate of Payment Form, if retainage is bonded
    d. Affidavits of Wages Paid
    e. Final O&M Manuals
    f. Motor data sheets to include calibration data and all testing certifications
    g. Equipment Warrantees and Warranty Certificates
    h. Vendor CAD drawings
    i. Final As-built Redlines
    j. Material Acceptance Verifications, such as mill test reports, if applicable

k. Certified Payrolls, if applicable
l. Property Restoration Release Statements, if applicable
m. Access control items including keys and badges

B. The Owner will issue the Notice of Final Completion and Acceptance in writing. Progress estimates or payments shall not be construed as acceptance of any work under this Contract.

C. Failure of the Contractor to perform all of the Contractor's obligations under the Contract shall not bar the Owner from unilaterally certifying the Contract complete so the Owner may calculate a Final Contract Price.

D. The Contractor agrees that Final Completion and Acceptance shall not relieve the Contractor of the responsibility to indemnify, defend, and protect the Owner against any claim or loss resulting from the failure of the Contractor (or the Subcontractors or lower tier subcontractors) to pay all laborers, mechanics, subcontractors, material persons, or any other person who provides labor, supplies, or provisions for carrying out the Work or for any payments required for unemployment compensation under Title 50 RCW or for industrial insurance and medical aid required under Title 51 RCW.

E. Final acceptance shall not constitute acceptance of any unauthorized or defective work or material. The Owner shall not be barred from requiring the Contractor to remove, replace, repair, or dispose of any unauthorized or defective work or material or from recovering damages for any such work or material.

F. Final acceptance shall not extinguish any covenant or agreement on the part of the Contractor to be performed of fulfilled under this Contract which has not, in fact, been performed or fulfilled at the time of such acceptance.

G. Upon completion of all Work and after final inspection, the amount due the Contractor under the Contract will be paid based upon the Schedule of Values or final estimate made by the Engineer and presentation of a Final Contract Voucher Certification (FCVC) to be signed by the Contractor. The Contractor's signature on such voucher shall be deemed a release of all claims of the Contractor unless a Certified Claim is filed and is expressly excepted from the Contractor's certification on the Final Contract Voucher Certification. The date the Owner signs the Final Contract Voucher Certification constitutes the final acceptance date.

H. If the Contractor fails, refuses, or is unable to sign and return the Final Contract Voucher Certification or any other documentation required for completion and final acceptance of the Contract, the Owner reserves the right to establish a Completion Date (for the purpose of meeting the requirements of RCW 60.28) and unilaterally accept the Contract. Unilateral final acceptance will occur only after the Contractor has been provided the opportunity, by written request from the Owner, to voluntarily submit such documents. If voluntary compliance is not achieved, formal notification of the impending establishment of a Completion Date and unilateral final acceptance will be provided by email with delivery confirmation from the Owner to the Contractor, which will provide 30 calendar days for the Contractor to submit the necessary documents. The 30 calendar day period will begin on the date the email with delivery confirmation is received by the Contractor. The date the Owner unilaterally signs the Final Contract Voucher Certification shall constitute the Completion Date and the final acceptance date. The reservation by the Owner to unilaterally accept the Contract will apply to Contracts that are Physically Completed, or for Contracts that are terminated. Unilateral final acceptance of the Contract by the Owner does not in any way relieve the Contractor of their responsibility to comply with all Federal, State, tribal, or local laws, ordinances, and regulations that affect the Work under the Contract.

I. Payment to the Contractor of partial estimates, final estimates, and retained percentages shall be subject to controlling laws.

14.07 FINAL PAYMENT

A. Application for Payment:

1. After Contractor has, in the opinion of Construction Inspector and Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments. Final payment shall mean payment for completion of all Work, not to include retained funds, if any.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
    a. All documentation called for in the Contract Documents; and
    b. A list of all Claims against Owner that Contractor believes are unsettled.

B. Construction Inspector's Review of Application and Acceptance

1. If, on the basis of Construction Inspector's and Engineer's observation of the Work during construction and final inspection, and Construction Inspector's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Construction Inspector is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Construction Inspector will, within ten days after receipt of the final Application for Payment, indicate in writing recommendation of payment and present the Application for Payment to Owner for payment. Otherwise, Construction Inspector will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due

1. Thirty calendar days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Construction Inspector, less any sum Owner is entitled to set off against Construction Inspector's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

D. Release of Retained Funds or Retainage Bond

1. Upon final payment and Final Completion and Acceptance, Owner will notify the Department of Revenue, the Department of Labor and Industries, and the Employment Security Department of the completion of the Work under these Contract Documents.
2. At the end of the period to file claims against the retained funds, the Contractor shall submit the following to Owner:
    a. Release and Certificate of Payment, if retainage held by Owner or in escrow

b. Complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.D.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

4. Provided the Departments certify that there are no taxes or penalties due and owing from Contractor, and there are no other known Claims or Liens against the retained funds, Owner will make payment to Contractor, authorize release of retained funds held in escrow, or authorize release of retainage bond subject to the provisions of RCW Title 60.28.011. In the event unsatisfied Claims or Liens for taxes, material, labor, and other services are known to exist, an amount will be further withheld from the retainage sufficient to satisfy the settlement of such Claims and Liens, including attorney's fees incurred, and the remainder will be released from escrow, or released from the retained funds and paid to Contractor.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 OWNER MAY SUSPEND WORK

A. Contract time may be suspended for procurement of critical materials (Procurement Suspension). In order to receive a Procurement Suspension, the Contractor shall within 21 calendar days after execution by the Owner, place purchase orders for all materials deemed critical by the Owner for physical completion of the contract. The Contractor shall provide copies of purchase orders for the critical materials. Such purchase orders shall disclose the purchase order date and estimated delivery dates for such critical material.

B. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.06.

C. Before and during any suspension, the Contractor shall protect the Work from damage or deterioration. Suspension shall not relieve the Contractor from anything the Contract requires unless stated otherwise. All costs associated with protecting and maintaining such Work shall be the responsibility of the Contractor except those costs associated with implementing the Temporary Erosion and Sediment Control Plan, if applicable. After any suspension, the Contractor shall resume all responsibilities the Contract assigns for the Work.

D. The Contractor shall show procurement of the materials anticipated to be critical materials as activities in the Progress Schedule. If approved Progress Schedule indicates that the materials procurement are critical activities, and if the Contractor has provided documentation that purchase orders are placed for the critical materials within the prescribed 21 calendar days, then contract time will be suspended upon physical completion of all critical work except that work dependent upon the critical materials. Items anticipated to be critical materials include but are not limited to:
   1. Emergency Generator – Diesel
   2. Dry Type Transformers

3. Transfer switches (to be installed to allow for City to utilize temporary generator, if needed)
4. Uninterruptible Power Supply (UPS)
5. Elevator

E. Charging of contract time will resume upon delivery of the critical materials to the Contractor or 693 calendar days from contract NTP, whichever occurs first.

15.02 OWNER MAY TERMINATE FOR CAUSE

A. The occurrence of any one or more of the following events will justify termination for cause:

1. Contractor's failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction including Owner's Policies;
3. Contractor's repeated disregard of the authority of Engineer or Owner; or
4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, with written notice, terminate the services of Contractor and:

1. Exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);
2. Incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and
3. Complete the Work as Owner may deem expedient.

C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Owner, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

D. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

E. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

15.03 OWNER MAY TERMINATE FOR CONVENIENCE

A. Upon fifteen days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract or any portion of the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. Completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
2. Expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;
3. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and
4. Reasonable expenses directly attributable to termination.

B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

ARTICLE 16 – DISPUTE RESOLUTION

16.01 METHODS AND PROCEDURES

A. All claims or counterclaims, disputes, or other matters in question between Owner and Contractor arising out of or relating to the Contract Documents or the breach thereof not resolved under the provisions of Article 10 will be decided by arbitration in accordance with the Agreement.

B. Prior to seeking claims resolution through arbitration or litigation, the Contractor shall proceed in accordance with Article 10. The provisions of Article 10 must be complied with in full as a condition precedent to the Contractor's right to seek claim resolution through binding arbitration or litigation.

C. Any claims or causes of action which the Contractor has against the Owner arising from the Contract shall be resolved, as prescribed herein, through binding arbitration or litigation.

D. The Contractor and the Owner mutually agree that those claims or causes of action which total $1,000,000 or less, which are not resolved by mediation, shall be resolved through litigation unless the parties mutually agree in writing to resolve the claim through binding arbitration.

E. The Contractor and the Owner mutually agree that those claims or causes of action in excess of $1,000,000, which are not resolved by mediation, shall be resolved through litigation unless the parties mutually agree in writing to resolve the claim through binding arbitration.

F. The Owner and the Contractor mutually agree to be bound by the decision of the arbitrator, and judgment upon the award rendered by the arbitrator may be entered in the Superior Court of the county in which the Owner's headquarters is located, provided that where claims subject to arbitration are asserted against a county, RCW 36.01.050 shall

control venue and jurisdiction of the Superior Court. The decision of the arbitrator and the specific basis for the decision shall be in writing. The arbitrator shall use the Contract as a basis for decisions.

G. Litigation shall be brought in the Superior Court of the county in which the Owner's headquarters is located, provided that where claims are asserted against a county, RCW 36.01.050 shall control venue and jurisdiction of the Superior Court. It is mutually agreed by the parties that when litigation occurs, the Contractor shall permit the Owner to have timely access to all records deemed necessary by the Owner to assist in evaluating the claims or action.

16.02 TIME LIMITATIONS AND JURISDICTION

A. For the convenience of the parties to the Contract it is mutually agreed by the parties that all claims or causes of action which the Contractor has against the Owner arising from the Contract shall be brought within 180 calendar days from the date of final acceptance of the Contract by the Owner; and it is further agreed that all such claims or causes of action shall be brought only in the Superior Court of the county where the Owner headquarters is located, provided that where an action is asserted against a county, RCW 36.01.050 shall control venue and jurisdiction. The parties understand and agree that the Contractor's failure to bring suit within the time period provided, shall be a complete bar to all such claims or causes of action. It is further mutually agreed by the parties that when claims or causes of action which the Contractor asserts against the Owner arising from the Contract are filed with the Owner or initiated in court, the Contractor shall permit the Owner to have timely access to all records deemed necessary by the Owner to assist in evaluating the claims or action.

ARTICLE 17 – MISCELLANEOUS

17.01 GIVING NOTICE

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. Delivered in person to the individual designated by a party to accept delivery or to a member of the firm or to an officer of the corporation, or to an agent acting on behalf of the foregoing; or
2. Sent to the attention of a person described in the preceding paragraph by United States mail, postage prepaid, to the last business address provided by the Contractor; or
3. Sent to the attention of a person described in the first paragraph by e-mail, to the last e-mail address provided by the Contractor.

B. All correspondence from the Contractor shall be directed to the Construction Inspector. Notice to the Owner is not considered effective until receipt by the Owner.

17.02 COMPUTATION OF TIMES

A. Unless specifically noted as calendar days, all references in the Contract Documents to days shall be interpreted to be working days as defined in Article 1.01. If the date of the first working day for a period of time is not specified, then the period will begin on the first following working day.

B. When any period of time is referred to in the Contract Documents by calendar days, the period will begin on the first following working day. If the last day of any such period falls

on a Saturday or Sunday or on a City of Lacey Holiday, then the last day of the period shall be the next working day.

17.03 CUMULATIVE REMEDIES

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 SURVIVAL OF OBLIGATIONS

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 CONTROLLING LAW

A. This Contract is to be governed by the law of the state of Washington.

17.06 HEADINGS

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

17.07 FIRE PREVENTION AND MERCHANTABLE TIMBER REQUIREMENTS

A. Fire prevention and Merchantable Timber Requirements: The Contractor shall prepare and implement a project-specific fire prevention, control, and countermeasures plan (FPCC Plan) for the duration of the project. The Contractor shall submit a Type 2 Working Drawing no later than the date of the preconstruction conference.

1. The Contractor's FPCC Plan shall be fully implemented at all times. The Contractor shall update the FPCC Plan throughout project construction so that the plan reflects actual site conditions and practices. The Contractor shall update the FPCC Plan at least annually and maintain a copy of the updated FPCC Plan that is available for inspection on the project site. Revisions to the FPCC Plan and the Industrial Fire Precaution Level (IFPL) shall be discussed at the weekly project safety meetings.

2. The FPCC Plan shall include the following:
   i. The names, titles, and contact information for the personnel responsible for implementing and updating the plan.
   ii. The names and telephone numbers of the Federal, State, and local agencies the Contractor shall notify in the event of a fire.
   iii. All potential fire causing activities such as welding, cutting of metal, blasting, fueling operations, etc.
   iv. The location of fire extinguishers, water, shovels, and other firefighting equipment.
   v. The response procedures the Contractor shall follow in the event of a fire.

3. Most of Washington State is covered under the IFPL system which, by law, is managed by the Department of Natural Resources (DNR). In some cases jurisdiction is transferred to the United States Forest Service (USFS) or to the local fire authority. It is the Contractor's responsibility to be familiar with the IFPL requirements and to verify whether or not IFPL applies to the specific project. If the Contractor wishes to continue a work activity that is prohibited under an industrial fire precaution level, the Contractor shall obtain a waiver from the fire authority with jurisdiction and provide a copy to the Owner prior to continuation of work on the project. The Contractor shall comply with the requirements of these provisions at no additional cost to the Owner.

B. When merchantable timber is to be cut, the Contractor shall obtain a permit from the appropriate regional office of the State Department of Natural Resources and comply fully with the State Forest Practices Act. No person may export from the United States, or sell, trade, exchange, or otherwise convey to any other person for the purpose of export from the United States, timber originating from the project. The Contractor shall comply with the Forest Resources Conservation and Shortage Relief Amendments Act of 1993 (Public Law 103-45) and the Washington State Log Export Regulations (WAC 240-15).

17.08 SANITATION

A. The Contractor shall provide employees with all accommodations required by the State Department of Health and other agencies. These accommodations shall be kept clean, neat, and sanitized, and shall not create any public nuisance. The Contractor shall keep all work sites clean, properly dispose of all refuse, and leave each site in a neat and sanitary condition.

B. Health Hazards Biological hazards and associated physical hazards may be present in the worksite. The Contractor shall take precautions and perform all necessary Work to provide and maintain a safe and healthful worksite in accordance with applicable laws. Payment for Work necessary to provide and maintain a safe worksite will be incidental to associated items of Contract Work unless the Contract includes provisions to the contrary.

17.09 ENRIONMENTAL REGULATIONS

A. No Work shall occur within areas under the jurisdiction of resource agencies unless authorized in the Contract. Some, though not all, of these rules are summarized below. Any of these agencies may, without prejudice to the Owner, add rules as needed to protect game, fish, or the environment. The Contractor shall be responsible to immediately report to the Owner deviations from the contract provisions pertaining to environmental compliance, including but not limited to spills, unauthorized fill in waters of the State including wetlands, water quality standards, noise, air quality, etc.

B. State Department of Fish and Wildlife: In doing the Work, the Contractor shall:
1. Not degrade water in a way that would harm fish, wildlife, or their habitat.
2. Not place materials below or remove them from the ordinary high water line except as may be specified in the Contract.
3. Not allow equipment to enter waters of the State except as specified in the Contract.
4. Revegetate in accordance with the Plans, unless the Special Provisions permit otherwise.
5. Prevent fish-threatening silt buildup on the bed or bottom of any body of water.

C. State Department of Ecology: In doing the Work, the Contractor shall:

1. Comply with Washington State Water Quality Standards.
2. Perform Work in such a manner that all materials and substances not specifically identified in the Contract documents to be placed in the water do not enter waters of the State, including wetlands. These include, but are not limited to, petroleum products, hydraulic fluid, fresh concrete, concrete wastewater, process wastewater, slurry materials and waste from shaft drilling, sediments, sediment-laden water, chemicals, paint, solvents, or other toxic or deleterious materials.
3. Use equipment that is free of external petroleum-based products.
4. Remove accumulations of soil and debris from drive mechanisms (wheels, tracks, tires) and undercarriage of equipment prior to using equipment below the ordinary high water line.
5. Clean loose dirt and debris from all materials placed below the ordinary high water line. No materials shall be placed below the ordinary high water line without the Owner's approval.
6. When a violation of the Construction Stormwater General Permit (CSWGP) occurs, immediately notify the Construction Inspector and fill out WSDOT Form 422-011, Contractor ECAP Report, and submit the form to the Owner within 48 hours of the violation.
7. Once Physical Completion has been given, prepare a Notice of Termination (Ecology Form ECY 020-87) and submit the Notice of Termination electronically to the Owner in a PDF format a minimum of 7 calendar days prior to submitting the Notice of Termination to Ecology.
8. Transfer the CSWGP coverage to the Owner when Physical Completion has been given and the Owner has determined that the project site is not stabilized from erosion.
9. Submit copies of all correspondence with Ecology electronically to the Owner in a PDF format within four calendar days.

D. The Contractor shall comply with all regional clean air authority and/or State Department of Ecology rules and regulations. The air quality permit process may include additional State Environment Policy Act (SEPA) requirements. Contractors shall contact the appropriate regional air pollution control authority well in advance of beginning Work. Requirements included in Federal regulations regarding air quality that applies to the "owner or operator" shall be the responsibility of the Contractor.

E. The Contractor shall base fugitive dust control on Best Management Practices (BMPs) set forth in the Associated General Contractors of Washington Education Foundation and Fugitive Dust Task Force Pamphlet, "Guide To Handling Fugitive Dust From Construction Projects".

17.10 LOAD LIMITS

A. While moving equipment or materials on public Highways, the Contractor shall comply with all laws that control traffic or limit loads. The Contract neither exempts the Contractor from such laws nor licenses overloads. At the Owner's request, the Contractor shall provide the equipment or load data needed to compute the equipment's weight on the Roadway. All Contractor movement or storage of materials or equipment within the project limits (as shown in the Plans):
   1. Legal load limits shall apply on all roads open to and in use by public traffic.
   2. Legal load limits shall apply on existing roads not scheduled for major reconstruction under the current Contract.
   3. The Contractor may haul overloads (not more than 25 percent above load limits) on newly paved roads (with final lift in place) built under this Contract not open to public traffic if this does not damage completed Work.
   4. When moving vehicles or operating equipment on or over structures design for direct bearing of live load, buried structures, culverts, pipes, or retaining walls

within the project limits, the Contractor shall meet the load-limit restrictions below.

5. When storing material on a Structure or retaining wall, the Contractor shall meet the load-limit restrictions below. These requirements are not intended for long term storage of material.
6. The Contractor shall remain responsible for and pay all repair costs due to loads that caused damage on newly paved roads, new and existing Structures, culverts, pipes and retaining walls.

B. Unit prices shall cover all costs for operating vehicles or storing materials on or over structures, culverts, pipes, and retaining walls. Nothing in this section affects the Contractor's other responsibilities under these Specifications or under public Highway laws.

C. Load-Limit Restrictions: At the request of the Owner, the Contractor shall provide supporting documentation of vehicle, equipment or material loads, axle or support dimensions and any additional information used to determine the loads.

1. Structures Designed for Direct Bearing of Live Loads The gross vehicle weight or maximum load on each axle shall not exceed the legal load limit nor any posted weight limit on a Structure. Construction equipment that is not considered a legal vehicle licensed for legal travel on the public Highway, including but not limited to track or steel wheeled vehicles, may operate on a Structure. Gross equipment weight, axle spacing, equipment spacing, and other attributes identified in the Plans shall not be exceeded. When loads are not identified in the Plans, the construction equipment shall not exceed the following load restrictions:

    a. The gross vehicle weight or maximum load on each axle shall not exceed the legal load limit, axle spacing nor posted weight limits on a Structure.
    b. A tracked vehicle with a maximum gross vehicle weight of 40,000 pounds and track contact length no less than 8 feet. The maximum gross vehicle weight may increase by 2,000 pounds for each one foot of track contact length over 8 feet, but shall not exceed 80,000 pounds.
    c. A tracked vehicle with a maximum gross vehicle weight of 20,000 pounds and track contact length less than 8 feet.
    d. No single axle shall exceed 20,000 pounds.
    e. No more than one vehicle shall operate over any Structure at one time.

    Track contact length shall be measured once for two or more parallel tracks. The Contractor shall not store construction materials on timber Structures or Structures posted for weight limits.

2. Retaining Walls: Loads above existing and completed retaining walls designed for vehicular loads, where any part of the load is located within half the retaining wall height, shall not exceed the following load restrictions:

    a. The gross vehicle weight or maximum load on each axle shall not exceed the legal load limit.
    b. Construction equipment and material shall not exceed 250 pounds per square foot.

3. If necessary and safe to do so, the Engineer may allow higher loads than those allowed under these load-limit restrictions. For loads on or over structures designed for direct bearing of live load, the Contractor shall submit Type 3E Working Drawings consisting of calculations and other supporting information in accordance with the requirements of Section 6-01.6. For loads on or over pipes,

culverts, buried structures, and retaining walls the Contractor shall submit Type 2E Working Drawings. All submittals shall contain the following information: a description of the loading details; arrangement, movement and position of all vehicles, equipment and materials on the Structure, culvert or pipe; and statement that the Contractor assumes all risk for damage.

17.11 TEMPORARY TRAFFIC CONTROL

A. Delays to traffic shall be held to a minimum. There shall be no restrictions or interruptions to traffic on Saturdays, Sundays or Holidays. In addition, there shall be no restrictions or interruptions to traffic after 12:00 noon on the day prior to a holiday or holiday weekend.

B. There shall be no delay to medical, fire, police, or other emergency vehicles with flashing lights or sirens. The Contractor shall alert all flaggers and personnel of this requirement.

C. The Contractor shall be responsible for removing the permanent traffic signs, as deemed necessary by the Owner, and shall install and maintain any temporary signs necessary for the safety of the public.

D. All lane restrictions shall be held to a minimum time and length. Lane closures shall comply with the traffic control plans and these specifications. If the Contractor wishes to deviate from the plans, the Contractor shall submit a traffic control plan to the Owner, at no additional cost, and the Traffic Control Plans, for approval by the Owner within (5) five working days before the proposed lane closure. If the Owner determines that lane restrictions are causing congestion, the Contractor will be required to open any lanes, as determined by the Owner, until the congestion is eliminated.

E. During non-working hours, Saturdays, Sundays, and Holidays, the Contractor shall keep all lanes open to traffic throughout the limits of the project with the lane and sidewalk area completely clear of all material, tools, personnel, and equipment.

F. Refer to WSDOT Standard Specifications for Road, Bridge and Municipal Construction 1-10 for further provisions.

17.12 PUBLIC CONVENIENCE AND SAFETY

A. The Contractor shall be responsible for providing adequate safeguards, safety devices, protective equipment, and any other needed actions to protect the life, health, and safety of the public, and to protect property in connection with the performance of the Work covered by the Contract. The Contractor shall perform any measures or actions the Owner may deem necessary to protect the public and property. The responsibility and expense to provide this protection shall be the Contractor's except that which is to be furnished by the Owner as specified in other sections of these Specifications. Nothing contained in this Contract is intended to create any third-party beneficiary rights in favor of the public or any individual utilizing the Highway facilities being constructed or improved under this Contract.

B. Lane closures are subject to the following restrictions: Lane closures on 3rd Ave SE or College St SE must occur at night, between the hours of 7 PM and 5 AM.

C. If the Owner determines the permitted closure hours adversely affect traffic, the Owner may adjust the hours accordingly. The Owner or *Owner's Representative* will notify the Contractor in writing of any change in the closure hours.

D. Lane closures are not allowed on any of the following:

1. A holiday,
2. A holiday weekend; holidays that occur on Friday, Saturday, Sunday or Monday are considered a holiday weekend. A holiday weekend includes Saturday, Sunday, and the holiday.
3. After 12 PM on the day prior to a holiday or holiday weekend, and
4. Before 12 PM on the day after the holiday or holiday weekend.

E. The Contractor shall conduct all operations with the least possible obstruction and inconvenience to the public.

F. The Contractor shall have under construction no greater length or amount of Work than can be prosecuted properly with due regards to the rights of the public. To the extent possible, the Contractor shall finish each section before beginning Work on the next.

G. The Contractor shall enter interstate Highways only through legal movements from existing roads, streets, and through other access points specifically allowed by the Contract documents.

H. The Contractor shall maintain existing roads, streets, sidewalks, and Pathways within the project limits, keeping them open and in good, clean, safe condition at all times.

I. Accessibility to existing or temporary pedestrian pushbuttons shall not be impaired.

J. Deficiencies caused by the Contractor's operations shall be repaired at the Contractor's expense. The Contractor shall also maintain roads, streets, sidewalks, and Pathways adjacent to the project limits when affected by the Contractor's operations.

K. Snow and ice control will be performed by the Owner on all projects. Cleanup of snow and ice control debris will be at the Owner's expense.

L. The Contractor shall perform the following:
1. Remove or repair conditions resulting from the Work that might impede traffic or create a hazard.
2. Keep existing traffic signal and Highway lighting systems in operation as the Work proceeds. (The Owner will continue the routine maintenance on such system.)
3. Maintain the striping on the Roadway at the Owner's expense. The Contractor shall be responsible for scheduling when to renew striping, subject to the approval of the Owner. When the scope of the project does not require Work on the Roadway, the Owner will be responsible for maintaining the striping.
4. Maintain existing permanent signing. Repair of signs will be at the Owner's expense, except those damaged due to the Contractor's operations.
5. Keep drainage Structures clean to allow for free flow of water. Cleaning of existing drainage Structures will be at the Owner's expense when approved by the Owner, except when flow is impaired due to the Contractor's operations.

M. To protect the rights of abutting property owners, the Contractor shall:
1. Conduct the construction so that the least inconvenience as possible is caused to abutting property owners;
2. Maintain ready access to driveways, houses, and buildings along the line of Work;
3. Provide temporary approaches to crossing or intersecting roads and keep these approaches in good condition; and
4. Provide another access before closing an existing one whenever the Contract calls for removing and replacing an abutting owner's access.

N. When traffic must pass through grading areas, the Contractor shall:
   1. Make cuts and fills that provide a reasonably smooth, even Roadbed;
   2. Place, in advance of other grading Work, enough fill at all culverts and bridges to permit traffic to cross;
   3. Make Roadway cuts and fills, if ordered by the Owner, in partial-width lifts, alternating lifts from side to side to permit traffic to pass on the side opposite the Work;
   4. Install culverts on half the width of the Traveled Way, keeping the other half open to traffic and unobstructed until the first half is ready for use;
   5. After rough grading or placing subsequent layers, prepare the final Roadbed to a smooth, even surface (free of humps and dips) suitable for use by public traffic; and
   6. Settle dust with water, or other dust palliative, as the Owner may order. If grading Work is on or next to a Roadway in use, the Contractor shall finish the grade immediately after rough grading and place surfacing materials as the Work proceeds.

O. Open Trenches: Unless behind guardrail or barrier, open trenches are prohibited within the Traveled Way, Auxiliary Lanes, Shoulders, or other areas in the work zone clear zone, backfilling and paving operations are required to reopen to traffic within the allowable closure. If backfilling cannot be properly completed within a work shift and steel plates are allowed, the Contractor shall place steel plates over trenches during non-working hours. When allowed, steel plates shall not be in place longer than 72 hours.

P. Steel Plates: When steel plates are allowed the Contractor shall follow submittal requirements of this Section and have an accepted submittal prior to trench excavation.
   1. Allowable use of steel plates within the Traveled Way, Auxiliary Lanes, Shoulders: a. Posted Speeds 35 mph or less Steel plates are allowed whether highway is open or closed. b. Posted Speeds 40 mph and higher Steel plates are allowed within closed highways. Steel plates are prohibited for open highways.
   2. Allowable use of steel plates within Pedestrian Pathways: Steel plates are allowed for open and closed Pathways. When allowed, the walking surface shall be painted with either a non-slip paint, anti-slip tape, or rolled roofing. The transverse edges shall be beveled at 2:1 with a maximum ¼" vertical lip.

Q. Signing: When steel plates are used to cover trenches within the Traveled Way, Auxiliary Lanes, or Shoulders, a "MOTORCYCLES USE EXTREME CAUTION" (W21-1701) and "STEEL PLATE AHEAD" (W8-24) advanced warning signs shall be used to alert motorists of the presence of the steel plates. Additional signage for Traveled Way, Auxiliary Lane and Shoulder closures are to be in accordance with accepted traffic control plans.

R. Construction and Maintenance of Detours: Unless otherwise approved, the Contractor shall maintain two-way traffic during construction. The Contractor shall build, maintain in a safe condition, keep open to traffic, and remove when no longer needed:
   1. Detours and detour bridges that will accommodate traffic diverted from the Roadway, bridge, sidewalk, or Pathway during construction; and
   2. Temporary approaches.

S. Unit Contract prices will cover construction, maintenance, and removal of all detours shown in the Plans or proposed by the Owner. The Contractor shall pay all costs to build, maintain, and remove all other detours, whether built for the Contractor's convenience or to facilitate construction operations. Detours proposed by the Contractor shall not be built until the Owner approves. Surfacing and paving shall be consistent with traffic requirements. Upon failure of the Contractor to immediately provide, maintain, or remove detours or detour bridges when ordered to do so by the Owner, the Owner may, without

further notice to the Contractor or the Surety, provide, maintain, or remove the detours or detour bridges and deduct the costs from payments due or coming due the Contractor.

17.13 RIGHTS OF WAY

A. Street Right of Way lines, limits of easements, and limits of construction permits are indicated in the Plans. The Contractor's construction activities shall be confined within these limits, unless arrangements for use of private property are made.

B. Generally, the Owner will have obtained, prior to bid opening, all rights of way and easements, both permanent and temporary, necessary for carrying out the work. Exceptions to this are noted in the Bid Documents or will be brought to the Contractor's attention by a duly issued Addendum.

C. Whenever any of the work is accomplished on or through property other than public Right of Way, the Contractor shall meet and fulfill all covenants and stipulations of any easement agreement obtained by the Owner from the owner of the private property. Copies of the easement agreements may be included in the Contract Provisions or made available to the Contractor as soon as practical after they have been obtained by the Owner.

D. Whenever easements or rights of entry have not been acquired prior to advertising, these areas are so noted in the Plans. The Contractor shall not proceed with any portion of the work in areas where right of way, easements or rights of entry have not been acquired until the Owner certifies to the Contractor that the right of way or easement is available or that the right of entry has been received. If the Contractor is delayed due to acts of omission on the part of the Owner in obtaining easements, rights of entry or right of way, the Contractor will be entitled to an extension of time. The Contractor agrees that such delay shall not be a breach of contract.

E. Each property owner shall be given 48 hours notice prior to entry by the Contractor. This includes entry onto easements and private property where private improvements must be adjusted.

F. The Contractor shall be responsible for providing, without expense or liability to the Owner, any additional land and access thereto that the Contractor may desire for temporary construction facilities, storage of materials, or other Contractor needs. However, before using any private property, whether adjoining the work or not, the Contractor shall file with the Owner a written permission of the private property owner, and, upon vacating the premises, a written release from the property owner of each property disturbed or otherwise interfered with by reasons of construction pursued under this contract. The statement shall be signed by the private property owner, or proper authority acting for the owner of the private property affected, stating that permission has been granted to use the property and all necessary permits have been obtained or, in the case of a release, that the restoration of the property has been satisfactorily accomplished. The statement shall include the parcel number, address, and date of signature. Written releases must be filed with the Owner before the Completion Date will be established.

17.14 SPILL PREVENTION, CONTROL, AND COUNTERMEASURES PLAN

A. The Contractor shall prepare a project-specific spill prevention, control, and countermeasures plan (SPCC Plan), and shall implement the plan for the duration of the project. No on-site construction activities may commence until the Owner accepts an SPCC Plan for the project. An SPCC Plan template and guidance information is available

at https://wsdot.wa.gov/engineering-standards/environmental-guidance/stormwater-water-quality.

B. The SPCC Plan shall address all fuels, petroleum products, hazardous materials, and other materials defined in Chapter 447 of the WSDOT Environmental Manual M 31-11. Occupational safety and health requirements that may pertain to SPCC Plan implementation are contained in, but not limited to, WAC 296-824 and WAC 296-843. The SPCC Plan shall address conditions that may be required by Section 3406 of the current International Fire Code, or as approved by the local Fire Marshal.

C. Implementation Requirements – The Contractor shall update the SPCC Plan throughout project construction so that the written plan reflects actual site conditions and practices. The Contractor shall update the SPCC Plan at least annually and maintain a copy of the updated SPCC Plan on the project site. The Contractor shall fully implement the SPCC Plan, as accepted and updated, at all times.

D. SPCC Plan Element Requirements – The SPCC Plan shall set forth the following information in the following order:
   1. Responsible Personnel – Identify the names, titles, and contact information for the personnel responsible for implementing and updating the plan and for responding to spills.
   2. Spill Reporting – List the names and telephone numbers of the Federal, State, and local agencies the Contractor shall notify in the event of a spill as referenced in the abovementioned template.
   3. Spill Prevention – Describe the following items:
      a. The contents and locations of spill response kits that the Contractor shall supply and maintain that are appropriately stocked, located in close proximity to hazardous materials and equipment, and immediately accessible.
      b. Security measures for potential spill sources to prevent accidental spills and vandalism.
      c. Site inspection procedures and frequency.
   4. Spill Response – Outline the response procedures the Contractor shall follow for each scenario listed below, indicating that if hazardous materials are encountered or spilled during construction, the Contractor shall do everything possible to control and contain the material until appropriate measures can be taken. Include a description of the actions the Contractor shall take and the specific on-site spill response equipment that shall be used to assess the spill, secure the area, contain and eliminate the spill source, clean up spilled material, decontaminate equipment, and dispose of spilled and contaminated material:
      a. A spill of each type of hazardous material present.
      b. Stormwater that has come into contact with hazardous materials.
      c. A release or spill of any unknown preexisting contamination and contaminant sources (such as buried pipes or tanks) encountered during project Work.

E. Any work described in Article 17.14 shall be the responsibility of the Contractor and incidental to the project.

**** END OF SECTION ****

PW 2022-13 New Police Station Project
CONSTRUCTION MEMORANDUM OF UNDERSTANDING

between

City of Lacey, Washington

and

Property Owner: St. Martin's Abbey Phone: _____

Address: 5000 Abbey Way SE, Lacey WA 98503

Tax Parcel No: 11816310000

The purpose of this document is to memorialize the understanding of City of Lacey and Property Owner with respect to the details of construction.

For valuable consideration, receipt of which is hereby acknowledged, the City of Lacey agrees to construct the following work for the benefit of the Property Owner/s. Property Owner/s hereby grant(s) to the City, its agents, officers, officials, and employees a temporary right to enter upon said parcel of land and work on said land for the purposes of performing the following work. The City of Lacey or its agents will complete the following work:

1. All work as shown in the Construction Plans.

2. The City agrees to restore landscaping disturbed or damaged by the City's construction activities to a condition as good as immediately before the City's construction, to the extent reasonably possible. Property Owner understands that mature landscaping will necessarily be replaced with smaller less-developed landscaping.

3. The city will provide tree removal and contaminated root/soil disposal of the surveyed trees on both properties at time of construction start (Project Arborist to check for progressing zones of infection to make sure that all trees that are infected are marked)

4. The city will preserve and protect existing trees to remain around the perimeter of the project limit within construction activity zone unless otherwise noted (the construction activity zone will now include the portion of property that will no longer be purchased that was surveyed during scoping)

5. Tree protection shall follow specifications as minimum requirement for all trees within both properties. ROW trees shall be protected using the jurisdictional requirements as minimum. Follow the most stringent protection requirements provided by constructability drawings and specifications

6. Trees for salvage will be handled by the city and contractor

7. Restoration, soil backfill to native grade and erosion control will be handled by the city and contractor

8. Transplanting and restoration beyond native grade will be provided by the Abbey, unless otherwise identified

9. Root protection zone is calculated as an area 1'-0" in radius for every 1'-0" of trunk diameter at chest height of each tree

10. Any excavation and or soil preparation within existing tree root protection zone radius to be completed by hand under direction and observation of project arborist

11. As part of site demo; materials to be salvaged shall be verified and marked by landscape architect prior to demolition

12. The city and its contractors will be allowed a temporary construction easement to enter, remove and restore the abbey property. As noted previously, construction and restoration of abbey property bordering the new police project site, was surveyed previously where the known trees to be removed are located.

In the event the subject property is sold prior to the commencement of construction of the improvement project, the current property owners agree to notify any new owners of the property of the obligations agreed upon in this memorandum.

Property Owner: City of Lacey:

Date:_____ Date:_____

By: _____ By: _____

SECTION 019113

GENERAL COMMISSIONING REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Description of Work
2. Payment Requirements and Commissioning Schedule of Values
3. Commissioning Coordination and Meetings
4. Scheduling Commissioning Activities
5. Submittals
6. Duties of Commissioning Authority
7. Duties of Contractor
8. Duties of Contractor's Commissioning Coordinator
9. Back-Charging Provisions
10. Documentation Requirements
11. Start-up Requirements
12. Installation Verification Requirements
13. Functional Testing Requirements
14. Commissioning Issue Documentation and Correction
15. Performance Period
16. Project Closeout
17. Seasonal Testing
18. Near Warranty End Review

B. Related Sections:
1. General Requirements to include the following sections, exact titles may vary.

   Sustainable Building Requirements
   Indoor Air Quality Management
   Project Management and Coordination
   Submittal Procedures
   Closeout Procedures
   Operation and Maintenance Data
   Demonstration and Training

2. The following sections specify the commissioning activities for this project:

   01 91 19 Commissioning of Building Enclosure
   21 08 00 Commissioning of Fire Suppression
   22 08 00 Commissioning of Plumbing
   23 08 00 Commissioning of HVAC
   26 08 00 Commissioning of Electrical
   27 08 00 Commissioning of Communications
   28 08 00 Commissioning of Electronic Safety and Security

3. All sections related to the following commissioned systems may contain start-up, testing and/or commissioning related activities:

DIVISION 21 – FIRE SUPPRESSION

Fire Suppression Systems

DIVISION 22 – PLUMBING

Plumbing Fixtures
Plumbing Pumps
Domestic Hot Water Heaters
Domestic Hot Water Pumps
Water Meters

DIVISION 23 – HVAC

HVAC Systems
Building Automation and Control Systems
Fault Detection and Diagnostics
Metering Systems
Testing, Adjusting and Balancing

DIVISION 26 – ELECTRICAL SYSTEMS

Power Distribution System
Emergency Power System
Lighting Control System
Controlled Receptacles
Power Monitoring System

DIVISION 27 – COMMUNICATIONS

Network Infrastructure
Telephone System
Intercom System

DIVISION 28 – ELECTRONIC SAFETY AND SECURITY

Fire Alarm System
Access Control System
Intrusion Alarm System
Closed Circuit Television System

1.2 DESCRIPTION OF WORK

A. Work includes the completion of formal commissioning procedures on selected equipment and systems as outlined in the paragraph Related Sections above. Commissioning is defined as the process of verifying and documenting that the installation and performance of selected building systems meet the specified design criteria and therefore satisfies the design intent and the Owner's operational needs. The Contractor shall be responsible for participation in the commissioning process as outlined herein, and in subsequent sectional references and attachments throughout the Contract Documents. Commissioning procedures will be designed and conducted under the direction of a Commissioning Authority (CxA) hired by the Owner.

B. This section contains the general requirements for commissioning and a description of the commissioning process to be applied across all commissioned systems.

1.3 PAYMENT

A. Equipment and systems shall not be accepted by the Owner, and Owner reserves the right to withhold final payment, until commissioning activities identified in the specifications are complete, commissioning issues are resolved to the Owner's satisfaction and the performance period standards have been met.

B. Payment is subject to the conditions of the Actual Damages clause of the General Conditions.

1.4 COMMISSIONING COORDINATION AND MEETINGS

A. A representative for the Contractor, each commissioned system Contractor and the Contractor's Commissioning Coordinator (CCC) shall attend scheduled commissioning meetings as required.

1.5 SCHEDULE

A. The Contractor is responsible for coordination and scheduling of commissioning activities into the master schedule. The schedule shall contain the following activities and detail as a minimum.
   1. Contractor review and comment on preliminary commissioning plan documents
   2. Start-up Plan development
   3. Start-up activities by equipment and systems
   4. Completion of Contractor Checklists by equipment and systems
   5. Installation Verification Audit activities by equipment and systems
   6. Functional Performance Testing activities by equipment and systems
   7. Training
   8. O&M
   9. Seasonal Testing

B. The CCC shall develop and maintain a 2-week look-ahead schedule of commissioning activities including, but not limited to: meetings, start-up, completion of contractor checklists, contractor-performed Functional Performance Testing (FPT), and FPT demonstration. The schedule shall be updated and distributed weekly, or if any currently scheduled activities in the 2-week period change.

C. The Owner and the CxA will allocate their time based on the 2-week look-ahead schedule. If the Owner or CxA is not available for the scheduled activity then the Contractor may proceed as scheduled. If a scheduled activity does not take place due to lack of Contractor participation or inaccurate scheduling, the Contractor is subject to back-charging as outlined herein.

1.6 SUBMITTALS

A. Commissioning Documentation: Provide one copy of submittals in addition to those quantities specified elsewhere. Include the manufacturer's recommended installation and start-up procedures with associated checklists for each unique piece of equipment under a separate tab titled "Installation/Start-up". These procedures and forms shall be for the specific piece of equipment to be provided.

B. The Contractor shall provide the CxA with copies of approved submittals, manufacturer's recommended installation/start-up documents, proposed testing formats, training plans, as-built documentation, O&M Manuals and other commissioning related materials as requested by the CxA. The CxA will review and approve this material for commissioning related activities.

C. The CCC is responsible for managing the submittal process with the CxA. A tracking document for selected submittals is included in the schedules at the end of the individual divisional commissioning specifications for systems to be commissioned. These schedules outline activities that will require specific submittal information by the contractor. Assignment of Contractors responsible for commissioned systems and due dates will be determined at the initial commissioning coordination meeting.

D. O&M manuals for each piece of commissioned equipment are to be submitted with the proposed installation, testing and start-up documents.

1.7 COMMISSIONING AUTHORITY

A. The information provided herein regarding the Commissioning Authority's (CxA) responsibilities is provided to the Contractor for information only and is not a part of the work scope. The CxA is hired under direct contract with the Owner.

B. The CxA for this project shall be Performance Validation, Inc. (PV) (253) 856-3322, FAX (253) 859-2072 and web www.perfval.com. PV is a Building Commissioning Certification Board (BCCB) Certified Commissioning Firm. PV has on staff ANSI/ISO/IEC 17024:2012 Certified Commissioning Professionals who will lead the commissioning process.

C. Responsibilities: The CxA responsibilities include, but are not limited to the following:
1. Approve selection of the CCC.
2. Participate in the initial on-site commissioning coordination meeting and subsequent commissioning meetings.
3. Conduct site observations and provide site observation reports.
4. Review and approve the start-up plan and commissioning schedule as developed by the CCC and the Contractor.
5. Develop the commissioning plan including Contractor Checklists and Functional Performance Test documents.
6. Review and approve various Contractor completed documents including CCLs, start-up documents and completed Functional Performance Test data forms as they are completed.
7. Witness, spot check or otherwise verify successful completion of selected Functional Performance Testing performed by Contractor.
8. Review the TAB report. Witness or spot check a sample of the systems to verify conformance to design and the report.
9. Prepare and submit final commissioning report with recommendation for system acceptance to the Owner. Report is developed with material provided by CCC and Contractor.

1.8 CONTRACTOR

A. Contractor Responsibilities
1. Include requirements for commissioning activities in each subcontract.
2. Support the commissioning process including integrating related commissioning activities into the construction process and schedule.
3. Assure the participation and cooperation of subcontractors as required to complete the commissioning process as outlined herein and the individual divisional commissioning specifications.
4. Assign a Contractor's Commissioning Coordinator dedicated to the project. See section 1.9 below for required qualifications.
5. Provide all submittal material as requested by the CxA and as required by the contract documents.
6. Provide the CxA copies of proposed startup documents, completed startup documents, and operation and maintenance manuals for all commissioned equipment and systems.
7. Attend commissioning meetings as scheduled.
8. Provide access to commissioned systems including ladders, lifts, scaffolding, access panels and other equipment as required.
9. Install and start-up equipment per the contract documents and start-up plan.
10. Ensure installation work is complete, is in compliance with Contract Documents, Contractor Checklists are complete, and systems are ready for Functional Performance Testing. Forward completed Contractor Checklists to CxA at least 10 workdays prior to scheduled Functional Performance Testing date.

11. Provide documentation such as equipment/sensor calibrations, equipment startup, system pressure testing, cleaning and flushing, etc., as requested for CxA review.
12. Provide required test instrumentation and equipment as needed to conduct Functional Performance Testing per the commissioning plan.
13. Conduct Functional Performance Testing per the contract documents and commissioning plan.
14. Submit detailed training plan to design team and owner for approval and CxA for comment.
15. Resolve issues as noted on the commissioning issues list and communicate resolution to the CxA.
16. Schedule, coordinate and assist CxA in seasonal or deferred testing and deficiency corrections required by specifications.

1.9 CONTRACTOR'S COMMISSIONING COORDINATOR

A. Contractor's Commissioning Coordinator (CCC) Qualifications
   1. The CCC shall be a regular employee of the Contractor assigned to the project. The CCC shall be responsible for coordination of Contractors responsible for commissioned system regardless of the Contractors they represent.
   2. The CCC responsibilities shall not be shared by multiple parties, one individual shall be designated.
   3. The individual designated as the CCC shall be available on site from the beginning of construction to final acceptance.
   4. The individual designated as the CCC may have other construction or project related assignments, but only to the extent that they will be able to fulfil the CCC responsibilities outlined herein.
   5. The individual designated as the CCC shall be identified by the contractor during the submittal process.
   6. Submit the name, company, contact information (address, phone, cell phone, FAX and e-mail) and other project duties for the proposed CCC.

B. Contractor's Commissioning Coordinator Responsibilities
   1. Overall management and coordination of the commissioning work performed by the contractors responsible for commissioned systems including responsibilities identified as the CCC's responsibility in each section on commissioned systems.
   2. Coordinate Owner and CxA participation in scheduled commissioning activities. Notify Owner and CxA a minimum of 5 working days in advance of commissioning activities.
   3. Collect, review and submit commissioning material and documentation to the CxA for approval prior to proceeding with commissioning activities including, but not limited to, the following:
      a. Review and comment on preliminary functional tests provided by CxA. Contractors responsible for the systems to be commissioned shall also review this information.
      b. Develop, manage and update commissioning schedule with commissioning activities.
      c. Proposed manufacturer's installation and start-up documents.
      d. Proposed cleaning, flushing, testing, disinfection forms.
      e. Proposed static tests and calibration forms.
      f. Start-up plan.
      g. Proposed Functional Performance Test forms.
      h. Completed manufacturer's installation and start-up documents
      i. Completed cleaning, flushing, pressure testing, disinfection forms.
      j. Completed static tests and calibration forms.
      k. Completed Contractor Checklists.
      l. Completed Functional Performance Test forms.
      m. TAB agenda.
      n. TAB preliminary and final reports.
      o. Signed off issues lists.
      p. Proposed O&M Manuals .

q. Training plans and agenda.
r. Final O&M Manuals

4. Develop, manage and update commissioning schedule. Integrate commissioning activities into master schedule. Provide a 2-week look-ahead schedule of commissioning activities, updated weekly or as scheduled commissioning activities change during 2-week period.
5. Distribute issues lists to Contractors responsible for the commissioned systems.
6. Assemble, manage and update the start-up plan.
7. Attend regularly scheduled construction and Owner's meetings and review commissioning activities with Contractors responsible for the commissioned systems and design team. Include commissioning activity items in construction meeting minutes.
8. Lead commissioning meetings as necessary to coordinate contractor activities in the commissioning process. Meetings are generally to be scheduled once every two weeks during initial construction of commissioned systems, and weekly during start-up and functional test phases. The CxA shall lead commissioning meetings when on site and the CCC shall lead all other meetings.
9. Coordinate and participate in seasonal testing.

1.10 BACK-CHARGING

A. The Contractor and CCC are responsible to schedule and coordinate installation, start-up and testing activities with the CxA as specified herein and in each section on commissioned systems. Scheduled installation, start-up or testing activities that are not executed because of lack of preparation or coordination by the contractor that result in unnecessary trips by the CxA are subject to back-charges to the Contractor.

B. Functional Performance Testing shall be performed on the systems that are fully complete as reported by the contractor. Systems that are reprogrammed or have had a software upload that can be shown to invalidate completed functional testing shall be retested to demonstrate proper operation. Tests re-conducted by the contractor shall be performed at no additional cost to the contract. Tests re-conducted by the CxA shall result in a back-charge to the Contractor.

C. The contractor shall be responsible for executing all Functional Performance Testing as detailed in the commissioning plan (a 100% sample of commissioned systems/equipment). After completion of contractor testing, the CxA shall review and approve test data as provided by the contractor for completeness, accuracy, and to identify failures. After the CxA has approved the contractor's test data, the CxA shall then select a 100% sample of tests to be reperformed by the contractor in the presence of the CxA. If more than 30% of this CxA-witnessed sample fails, the contractor shall be required to reperform 100% of the failed tests, after correction of the failures, in the presence of the CxA. CxA witness of re-testing due to excessive failures shall result in a back-charge to the Contractor.

D. The Contractor shall reimburse the Owner for costs associated with any additional efforts required to witness installation, start-ups, testing activities or for excessive back-checking as indicated above. These costs shall include salary, travel costs and per diem lodging costs (where applicable) for the CxA. Rates to be used will be per the contract between the Owner and CxA.

PART 2 – PRODUCTS

2.1 TEST EQUIPMENT

A. The Contractor shall provide all test equipment as required to prove performance during static testing, equipment startup and checkout, and Functional Performance Testing.

B. The test equipment shall be provided in sufficient quantities to execute Functional Performance Testing in an expedient fashion.

C. The test equipment shall be of industrial quality and suitable for testing and calibration with accuracy within the tolerances necessary to demonstrate system performance.

D. Equipment shall be certified to an accuracy of 10% of the smallest tolerance to be measured. For example, if a temperature gage is required to be +2 degrees F, the calibration device must have an accuracy of +0.2 degrees F.

E. The test equipment shall have calibration certification per equipment manufacturer's interval level or within one year if not specified.

F. Where sensors for specific gases are used (e.g. carbon monoxide, nitrogen dioxide, refrigerant leak detectors, etc.) the Contractor shall provide appropriate test gases in order to validate calibration of sensors. Test gases shall be provided so as to validate sensor output for 0, 50 and 100 percent of the sensor range.

PART 3 – EXECUTION

3.1 DOCUMENTATION

A. Contractor Checklists, start-up documentation, test forms and other commissioning-related documentation required by contract shall be neatly and legibly completed and provided to the CxA via the CCC in a clear and easily readable condition.

B. Microsoft SharePoint shall be used for document management and issues list tracking for this project. Microsoft SharePoint is a web-based application that can be accessed via a laptop, tablet, or mobile device. The CxA shall create a shared folder in SharePoint to allow project teams to access the Cx folders.

C. Contractor Checklists and Functional Performance Test documentation are provided for contractor use via shared excel files and word documents. Other commissioning-related documentation such as equipment startups, static testing, etc., can be uploaded to SharePoint Cx folders in PDF format.

D. Required Contractor Checklists, startup documentation, Functional Performance Test forms and other commissioning-related documentation shall be provided to the CxA via the CCC in a timely fashion and according to the commissioning and construction schedule.

E. In every case where the Contractor is unable to comply with an item as listed on a checklist or form, the Contractor shall immediately notify the CxA in writing as to the reasons for non-compliance.

3.2 ACCESS TO EQUIPMENT AND SYSTEMS

A. The Contractor shall provide access to all equipment and systems to be commissioned both during construction and after occupancy as necessary. The Contractor shall coordinate with other trades to assure that access to commissioned equipment is available to the CxA and other trades at the proper times and with sufficient duration.

B. The Contractor shall provide all ladders, lifts, scaffolding, access doors, removal/installation of ceiling tiles and any other materials or activities as necessary to allow the CxA to easily access equipment and systems.

C. During the commissioning process, the Contractor shall coordinate the installation of ceiling tiles and other finishes to allow all trades and the CxA to perform their work without having to remove or reinstall ceiling tiles or other finished work. Note that above-ceiling access is required to perform Installation Verification Audit work and Functional Performance Testing of systems. Ceiling tiles typically must be in place during Testing and Balancing activities. Since Testing and Balancing may occur between Installation Verification Audit work and Functional Performance Testing, some ceiling tiles may require multiple removal/reinstallation cycles.

D. In the event that system commissioning is not fully completed after occupancy, the Contractor shall be responsible for coordinating with the owner for access to the equipment or system for testing, back-checking and other commissioning activities. This requirement shall include providing access to equipment as indicated above.

3.3 COMMISSIONING MEETINGS

A. Commissioning status meetings shall be scheduled to occur during the construction and closeout phase to monitor progress and to help facilitate the commissioning process. Contractor representatives for commissioned systems shall be required to attend these meetings. Meetings will generally be scheduled to occur with scheduled construction or management meetings. The CCC shall schedule, coordinate and lead the meetings including providing meeting minutes. These meetings can coincide with, or be a subset of, the normal subcontractor meetings. The CxA shall attend and lead selected meetings at their discretion.

B. Commissioning shall be included in the general construction and Owner's meetings. The CCC shall attend these meetings and discuss commissioning related topics there. Commissioning information and issues shall be documented in the meeting minutes.

C. After Functional Performance Testing is complete, and during the issue correction period, the Contractor shall hold and document weekly meetings (as a minimum) to coordinate and review outstanding commissioning issues. These meetings shall be coordinated and led by the general contractor's CCC and attended by all sub-contractors responsible for commissioned systems. The meetings shall be required until all issues are resolved. The CxA shall attend and lead selected meetings at their discretion.

D. The contractor shall make available the option to host the commissioning meetings via video-conferencing, in whole or in part, to include internet connection, video monitor and audio services at the on-site meeting room.

3.4 SITE OBSERVATIONS

A. The CxA may perform periodic site visits during construction to monitor commissioning activities. The purpose of these observations will be to evaluate compliance to contractual obligations such as cleanliness, capping ductwork, access to equipment, maintainability, and proper installation to identify concerns before they are repeated throughout the project. Any issues identified will be noted on a Site Observation Report. The Contractor shall review these reports and take action to resolve issues as needed and deemed appropriate in consultation with the Owner, CxA, and Design Team.

3.5 CONTROLS INTEGRATION MEETING – BUILDING AUTOMATION AND LIGHTING

A. The controls integration meetings (CIM) shall be conducted after the building automation and lighting controls submittals are complete and the CxA has reviewed the submittals. The meetings are to be conducted prior to finalizing the functional test procedures and shall be attended by the CxA, the BAS control contractor, the lighting controls contractor, the mechanical/electrical engineers and a representative of the Owner's maintenance group at a minimum. The CIM shall include, but not be limited to, the following topics:
   1. Sequence of Operations
   2. Alarm Points List
   3. Trend Points List
   4. Displayed/Adjustable Point List
   5. Graphical Interface
   6. Integration with packaged equipment
   7. Lighting control interface
   8. Point-to-Point Checkout and Commissioning of Existing Equipment
   9. Method of Conducting Cx Functional Testing

3.6 PRE-STARTUP ACTIVITIES

A. The CxA shall develop a preliminary commissioning plan with input from the contractors via the CCC.

B. As soon as possible after the bid award, approval of submittals and development of the preliminary commissioning plan, the CxA shall conduct an initial commissioning coordination meeting with the CxA, CCC, Contractors, Owner's Representative and the A/E Team. The CxA will explain the commissioning process in detail, and identify specific commissioning related responsibilities. The preliminary commissioning plan shall be provided to the Contractors at this time. The requirements for submittal material shall be reviewed along with a preliminary schedule of commissioning activities.

C. The Contractor shall submit to the CxA via the CCC preliminary O&M manuals prior to developing the Start-up and Commissioning Plan by the CxA.

D. The Contractor shall submit to the CCC the proposed start-up and Contractor required testing documentation for assembly into the commissioning plan by the CxA.

E. The CxA shall develop the final commissioning plan. The commissioning plan typically includes, but is not limited to, the following:
   1. Project overview.
   2. Commissioning Authority scope of work.
   3. Contractor's Commissioning Coordinator scope of work.
   4. Roles and responsibilities of commissioning participants.
   5. A schedule with sequential description of commissioning activities.
   6. A complete list and description of equipment and systems to be commissioned.
   7. Tracking mechanism for required startup documentation.
   8. Contractor Checklists for systems and equipment to be commissioned.
   9. Functional Performance Test criteria, test forms and data forms for systems and equipment designated to be functionally tested including trending needed for the performance period. This test plan shall include requirements for Integrated Systems Testing where applicable.
   10. Commissioning issues list.
   11. Tracking mechanism for project closeout activities (Operation and Maintenance manual completion, owner and occupant training, spare parts turnover, warranty turnover).

F. The Contractor shall be responsible for the liability and safety of conducting all testing. The CCC and contractor shall review the Functional Performance Test documents provided by the CxA provided in the final commissioning plan. The contractor is to review preliminary and final test procedures to verify that they:
   1. Will not pose a risk of injury to any personnel.
   2. Will not pose a risk of damage to equipment, structure or any physical element of the building.
   3. Will not negate any equipment or system warranties.
   4. Are executable with the personnel and equipment available to the Contractor.

3.7 EQUIPMENT INSTALLATION AND STARTUP

A. Installation and startup activities include procedures outlined by the Contract Documents and the equipment manufacturer including cleaning, static testing, calibration and other related activities.

B. The CxA may witness selected equipment startup and testing activities performed during construction. The CCC shall keep the CxA informed of commissioning activities with regular status reports and updates to the commissioning plan, startup plan and schedules

C. The Contractor shall perform equipment startup per the approved start-up plan and start-up forms. The Contractor shall correct issues as they are discovered. The Contractor shall complete the startup forms as the work is completed and shall upload the completed documents to the SharePoint Cx shared folders. Status of startup documentation shall be tracked via the installation and startup tracking

excel sheet in SharePoint. The CxA shall review the startup documentation once it has been uploaded by the contractor.

D. Upon completing the start-up activities for a given system, the associated Contractor Checklists shall be completed by the contractor via the installation and startup tracking excel sheet in SharePoint. The completed CCL is the Contractor's certification that they have completed all required installation and startup activities and the system is ready for Installation Verification Audit by the CxA and subsequent Functional Performance Testing. The CxA shall review the completed Contractor Checklists once they have been completed by the contractor for completeness and accuracy.

3.8 INSTALLATION VERIFICATION Audit (IVA)

A. The Installation Verification Audit (IVA) process shall begin once completed start-up documents and completed Contractor Checklists are received from the contractor.

B. The CxA shall conduct an independent Installation Verification Audit on selected systems to verify conformance with manufacturer's installation instructions and project documents. The CxA shall use the completed Contractor Checklists received from the contractor to verify installation. Discrepancies discovered shall be reported on the Commissioning Issues List by the CxA.

C. The Contractor shall correct any issues discovered and note the action taken on the issues log and return it to the CxA via the CCC.

D. The CxA shall back-check and verify that the issues are resolved prior to proceeding with Functional Performance Testing.

3.9 FUNCTIONAL PERFORMANCE TESTING (FPT)

A. Functional Performance Testing consists of the documented testing of system parameters, under actual or simulated operating conditions, to demonstrate the system operates in accordance with the design intent and the Contract Documents. Functional Performance Testing of systems shall begin only after the contractor certifies that systems are 100% complete and ready for Functional Performance Testing, by completing the Contractor Checklists.

B. Any proposed testing procedures and forms which the Contractor is required to provide must be provided by the CCC to the CxA at least one month prior to start of installation of the equipment and as needed to complete the commissioning plan.

C. Functional Performance Testing of commissioned systems shall begin after all critical issues discovered during the startup and Installation Verification Audit process have been corrected. The contractor shall conduct Functional Performance Tests on commissioned systems as required in the Contract Documents and approved by the CxA in the Commissioning Plan.

D. Functional Performance Testing shall include Integrated Systems Testing (IST) as applicable to the project. IST consists of testing where multiple disciplines and/or trades must be involved. IST includes, but is not limited to, HVAC and Fire Alarm System interfaces, operation of systems and equipment under emergency power conditions, etc.

E. The contractor shall be responsible for executing all Functional Performance Testing as detailed in the commissioning plan (a 100% sample of commissioned systems/equipment). Test data shall be documented using the shared files via SharePoint. After completion of contractor testing, the CxA shall review and approve test data as provided by the contractor for completeness, accuracy, and to identify failures. Non-conformance items discovered during testing shall be reported on the Commissioning Issues List by the CxA. After issues resolution and any necessary retesting, the CxA shall approve the contractor's test data. After the CxA has approved the contractor's test data, the CxA shall then select a 100% sample of tests to be reperformed by the contractor in the presence of the CxA. Non-conformance items discovered during testing shall be reported on the Commissioning Issues List by the CxA. If more than 30% of this CxA-witnessed sample fails, the contractor shall be required to

reperform 100% of the failed tests, after correction of the failures, in the presence of the CxA. CxA witness of re-testing due to excessive failures (more than 30% of the CxA-witnessed sample) is subject to the back-charging provisions of the paragraph Back Charging.

F. The Contractor shall make available to the CxA a method of interfacing with any commissioned control systems at the building site including but not limited to the building automation system, packaged control systems, programmable logic controllers and lighting control systems. This interface shall be made available regardless of whether or not a permanent local work station is specified elsewhere in the contract documents. The on-site interface shall be made available from the time of completion of start-up activities until trending is complete and all commissioned systems are accepted by the owner. The Contractor shall also make available to the CxA a method of remote access to the control system(s) beginning at the time of completion of start-up activities and extending for one year after system acceptance. Remote and local access shall include all software, licensing, software keys and anything else required to facilitate full access to the system(s). The local and remote interfaces shall include all contract required interfaces including, but not limited to, all graphics, trends and alarms. The CxA shall be given an account with full security access privileges to the system(s).

3.10 COMMISSIONING ISSUE DOCUMENTATION AND CORRECTION

A. The commissioning issues list is generated and maintained by the CxA to include a description of the issue, date of posting, the current status of issues, assignment to the responsible party and the date of final resolution as confirmed by the CxA. Items listed may include issues where design, products, execution or performance does not appear to satisfy the Contract Documents and the design intent. The resolution of issues identified on this list may or may not be the responsibility of the Contractor.

B. Once issues have been identified and assigned to a Contractor on the commissioning issues list, the contractor shall be required to investigate and resolve these issues in a timely manner. After correcting issues noted on the commissioning issues list, the Contractor shall update the status of the issues and send the issue responses back to the CxA for documentation.

C. In the event that an issue has been assigned to the wrong contractor or resolution of the issue requires multiple trades, contractor with the initial assignment shall take the lead in working with the CCC and CxA to reassign the issue or coordinating the multiple trades to resolve the issue.

D. The CxA shall back-check and verify that the commissioning issues are resolved and update the issues list. The contractor is encouraged to provide photographic evidence of issue corrections if practical. Excessive back-checking by the CxA due to issues reported as complete not actually being resolved are subject to the back-charging provisions of the paragraph Back Charging.

E. After Functional Performance Testing and during the issue correction period, the contractor shall hold weekly on-site meetings (as a minimum) to coordinate and review outstanding commissioning issues. These meetings shall be coordinated and led by the general contractor’s CCC and attended by all sub-contractors responsible for commissioned systems. The meetings shall be required until all issues are resolved.

3.11 PERFORMANCE PERIOD

A. Performance Period: The performance period is a set length of time designated to demonstrate proper facility operation prior to acceptance. The performance period commences after successful completion of all functional testing. Parameters evaluated for heating and ventilation systems typically include zone temperature stability, optimum start/stop, warm-up period and other related functions. For lighting control the parameters include lighting levels, occupancy switching and daylight control. As part of this process the Contractor will be required to set up and provide trends of building automation system parameters per the direction of the CxA. The specific trending needed will be outlined in the commissioning plan, the Contractor should assume that all points in the building automation system will be trended. Lighting control parameters will be trended if system capabilities exist, otherwise the Contractor will provide stand-alone data loggers to demonstrate operation of systems.

B. The CxA shall prepare a performance period test plan including measured variables and success criteria based on performance characteristics described in the Project Documents. The CxA will provide the Contractor with a list of trend log definitions or stand-alone data logger requirements based on the performance period test plan included in the Commissioning Plan.

C. The Contractor will review the performance period test plan and set up the trend log definitions and stand-alone data loggers. Trend logs shall be set up for all inputs/outputs, both digital and analog, for all points in the system both physical and virtual. Trend interval shall be 5 minutes unless otherwise directed by the CxA. The minimum trend period shall be 14 days. Trend log point headings as displayed on system graphs and data tables shall be adequately descriptive for the point but no longer than 12 characters unless approved by the CxA. System default names are not acceptable. The heading titles shall contain no extraneous characters that are not needed to describe the point. The contractor shall provide the trends to the CxA in electronic format, in MS Excel or a comma delimited file with related system parameters grouped together for easy comparison. If building automation system resident memory is limited or there are other issues with the trending requirements, the Contractor will work with the CxA to redefine the test plan.

D. The performance period will commence within one week of the final functional tests and run for a minimum of 14 days. A similar performance period may be required for seasonal testing. If failures are encountered, the performance period shall be aborted. After corrections are made, the performance period shall be re-started at day one.

3.12 SEASONAL TESTING

A. Seasonal testing is required to demonstrate the system's ability to meet design conditions associated with seasonal extremes, typically peak heating and peak cooling conditions.

B. Seasonal testing may also be required when ambient conditions will not support the operation of specific equipment.

C. Seasonal testing is required to demonstrate the performance for a fully occupied building or portion of the building as well as for systems that are occupancy sensitive.

D. The Contractor shall provide labor and material for seasonal testing and make corrections to any Contractor related issues discovered.

3.13 PROJECT CLOSEOUT

A. Post-construction contractor responsibilities include providing O&M manuals, warranties, spares and training that meet the requirements of the project documents.

B. O&M Manual
   1. The Contractor is responsible for providing the CxA with copies of the balancing reports, as-built drawings, O&M manuals relevant to the systems commissioned and the Contractor provided material required for the systems manual (if applicable). The CxA shall review this material for compliance with project documents and report issues for resolution by the responsible party.

C. Training
   1. Training on related systems and equipment operation and maintenance shall only be scheduled to commence after functional testing is satisfactorily completed, O&M manuals have been delivered and approved, the systems manual (if applicable) is complete and systems are verified to be 100% complete and functional.
   2. Each contractor is responsible to provide a topical outline of the subjects to be covered in the training session(s), the expected length of time for the training sessions, and a brief resume listing the qualifications of the proposed training presenters.

3. The CCC is responsible for developing the training plan with input from the Contractor and directing any videotaping efforts. The training plan is to be submitted to the Owner, Design Team and CxA for approval prior to conducting training. The CCC is responsible for coordinating training with the Owner and CxA and to verify execution of the training plan.
4. Training Plans: For all Owner instruction, the contractor shall submit a system-specific training plan for review and approval by the CxA and the Owner. The training plan shall contain the following as a minimum:
    a) Attendee sign-off sheet.
    b) Required training hours specified in the project documents.
    c) Detailed list of subject to be covered and durations.
    d) Qualifications of training provider.
    e) Training schedule including duration of each training session.

D. Upon completion of commissioning activities the CxA will prepare and submit to the owner the Final Commissioning Report detailing the commissioning plan and commissioning activities and recommending acceptance to the Owner. The CCC will support this effort by coordinating the Contractor provided documentation.

END OF SECTION 019113

SECTION 062023

INTERIOR FINISH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Interior trim.
2. Wood accents.
3. Paneling.
4. Wood benches.
5. Shelf standards and brackets.
6. Special Wood Panels (WD-2)

1.2 ACTION SUBMITTALS

A. Product Data:
1. Interior trim.
2. Paneling.

B. Product Data Submittals: For each type of process and factory-fabricated product.
1. Indicate component materials, dimensions, profiles, textures, and colors and include construction and application details.

C. Samples for Verification:
1. For each species and cut of lumber and panel products with nonfactory-applied finish, with half of exposed surface finished; 50 sq. in. lumber and 80 sq. in. for panels.
2. For each finish system and color of lumber and panel products with factory-applied finish, 50 sq. in. lumber and 80 sq. in. for panels.

1.3 QUALITY ASSURANCE

A. Fabricator Qualifications: Shop with minimum 5 years of documented experience that employs skilled workers who custom-fabricate products similar to those required for this Project and whose products have a record of successful in-service performance.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Stack lumber, plywood, and other panels flat with spacers between each bundle to provide air circulation. Protect materials from weather by covering with waterproof sheeting, securely anchored.
1. Provide for air circulation around stacks and under coverings.

B. Deliver interior finish carpentry materials only when environmental conditions comply with requirements specified for installation areas. If interior finish carpentry materials must be stored in other than installation areas, store only where environmental conditions comply with requirements specified for installation areas.

1.5 FIELD CONDITIONS

A. Environmental Limitations: Do not deliver or install interior finish carpentry materials until building is enclosed and weatherproof, wet-Work in space is completed and nominally dry, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during remainder of construction period.

B. Do not install finish carpentry materials that are wet, moisture damaged, or mold damaged.
   1. Indications that materials are wet or moisture damaged include discoloration, sagging, or irregular shape.
   2. Indications that materials are mold damaged include fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 FABRICATORS

A. Engage woodworking firm acceptable to Owner and Architect that meets requirements of these Specifications.
   1. Do not engage woodworking firm without written approval from Owner and Architect.

B. Source Limitations: Firm engaged to assume undivided responsibility for production of interior finish carpentry shall also take responsibility for the following:
   1. Section 064100 – Architectural Wood Casework.
   2. Section 123623.16 – Solid Surfacing Countertops.
   3. Section 123623.19 – Quartz Agglomerate Countertops.

2.2 MATERIALS, GENERAL

A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, comply with applicable rules of any rules-writing agency certified by American Lumber Standard Committee's (ALSC) Board of Review. Grade lumber by an agency certified by ALSC's Board of Review to inspect and grade lumber under the rules indicated.
   1. Factory mark each piece of lumber with grade stamp of grading agency.
   2. For exposed lumber, mark grade stamp on end or back of each piece or omit grade stamp and provide certificates of grade compliance issued by grading agency.
   3. For Special Wood Panels (WD-2) refer to Paragraph 2.4.

B. Softwood Plywood: DOC PS 1, medium-density overlay (MDO).

C. Hardboard: ANSI A135.4.

D. Medium-Density Fiberboard (MDF): ANSI A208.2, Grade 130.
   1. Products: Subject to compliance with requirements, provide one of the following:
      a. ampine; Div. of Timber Products Company: Apex MDF.
      b. ARAUCO North America: Trupan Standard MDF.
      c. Del-Tin Fiber, LLC: Solidium Ultra MDF.
      d. Georgia-Pacific Wood Products LLC: UltraStock Premium MDF.
      e. Roseburg Forest Products Co.: Medite II.
      f. Timber Products Company: Masisa Ultralight MDF.
      g. West Fraser Timber Co., Ltd.: WestPine EcoGold MDF.
      h. Weyerhaeuser Company: Super-Refined MDF2.

E. Melamine-Faced Panels: MDF complying with ANSI A208.2 finished on both faces with thermally fused, melamine-impregnated decorative paper and complying with ISO 4586-3, Grade VGL, for Test Methods 3.3, 3.4, 3.6, 3.8, and 3.10.
   1. Color: As selected by Architect from manufacturer's full range.

2.3 INTERIOR TRIM

A. Hardwood Lumber Trim for Transparent Finish (Stain or Clear Finish):
   1. Species and Grade: White maple; NHLA.
   2. Maximum Moisture Content: 13 percent.
   3. Finger Jointing: Not allowed.

4. Gluing for Width: Not allowed.
5. Veneered Material: Allowed.
6. Face Surface: Surfaced (smooth).
7. Matching: Selected for compatible grain and color.

~~2.4 WOOD ACCENTS~~

~~A. Burned and brushed wood accents.~~
~~1. Product: Subject to compliance with requirements, provide the following:~~
~~a. Pioneer Millworks West: Shou Sugi Ban Douglas Fir, Brushed.~~
~~b. No substitutions.~~
~~2. Species and Grade: Douglas fir, D Select Vertical Grain.~~
~~3. Surface Texture: Deeply burned and wire brushed twice.~~
~~4. Color: Toasted.~~
~~5. Size: 3/4 inch by 5 inch.~~
~~6. Pattern: Ship lapped profile with no reveal.~~
~~7. Finish: Burned, brushed, and coated with an exterior sealer. Back burned to promote stability.~~

~~B. Fasteners for Wood Accent Materials: Provide nails, in sufficient length to penetrate 1-1/2 inches minimum into substrate.~~
~~1. Material: Stainless steel unless indicated otherwise.~~

2.4 SPECIAL WOOD PANELS (WD-2)

A. Sliced reclaimed lumber from felled trees on site.
1. Basis of Design:
a. Windfall Lumber
b. Approved substitutions.
2. Species and Grade: quarter sawn Douglas fir, sourced from site.
3. Surface Texture: Smooth
4. Size: 1-1/2 inch thickness by 14 inch wide. Length per Interior Elevations.
5. Pattern: Per Interior Elevations.
6. Backing: Provide 3/4 inch fire treated plywood sheathing as backing for installation of Special Wood Panels.

B. Fasteners for Special Wood Panel Materials: Provide Z-clips mounting hanger and install per manufacturer's installations instructions taking into account the weight of each panel.
1. Refer to Interior Details for more information.

C. Signage: "CITY OF LACEY" to be routed into Wood Panel located in WD-2 wood per Interior Elevations and Interior Details.

D. Product Sourcing and Finishing:
1. All wood to be harvested from trees at Client's job site and dried, milled and processed into finished materials in Thurston County, Washington. All wood is to be kiln dried, using an industry standard Nyle kiln, to a moisture content of 8% - 10%. Logs over 24" diameter will be quarter sawn whenever possible, logs under 24" will be plain sawn. Products fabricated from live edge slabs will be available for selection by the architect or designer. All knots to be tight and all voids under ½" x ½" will be used; all voids over ½" x ½" will be culled. All products will be sanded to 120 grit and finished with low VOC, waterborne finish."

2.5 PANELING

A. Hardwood Veneer Plywood Paneling (WP-2): Manufacturer's stock, exposed-edge, cross-laminated hardwood veneer faced plywood core panels complying with HPVA HP-1, urea formaldehyde-free, and CARB-exempt.
1. Products: Subject to compliance with requirements, provide one of the following:

a. Garnica: Pluma-Ply Hardwood, available from regional distributors.
b. Columbia Forest Products: Europly PLUS.
c. Roseburg Forest Products Co.: SkyPly Veneer.
d. Segezha Group: Baltic Birch, available from regional distributors.
e. States Industries, LLC: ApplePly.
f. TMI Systems Corporation: ComboCore.
g. Approved substitution

2. Construction: Veneer core consisting of laminations of 1/16 inch thick birch hardwood layers, free of edge voids at exposed surfaces
3. Face Veneer Species and Cut: Walnut, quarter-sliced.
4. Veneer Matching: Random, selected for similar color and grain.
5. Backing Veneer Species: Same species as face veneer.
6. Panel Thickness: 3/4 inch or as indicated on Drawings.
7. Panel Size: 48 by 96 inches.
8. Glue Bond: Type II (interior).
9. Face Pattern: Manufacturer's standard V-grooved pattern, with grooves at edges, center, and third points of panels, and at other locations to provide pattern resembling random-width boards.
10. Finish:
    a. As selected by Architect from manufacturer's full range.

B. Edge Protection Strips: Roll-formed strips designed specifically to provide a transition, finish, or protective edge at wall protection panels as indicated on Drawings.
1. Basis-of-Design Products: Subject to compliance with requirements, provide the following specified products from:
    a. Schluter Systems LP: SCHIENE Series.
    b. Approved substitution.
2. Material and Finish: Type 304 brushed stainless steel.
3. Height: 3/8 inch.
4. Lengths: As indicated on Drawings.
5. Application: Transitions between WP-2 and wall surfaces.

2.6 WOOD BENCHES

A. Pedestal-Leg Wood Benches: Reclaimed wood bench top supported by pedestal legs.
1. Basis-of-Design Products: Subject to compliance with requirements, provide the following:
    a. Windfall Architectural Products:
        1) Bench Tops: Reclaimed Douglas Fir Side Grain or Quarter Sawn Douglas Fir sourced from Site.
        2) Pedestal Legs: Lassen.
    b. Approved substitution
2. Bench Tops:
    a. Construction: End grain facing up in parallel strips with randomly staggard butt joints.
    b. Species: Reclaimed Douglas fir.
    c. Size: As indicated on Drawings.
    d. Thickness: 2 inch.
    e. Edges: Straight, with 1/8 inch ease.
    f. Adhesive: Zero VOC wood glue.
    g. Factory Finishing: Finish wood surfaces before delivery to Project site with manufacturer's standard durable clear coat.
3. Metal Pedestal Legs: Two 2 inch square steel tubes with flanges for mounting to bench top.
    a. Mounting Flanges: 5 sq. in. by 1/4 inch thick steel plates with pre-drilled anchor holes welded to tops of steel tubes.
    b. Provide legs with threaded leveling feet at bottom of legs for height adjustment.
    c. Finish: Manufacturer's standard powder-coating.
    d. Color: Black.

4. Bench Height: As indicated on Drawings.

2.7 SHELF STANDARDS AND BRACKETS

A. Heavy-Duty Standards and Brackets: ANSI/BHMA A156.9, Grade 2.
1. Single-Slotted Standards: Surface-mounted, anochrome-plated, cold rolled steel:
a. Products: Subject to compliance with requirements, provide one of the following:
1) Knape & Vogt Mfg. Co.: 87 Series Super-Duty Industrial Grade Standards.
2) McMaster-Carr: 1713A77 Series Single-Slotted Standards.
3) Richelieu: Heavy-Duty Standard, Series #87.
b. Material: Minimum 0.078 inch thick Type 304 or Type 430 stainless steel.
c. Finish: Stainless steel, brushed satin.
d. Dimensions: 7/8 inch wide by 11/16 inch deep.
e. Slot Adjustment: 2 inches on center vertical.
2. Brackets: Heavy-duty steel brackets with molded nylon locking cam that secures bracket to standard.
a. Products: Subject to compliance with requirements, provide one of the following:
1) Knape & Vogt Mfg. Co.: 187 Series Super-Duty Industrial Grade Brackets.
2) McMaster-Carr: 1713A73 Series Shelf Bracket.
3) Richelieu: Series Heavy-Duty Bracket with Lock Lever #187.
4) Approved substitution.
b. Material: Minimum 0.078 inch thick Type 304 or Type 430 stainless steel.
c. Finish: Stainless steel, brushed satin.
d. Weight Capacity: Minimum 450 lbs./pair.
e. Provide manufacturer's compatible shelf rests and rubber cushions for glass shelves.

2.8 MISCELLANEOUS MATERIALS

A. Concealed Panel-Hanger Clips: Z-shaped, extruded aluminum clips that provide straight, secure, horizontal attachments of flush panels to substrate.
1. Manufacturers: Subject to compliance with requirements, provide one of the following:
a. Eagle Aluminum.: EAM-62525-1.5.
b. Mbs Standoffs: ZCP2.
c. McMaster-Carr: Part No. 1201A24.
d. Monarch Metal Inc.: Model MF625.
e. Orange Aluminum: Z-Clip MF625.
f. Approved substitution.
2. Height: 1-7/8 inch.
3. Width: 1-1/2 to 2 inches.
4. Lift Off (Drop): 5/8 inch.
5. Offset: 1/16 inch.
6. Projection: 1/8 to 3/16 inch.

B. Fasteners for Interior Finish Carpentry: Nails, screws, and other anchoring devices of type, size, material, and finish required for application indicated to provide secure attachment, concealed where possible.

C. Glues and Adhesives: Provide glues and adhesives that comply with the following:

D. Glue: Aliphatic-resin, polyurethane, or resorcinol wood glue recommended by manufacturer for general carpentry use.

E. Paneling Adhesive: Comply with paneling manufacturer's written instructions for adhesives.

F. Multipurpose Construction Adhesive: Formulation, complying with ASTM D3498, that is recommended for indicated use by adhesive manufacturer.

2.9 FABRICATION

A. Back out or kerf backs of the following members, except those with ends exposed in finished Work:
   1. Interior standing and running trim, except shoe and crown molds.
   2. Wood board paneling.

B. Eased Edges: Ease edges of lumber to the following radii:
   1. Lumber less than 1 inch in nominal thickness: 1/16 inch.
   2. Lumber 1 inch or more in nominal thickness: 1/8 inch.

2.10 FIELD FINISHING

A. Complete fabrication, including fitting of trim pieces, before finishing.

B. Finish faces and surfaces to be exposed.

C. Stains and fillers may be omitted on unexposed surfaces.

D. Transparent Finish:
   1. ANSI/WDMA I.S. 1A Grade: Custom.
   2. Architectural Woodwork Standards System-11, Polyurethane, Catalyzed.
   3. Staining: As selected by Architect from manufacturer's full range.
   4. Sheen: Satin.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of Work.

B. Examine finish carpentry materials before installation. Reject materials that are wet, moisture damaged, and mold damaged.

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

3.2 PREPARATION

A. Clean substrates of projections and substances detrimental to application.

B. Before installing interior finish carpentry, condition materials to average prevailing humidity in installation areas for a minimum of 24 hours unless longer conditioning is recommended by manufacturer.

3.3 INSTALLATION, GENERAL

A. Do not use materials that are unsound; warped; improperly treated or finished; inadequately seasoned; too small to fabricate with proper jointing arrangements; or with defective surfaces, sizes, or patterns.

B. Install interior finish carpentry level, plumb, true, and aligned with adjacent materials.
   1. Use concealed shims where necessary for alignment.
   2. Scribe and cut interior finish carpentry to fit adjoining Work. Refinish and seal cuts as recommended by manufacturer.
   3. Install to tolerance of 1/8 inch in 96 inches for level and plumb. Install adjoining interior finish carpentry with 1/32 inch maximum offset for flush installation and 1/16 inch maximum offset for reveal installation.

4. Coordinate interior finish carpentry with materials and systems in or adjacent to it. Provide cutouts for mechanical and electrical items that penetrate interior finish carpentry.
5. Where face fastening is unavoidable, countersink fasteners, fill surface flush, and sand unless otherwise indicated.

3.4 INSTALLATION OF INTERIOR TRIM

A. Install trim with minimum number of joints as is practical, using full-length pieces from maximum lengths of lumber available.
1. Do not use pieces less than 24 inches long, except where necessary.
2. Stagger joints in adjacent and related standing and running trim.
3. Miter at returns, miter at outside corners, and cope at inside corners to produce tight-fitting joints with full-surface contact throughout length of joint.
4. Use scarf joints for end-to-end joints.
5. Plane backs of casings to provide uniform thickness across joints where necessary for alignment.
6. Install trim after gypsum-board joint finishing operations are completed.
7. Install without splitting; drill pilot holes before fastening where necessary to prevent splitting.
8. Fasten to prevent movement or warping.
9. Countersink fastener heads on exposed carpentry Work and fill holes.

3.5 INSTALLATION OF ~~WOOD ACCENTS~~ SPECIAL WOOD PANELS (WD-2)

A. Install Special Wood Panels per spacing and clips noted on Interior Details.

B. Contractor to determine best location to start paneling based on installation and signage location on Interior Elevations. Interior corner wall may be preferred starting point.

3.6 INSTALLATION OF PANELING

A. Hardwood Veneer-Faced Paneling: Select and arrange panels on each wall, as approved by Architect, to minimize noticeable variations in grain character and color between adjacent panels.
1. Anchor paneling to supporting substrate with concealed panel-hanger clips.
   a. Do not use face fastening unless covered by trim or otherwise indicated.
2. Leave 1/4 inch gap to be covered with trim at top, bottom, and openings.
3. Install paneling level, plumb, true in line, and without distortion.
   a. Shim as required with concealed shims.
   b. Install level and plumb to a tolerance of 1/8 inch in 96 inches.
   c. Install with no more than 1/16 inch in 96 inch vertical cup or bow and 1/8 inch in 96 inch horizontal variation from a true plane.
   d. For flush paneling with revealed joints, install with variations in reveal width, alignment of top and bottom edges, and flushness between adjacent panels not exceeding 1/32 inch.
4. Complete finishing Work specified in this Section to extent not completed at shop or before installation of paneling. Fill nail holes with matching filler where exposed.
   a. Apply specified finish coats, including stains and paste fillers if any, to exposed surfaces where only sealer/prime coats are shop applied.

3.7 INSTALLATION OF SHELF STANDARDS AND BRACKETS

A. Install standards for adjustable shelf supports according to manufacturer's written instructions. Fasten to framing members, blocking, or metal backing, or use toggle bolts or hollow wall anchors.
1. Space standards not more than 32 inches on center.
2. Space fasteners not more than 12 inches on center.

B. Cut shelves to neatly fit openings with only enough gap to allow shelves to be removed and reinstalled.

1. Install shelves, fully seated on shelf supports.

3.8 ADJUSTING

A. Replace interior finish carpentry that is damaged or does not comply with requirements.
   1. Interior finish carpentry may be repaired or refinished if Work complies with requirements and shows no evidence of repair or refinishing.

B. Adjust joinery for uniform appearance.

3.9 CLEANING

A. Clean interior finish carpentry on exposed and semiexposed surfaces.

B. Restore damaged or soiled areas and touch up factory-applied finishes if any.

3.10 PROTECTION

A. Protect installed products from damage from weather and other causes during construction.

B. Remove and replace finish carpentry materials that are wet, moisture damaged, and mold damaged.

END OF SECTION 062023

SECTION 087100

DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Mechanical door hardware for the following:
a. Swinging doors.
b. Sliding doors.
c. Folding doors.
2. Cylinders for door hardware specified in other Sections.
3. Electrified door hardware.

1.2 SUBMITTALS

A. Product Data: Submit manufacturer's parts lists, templates and installation instructions indicating special procedures and perimeter conditions requiring special attention.

B. Shop Drawings: Indicate locations and mounting heights of each type of hardware and electrical characteristics and connection requirements.

C. Samples:
1. To be furnished only upon request and prior to submittals of the last draft of Hardware Schedule and prior to delivery of hardware.
2. Submit one sample of each exposed hardware unit, finished as required, and tagged with full description for coordination with the schedule.
3. Sample will be reviewed by the Architect for design, color and texture only. Compliance with other requirements is the exclusive responsibility of the Contractor.
4. Samples to be returned to the supplier. Units which are acceptable and remain undamaged through submittal, review, and field comparison procedures may, after final check of operation, be used in Work.

D. Hardware Schedule:
1. Submit 5 copies of the final hardware schedule in manner indicated below. Coordinate hardware with doors, frames and related Work to ensure proper size, thickness, hand, function and finish of hardware.
2. Hardware schedule is intended for coordination of Work. Review and acceptance by the Architect does not relieve the Contractor of his exclusive responsibility to fulfill the requirements as shown and specified.
3. Organization: Organize Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in Door Hardware Schedule at end of Part 3. Submittals that do not follow the same format and order as door hardware sets will be rejected and subject to resubmission.
4. Hardware schedules prepared in the horizontal manner are not acceptable. Doors listed for the same hardware, but of different sizes shall be listed under separate headings.

E. Electrical Wiring Diagrams:
1. Submit 5 copies of the proposed wiring diagrams. Wiring diagrams shall include elevations of each opening, placement of each electrified hardware item and point to point wiring of each item. These diagrams shall accompany the hardware submittal.

F. Supplier Qualifications:
1. Furnish documentation showing factory direct status with approved manufacturers.
2. Furnish documentation showing Architectural Hardware Consultant certification.

G. Contract Closeout Documents:
1. Project Record Documents: Record actual locations of installed cylinders and their master key code.
2. Maintenance Data and Installation Instructions: Include templates and data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance for each type of hardware installed and templates.
3. All factory order numbers and dates shall be provided to the Owner for warranty purposes.

1.3 TEMPLATE HARDWARE

A. Install hardware to surfaces in accordance with template list.

1.4 QUALITY ASSURANCE

A. Hardware Supplier Qualifications: Industry-recognized commercial door hardware supplier that maintains and operates an office and stocking warehouse in Project area for at least 5 years, which is not more than 1/2 day of travel from Project site, and can document experience with projects of similar type and scale.
1. Consulting services include overseeing scheduling, coordinating of hardware, establishing keying schedule, and being available during construction to consult with Contractor, Architect, and Owner about mechanical and electrical door hardware specified.

1.5 REGULATORY REQUIREMENTS

A. Conform to applicable code for requirements applicable to fire-rated doors and frames.

B. Products Requiring Electrical Connection: Listed and classified by Underwriters' Laboratories, Inc., as suitable for the purpose specified and indicated.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Package hardware items individually; label and identify each package with door opening code to match hardware schedule. Packaging of hardware is responsibility of supplier.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Door hardware of equivalent quality, size, type, finish, and function to that specified will be considered as an acceptable substitution, except for products that have been standardized by the Owner. Requested substitutions must be submitted prior to bid.

Products	Specified Manufacturers	Acceptable Substitute Manufacturers
Hinges	Ives (IVE)	McKinney, Stanley
Power Transfers	Von Duprin (VON)	Securitron CEPT
Flushbolts/Coordinators	Ives (IVE)	DCI, Trimco
Locksets	Schlage (SCH)	None- Owner Standard
Panic Hardware	Von Duprin (VON)	None- Owner Standard
Cylinders	Schlage (SCH)	None- Owner Standard
Push/Pulls	Ives (IVE)	Rockwood, Tice, Trimco
Overhead Stops	Glynn Johnson (GLY)	DCI, Rixson

Closers	LCN (LCN)	None- Owner Standard
Auto Operators	LCN (LCN)	None- Owner Standard
Actuators	LCN (LCN)	Wikk
Kickplates	Ives (IVE)	Rockwood, Tice, Trimco
Door Stops	Ives (IVE)	Rockwood, Trimco
Seals/Sweeps/Door Bottoms/ Thresholds:	Zero (ZER)	Pemko, NGP
Power Supplies:	Schlage Elec (SCE)	None- Owner Standard
	Von Duprin (VON)	None- Owner Standard

2.2 PERFORMANCE CRITERIA

A. Fire-Rated Door Assemblies: Where fire-rated door assemblies are indicated, provide door hardware rated for use in assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure per NFPA 252 or UL 10C, unless otherwise indicated.

B. Alarmed Exits: Where emergency exit devices are required on fire-rated doors (with supplementary marking on doors' UL or FM labels indicating "Fire Door to be Equipped with Fire Exit Hardware"), provide UL or FM label on exit devices indicating "Fire Exit Hardware".

C. Electrified Door Hardware: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction.

D. Means of Egress Doors: Latches do not require more than 15 lbf. to release latch. Locks do not require use of a key, tool, or special knowledge for operation.

E. Accessibility Requirements: For door hardware on doors in an accessible route, comply with current edition of Washington State Building Code, DOJ's "2010 ADA Standards for Accessible Design" and ICC A117.1.

2.3 HARDWARE FINISHES

A. Match finish of each hardware unit of each door or opening, to greatest extent possible, and except as otherwise indicated. In general, match items to manufacturer's standard finish for latch and lock set for color and texture.

B. The Architect will decide whether hardware units match accepted samples and match each other satisfactorily. Units will be judged when held 2 feet apart at a 3-foot distance.

C. Unless indicated otherwise, door hardware items shall be furnished in the following finishes:
1. Latches and Lock Sets: 626
2. Butt Hinges: 652/630.
3. Surface-Type Door Closers: 689.
4. Miscellaneous Hardware: 630/689/AL.

2.4 MATERIALS AND FABRICATION

A. Hand of Door: Drawings show direction of slide, swing or hand of each door leaf. Furnish each item of hardware for proper installation and operation of door movement as shown.

B. Furnish screws for installation, with each hardware item. Provide Phillips flat-head screws except as otherwise indicated. Finish screws to match the hardware finish, or if exposed in surfaces of other Work, to match the finish of such other Work as closely as possible, except as otherwise indicated.

C. Provide concealed fasteners for hardware units which are exposed when the door is closed, except to the extent no standard manufactured units of the type specified are available with concealed fasteners. Through bolting not allowed unless screw or bolt heads are concealed.

D. Provide fasteners which are compatible with both the unit fastened and the substrate, and which will not cause corrosion or deterioration of hardware, base material or fastener.

E. Manufacturer's Name Plate: Manufacturer’s identification will be permitted on rim of lock cylinders only or on edges of door.

2.5 DOOR TRIM UNITS

A. Fasteners: Provide manufacturer's standard exposed fasteners for door trim units (edge trim, viewers, knockers, mail drops and similar units); either machine screws or self-tapping screw.

2.6 HINGES/BUTTS

A. Templates: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template-produced units.

B. Screws: Furnish Phillips flat-head or machine screws for installation of units, except furnish Phillips flat-head or wood screws for installation of units into wood. Finish screw heads to match surface of hinges or pivots.

C. Width of butts shall be as required to clear projection trim. In no case shall barrel of butts project more than required by conditions of installation.

D. Butts shall be fully mortised.

E. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
1. Steel Hinges: Steel pins.
2. Non-ferrous Hinges: Stainless steel pins.
3. Exterior Doors: Non-removable pins.
4. Interior Doors: Non-rising pins.
5. Tips: Flat button and matching plug, finished to match leaves [except where hospital top (HT) indicated].

F. Number of Hinges: Provide number of hinges indicated but not less than 3 hinges per door leaf for doors 90 inches or less in height and one additional hinge for each 30 inches of additional height.

2.7 DOOR STOPS AND HOLDERS

A. Provide door stops and holders of the type indicated by catalog number in the hardware groups.

B. Door holders shall have the maximum degree of hold-open or stop as to prevent damage to other hardware, doors, or walls.

C. Holders shall be of the proper size and operation to suit the individual door design and swing.

2.8 DOOR SILENCERS

A. Provide rubber door silencers for all door frames at openings having single-acting doors in wood or pressed steel frames that are not gasketed.

B. Provide three silencers for single doors and four silencers for each pair of doors.

2.9 KEYING

A. Provide a construction key system with 10 keys. Plastic cores are not acceptable.

B. Key into Owner's existing Schlage master key system.

C. Coordinate keying requirements, keyway, and final key quantities with Owner. Meet with Owner to establish requirements. Produce a written keying schedule for Owner approval within 10 days of meeting.

D. Install final cylinders at substantial completion and when directed by Owner.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that doors and frames are ready to receive Work and dimensions are as indicated on Shop Drawings.

B. Verify that electric power is available to power operated devices and of the correct characteristics.

3.2 INSTALLATION

A. Install each hardware item in accordance with manufacturer's instructions and recommendations.

B. Where cutting and fitting is necessary to install hardware, which is later to be painted or finished in another way, install each item completely and then remove and store in a secure place during the finish application. After completion of the finishes, reinstall each item. Do not install surface-mounted items until finishes have been completed.

C. Hardware Mounting Heights from Finished Floor to Centerline of Hardware Item:
1. Comply with Curries standard hollow metal frame hardware locations.
2. Other hardware shall be installed as recommended by manufacturer.

3.3 FIELD QUALITY CONTROL

A. Field inspection and testing will be performed under provisions of Section 01400, Quality Control.

B. Architect's Architectural Hardware Consultant to inspect and certify that hardware and installation has been furnished and installed in accordance with manufacturer's instructions and as specified.

3.4 ADJUSTING AND CLEANING

A. Adjust and check each operating item of hardware and each door, to ensure proper operation or function of every unit.

B. Lubricate moving parts with type of lubrication recommended by manufacturer (silicone-type spray if no other recommended.)

C. Replace units which cannot be adjusted and lubricated to operate freely and smoothly as intended for the application made.

D. Where hardware installation is made more than one month prior to acceptance or occupancy of a space or area, return to the Work during the week prior to acceptance or occupancy, and make a final check and adjustment of all hardware and doors. Door control devices to be adjusted to compensate for final operation of heating and ventilating equipment.

3.5 DOOR HARDWARE SCHEDULE, SETS

HARDWARE GROUP NO. 01

D109A D110A D110B D157A D157B D158A
D158B D159A

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
1	EA	POWER TRANSFER	EPT10 CON		689	VON
1	EA	EU MORTISE LOCK	L9092TEU 03B RX CON 12/24 VDC		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	DELAYED CLOSER	4040XP RW/PA		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	WIRE HARNESS	CON-44P (FROM EPT TO ELEC. HARDWARE)			SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)			SCH
1			BALANCE OF HARDWARE BY DOOR MANUFACTURER			
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28			

THE CAM LIFT HINGES FROM THE SOUND DOOR MANUFACTURER REQUIRE A 4040XP WITH A RW/PA SHOE (THE ARM MUST FLEX)

HARDWARE GROUP NO. 02

D009 D142B

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	POWER TRANSFER	EPT10 CON		689	VON
1	EA	EU MORTISE LOCK	L9092TEU 03B RX CON 12/24 VDC		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	SURFACE CLOSER	4011 WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX		630	IVE
3	EA	SILENCER	SR64		GRY	IVE
1	EA	WIRE HARNESS	CON-44P (FROM EPT TO ELEC. HARDWARE)			SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)			SCH
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28			

HARDWARE GROUP NO. 03

D008A D045 D105A D105D D143 D206
D207 D217

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	STOREROOM LOCK	L9080T 03B		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	WALL STOP	WS406/407CVX		630	IVE
3	EA	SILENCER	SR64		GRY	IVE

HARDWARE GROUP NO. 04

D021D D022B D150

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	PRIVACY W/INDICATOR	L9056T 03B L583-363 L283-722		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	SURFACE CLOSER	4011 WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX		630	IVE
1	EA	GASKETING	488SBK PSA (FOR SOUND)		BK	ZER

HARDWARE GROUP NO. 05

D113

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP		652	IVE
1	EA	STOREROOM LOCK	L9080T 03B		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	CLOSER W/STOP ARM	4111 SCUSH WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
3	EA	SILENCER	SR64		GRY	IVE

HARDWARE GROUP NO. 06

D115

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP		652	IVE
1	EA	OFFICE W/SIM RETRACT	L9056T 03B L583-363		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	SURFACE CLOSER	4111 EDA WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX		630	IVE
3	EA	SILENCER	SR64		GRY	IVE

HARDWARE GROUP NO. 07

D016A D106 D114 D129A D129B D140 D156

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP		652	IVE
1	EA	POWER TRANSFER	EPT10 CON		689	VON
1	EA	EU MORTISE LOCK	L9092TEU 03B RX CON 12/24 VDC		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	SURFACE CLOSER	4111 EDA WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX		630	IVE
3	EA	SILENCER	SR64		GRY	IVE
1	EA	WIRE HARNESS	CON-44P (FROM EPT TO ELEC. HARDWARE)			SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)			SCH
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28			

HARDWARE GROUP NO. 08

D017

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	PASSAGE SET	L9010 03B		626	SCH
1	EA	CLOSER W/STOP ARM	4111 CUSH WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
3	EA	SILENCER	SR64		GRY	IVE

HARDWARE GROUP NO. 09

D109B

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
1	EA	POWER TRANSFER	EPT10 CON		689	VON
1	EA	EU MORTISE LOCK	L9095TEU 03B CON 12/24 VDC		626	SCH
2	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	DELAYED CLOSER	4040XP RW/PA		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX		630	IVE
1	EA	WIRE HARNESS	CON-44P (FROM EPT TO ELEC. HARDWARE)			SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)			SCH
1			BALANCE OF HARDWARE BY DOOR MANUFACTURER			
2	EA	ACCESS CONTROL	PROVIDED BY DIV 28			

THE CAM LIFT HINGES FROM THE SOUND DOOR MANUFACTURER REQUIRE A 4040XP WITH A RW/PA SHOE (THE ARM MUST FLEX)

HARDWARE GROUP NO. 10

D020A

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
6	EA	HINGE	5BB1 4.5 X 4.5 NRP		652	IVE
1	EA	CONST LATCHING BOLT	FB51P		630	IVE
1	EA	DUST PROOF STRIKE	DP2		626	IVE
1	EA	STOREROOM LOCK	L9080T 03B		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
2	EA	OH STOP & HOLDER	90F		630	GLY
1	EA	ASTRAGAL	43SP		SP	ZER
1	EA	THRESHOLD	548A-223		A	ZER
2	EA	SILENCER	SR64		GRY	IVE

VERIFY PROPER THRESHOLD DEPTH WITH SITE CONDITIONS BEFORE ORDERING.

HARDWARE GROUP NO. 11

D021 D022 D188 D189 D204 D205

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5		652	IVE
1	EA	PUSH PLATE	8200 4" X 16"		626	IVE
1	EA	PULL PLATE	8302 8" 4" X 16" G		630	IVE
1	EA	SURFACE CLOSER	4111 EDA WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	FLOOR STOP	FS436		626	IVE
3	EA	SILENCER	SR64		GRY	IVE

HARDWARE GROUP NO. 12

D118 D130 D174

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	PASSAGE SET	L9010 03B		626	SCH
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	SET	SOUND GASKETING	870AA-S		AA	ZER
1	EA	SEMI-MORTISE AUTO DR BTM	362AA		AA	ZER
1	EA	THRESHOLD	564A-223		A	ZER

HARDWARE GROUP NO. 13

D021B D021C D022C D022D D057

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	PRIVACY W/INDICATOR	L9056T 03B L583-363 L283-722		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	CLOSER W/STOP ARM	4111 SCUSH WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	GASKETING	488SBK PSA (FOR SOUND)		BK	ZER

HARDWARE GROUP NO. 14

D186A

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	PASSAGE SET	L9010 03B		626	SCH
1	EA	WALL STOP	WS406/407CVX		630	IVE
3	EA	SILENCER	SR64		GRY	IVE

HARDWARE GROUP NO. 15

D039	D040	D105C	D134	D136	D152
D170	D172	D185	D210		

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5			652	IVE
1	EA	POWER TRANSFER	EPT10 CON			689	VON
1	EA	EU MORTISE LOCK	L9092TEU 03B RX CON 12/24 VDC			626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)			626	SCH
1	EA	SURFACE CLOSER	4011 WMS			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	WALL STOP	WS406/407CVX			630	IVE
3	EA	SILENCER	SR64			GRY	IVE
1	EA	WIRE HARNESS	CON-44P (FROM EPT TO ELEC. HARDWARE)				SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)				SCH
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28				

HARDWARE GROUP NO. 16

D043A	D043B

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 5 X 4.5 NRP		652	IVE
1	EA	CLASSROOM LOCK	L9070T 03B		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	SURFACE CLOSER	4111 EDA WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX		630	IVE
3	EA	SILENCER	SR64		GRY	IVE

HARDWARE GROUP NO. 17

D046A

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1HW 5 X 4.5 NRP			652	IVE
1	EA	POWER TRANSFER	EPT10 CON			689	VON
1	EA	EU MORTISE LOCK	L9095TEU 03B RX CON 12/24 VDC			626	SCH
2	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)			626	SCH
1	EA	CLOSER W/STOP ARM	4111 SCUSH WMS			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
3	EA	SILENCER	SR64			GRY	IVE
1	EA	WIRE HARNESS	CON-50P (FROM EPT TO ELEC. HARDWARE)				SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)				SCH
2	EA	ACCESS CONTROL	PROVIDED BY DIV 28				

HARDWARE GROUP NO. 18

D046

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1HW 5 X 4.5 NRP			652	IVE
1	EA	POWER TRANSFER	EPT10 CON			689	VON
1	EA	EU MORTISE LOCK	L9092TEU 03B RX CON 12/24 VDC			626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)			626	SCH
1	EA	SURFACE CLOSER	4111 EDA WMS			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	WALL STOP	WS406/407CVX			630	IVE
1	SET	SOUND GASKETING	870AA-S			AA	ZER
1	EA	MOUNTING BRACKET	870SPB				ZER
1	EA	WIRE HARNESS	CON-50P (FROM EPT TO ELEC. HARDWARE)				SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)				SCH
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28				

MOUNT SOUND SEALS, BRACKET AND THEN DOOR CLOSER.

HARDWARE GROUP NO. 19

D048

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		652	IVE
1	EA	POWER TRANSFER	EPT10 CON		689	VON
1	EA	AUTO FLUSH BOLT	FB31P		630	IVE
1	EA	DUST PROOF STRIKE	DP2		626	IVE
1	EA	EU MORTISE LOCK	L9095TEU 03B CON 12/24 VDC		626	SCH
2	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	COORDINATOR	COR X FL		628	IVE
2	EA	MOUNTING BRACKET	MB		689	IVE
2	EA	SURFACE CLOSER	4111 EDA WMS		689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
2	EA	WALL STOP	WS406/407CVX		630	IVE
1	EA	GASKETING	488SBK PSA (HEAD, JAMBS & ASTRAGAL)		BK	ZER
1	EA	ASTRAGAL	43SP		SP	ZER
1	EA	WIRE HARNESS	CON-44P (FROM EPT TO ELEC. HARDWARE)			SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)			SCH
2	EA	ACCESS CONTROL	PROVIDED BY DIV 28			

HARDWARE GROUP NO. 20

D047

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 5 X 4.5 NRP		652	IVE
1	EA	POWER TRANSFER	EPT10 CON		689	VON
1	EA	EU MORTISE LOCK	L9095TEU 03B CON 12/24 VDC		626	SCH
2	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	SURFACE CLOSER	4011 WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX		630	IVE
1	EA	GASKETING	488SBK PSA		BK	ZER
1	EA	WIRE HARNESS	CON-50P (FROM EPT TO ELEC. HARDWARE)			SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)			SCH
2	EA	ACCESS CONTROL	PROVIDED BY DIV 28			

HARDWARE GROUP NO. 21

D105

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	PANIC HARDWARE	LD-9827-EO-LBR	626	VON
1	EA	PANIC HARDWARE	LD-9827-L-LBR-03	626	VON
1	EA	RIM CYLINDER	20-057 ICX	626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)	626	SCH
2	EA	SURFACE CLOSER	4111 EDA WMS	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	GASKETING	188SBK PSA (FOR SOUND)	BK	ZER
2	EA	MEETING STILE SOUND SEAL	555AA	AA	ZER

HARDWARE GROUP NO. 22

D126

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5		652	IVE
1	EA	PUSH PLATE	8200 4" X 16"		626	IVE
1	EA	PULL PLATE	8302 8" 4" X 16" G		630	IVE
1	EA	SURFACE CLOSER	4011 WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	FLOOR STOP	FS436		626	IVE
1	SET	SOUND GASKETING	870AA-S		AA	ZER

HARDWARE GROUP NO. 23

D011

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		652	IVE
1	EA	POWER TRANSFER	EPT10 CON		689	VON
1	EA	EU MORTISE LOCK	L9092TEU 03B RX CON 12/24 VDC		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	CLOSER W/STOP ARM	4111 SCUSH WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	GASKETING	488SBK PSA (FOR SOUND)		BK	ZER
1	EA	WIRE HARNESS	CON-44P (FROM EPT TO ELEC. HARDWARE)			SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)			SCH
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28			

HARDWARE GROUP NO. 24

D126B

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
4	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	PRIVACY W/INDICATOR	L9056T 03B L583-363 L283-722		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	CLOSER W/STOP ARM	4111 SCUSH WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	GASKETING	488SBK PSA (FOR SOUND)		BK	ZER

HARDWARE GROUP NO. 25

D111A D111B

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		652	IVE
1	EA	POWER TRANSFER	EPT10 CON	✓	689	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-98-NL-OP-110MD-CON 24 VDC	✓	626	VON
1	EA	RIM CYLINDER	20-057 ICX		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	LONG DOOR PULL	9264F 36" O		630-316	IVE
1	EA	SURF. AUTO OPERATOR	4642 WMS 120 VAC	✓	689	LCN
2	EA	ACTUATOR, TOUCHLESS	8310-813J	✓	BLK	LCN
1	EA	FLOOR STOP	FS436		626	IVE
1	SET	WEATHER STRIPPING	PROVIDED BY DOOR/FRAME MANUFACTURER			
1	EA	WIRE HARNESS	CON-44P (FROM EPT TO ELEC. HARDWARE)	✓		SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)	✓		SCH
1	EA	PUSH BUTTON	623GR 12/24 VDC	✓	630	SCE
1	EA	POWER SUPPLY	PS902 900-2RS 120/240 VAC	✓		VON
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28			

AUTO OPERATOR AND POWER SUPPLY REQUIRE 120VAC. MOUNT REMOTE RELEASE PUSH BUTTONS FOR EACH DOOR AT RECEPTION DESK.

HARDWARE GROUP NO. 26

D116 D119

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	STOREROOM LOCK	L9080T 03B		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	OH STOP	90S		630	GLY
3	EA	SILENCER	SR64		GRY	IVE

HARDWARE GROUP NO. 27

D182

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5		652	IVE
1	EA	PASSAGE SET	L9010 03B		626	SCH
1	EA	DELAYED EGRESS MAG	M490DE 12/24 VDC	✓	628	SCE
1	EA	SURFACE CLOSER	4111 EDA WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX		630	IVE
1	EA	GASKETING	488SBK PSA (FOR SOUND)		BK	ZER
1	EA	EXIT BUTTON	623GIDEX DA 12/24 VDC	✓	630	SCE
1	EA	POWER SUPPLY	PS902 900-2RS 120/240 VAC	✓		VON
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28			

MOUNT PUSH TO EXIT BUTTON ON PULL SIDE OF DOOR (OPPOSITE SIDE FROM CARD READER). POWER SUPPLY REQUIRES 120VAC. DELAYED EGRESS MAGNETIC LOCK REQUIRES 24V FROM POWER SUPPLY, NORMALLY CLOSED FIRE ALARM, EXIT BUTTON AND ACCESS CONTROL INPUT.

HARDWARE GROUP NO. 28

D118A

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP		652	IVE
1	EA	OFFICE W/SIM RETRACT	L9056T 03B L583-363		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	WALL STOP	WS406/407CVX		630	IVE
1	EA	GASKETING	488SBK PSA (FOR SOUND)		BK	ZER

HARDWARE GROUP NO. 29

D126C

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
4	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	PRIVACY W/INDICATOR	L9056T 03B L583-363 L283-722		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	SURFACE CLOSER	4011 WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX		630	IVE
1	SET	SOUND GASKETING	870AA-S		AA	ZER

HARDWARE GROUP NO. 30

D126A

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
4	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	PRIVACY W/INDICATOR	L9056T 03B L583-363 L283-722		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	SURFACE CLOSER	4111 EDA WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX		630	IVE
1	EA	GASKETING	488SBK PSA (FOR SOUND)		BK	ZER

HARDWARE GROUP NO. 31

D169

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	PASSAGE SET	L9010 03B		626	SCH
1	EA	WALL STOP	WS406/407CVX		630	IVE
1	SET	SOUND GASKETING	870AA-S		AA	ZER

HARDWARE GROUP NO. 32

D142A

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP		652	IVE
1	EA	POWER TRANSFER	EPT10 CON		689	VON
1	EA	EU MORTISE LOCK	L9092TEU 03B RX CON 12/24 VDC		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	SURFACE CLOSER	4011 WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX		630	IVE
1	EA	GASKETING	488SBK PSA (FOR SOUND)		BK	ZER
1	EA	WIRE HARNESS	CON-44P (FROM EPT TO ELEC. HARDWARE)			SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)			SCH
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28			

HARDWARE GROUP NO. 33

D180

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	PASSAGE SET	L9010 03B	626	SCH
1	EA	CLOSER W/STOP ARM	4111 SCUSH WMS	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	SET	SOUND GASKETING	870AA-S	AA	ZER
1	EA	SEMI-MORTISE AUTO DR BTM	362AA	AA	ZER
1	EA	THRESHOLD	564A-223	A	ZER
1	EA	MOUNTING BRACKET	870SPB		ZER

MOUNT SOUND SEALS, BRACKET AND THEN DOOR CLOSER.

HARDWARE GROUP NO. 34

D184A

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP		652	IVE
1	EA	POWER TRANSFER	EPT10 CON		689	VON
1	EA	EU MORTISE LOCK	L9092TEU 03B RX CON 12/24 VDC		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	SURFACE CLOSER	4011 WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX		630	IVE
1	SET	SOUND GASKETING	870AA-S		AA	ZER
1	EA	WIRE HARNESS	CON-44P (FROM EPT TO ELEC. HARDWARE)			SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)			SCH
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28			

HARDWARE GROUP NO. 35

D190

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	L9080T 03B	626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)	626	SCH
1	EA	SURFACE CLOSER	4011 WMS	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 36

D107 D186 D216

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP		652	IVE
1	EA	POWER TRANSFER	EPT10 CON		689	VON
1	EA	EU MORTISE LOCK	L9092TEU 03B RX CON 12/24 VDC		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	SURFACE CLOSER	4111 EDA WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX		630	IVE
3	EA	SILENCER	SR64		GRY	IVE
1	EA	WIRE HARNESS	CON-44P (FROM EPT TO ELEC. HARDWARE)			SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)			SCH
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28			

HARDWARE GROUP NO. 37

ED193

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	CONST LATCHING BOLT	FB51P	630	IVE
1	EA	DUST PROOF STRIKE	DP1	626	IVE
1	EA	STOREROOM LOCK	L9080T 03B	626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)	626	SCH
1	EA	COORDINATOR	COR X FL	628	IVE
2	EA	MOUNTING BRACKET	MB	689	IVE
2	EA	CLOSER W/STOP ARM	4111 SCUSH WMS	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	RAIN DRIP	142AA	AA	ZER
1	EA	GASKETING	188SBK PSA	BK	ZER
1	EA	GASKETING	488SBK PSA (APPLY TO ASTRAGAL)	BK	ZER
1	EA	ASTRAGAL	43STST	STST	ZER
2	EA	DOOR SWEEP	8197AA	AA	ZER
1	EA	THERMAL BREAK THRESHOLD	626A-223	A	ZER

HARDWARE GROUP NO. 38

ED005

PROVIDE EACH SL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
1	EA	MORTISE CYLINDER	20-061 36-083		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1			BALANCE OF HARDWARE BY DOOR MANUFACTURER			
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28			

COORDINATE CYLINDER TYPE WITH DOOR MANUFACTURER/SUPPLIER.

HARDWARE GROUP NO. 39

D005 D105H D221C D221D D221E D221F

PROVIDE EACH SL DOOR(S) WITH THE FOLLOWING:

QTY	DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1		HARDWARE BY DOOR MANUFACTURER		

HARDWARE GROUP NO. 40

ED016A ED061

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		630	IVE
1	EA	CONST LATCHING BOLT	FB51P 24"		630	IVE
1	EA	DUST PROOF STRIKE	DP1		626	IVE
1	EA	STOREROOM LOCK	L9080T 03B		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	COORDINATOR	COR X FL		628	IVE
2	EA	MOUNTING BRACKET	MB		689	IVE
2	EA	CLOSER W/STOP & HOLD	4111 SHCUSH WMS		689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	RAIN DRIP	142AA		AA	ZER
1	EA	GASKETING	188SBK PSA		BK	ZER
1	EA	GASKETING	488SBK PSA (APPLY TO ASTRAGAL)		BK	ZER
1	EA	ASTRAGAL	43STST		STST	ZER
2	EA	DOOR SWEEP	8197AA		AA	ZER
1	EA	THERMAL BREAK THRESHOLD	626A-223		A	ZER

HARDWARE GROUP NO. 41

ED017 ED020B ED020C ED048B ED211

PROVIDE EACH RU DOOR(S) WITH THE FOLLOWING:

QTY	DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1		HARDWARE BY DOOR MANUFACTURER		

HARDWARE GROUP NO. 42

ED017A

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		630	IVE
1	EA	POWER TRANSFER	EPT10 CON		689	VON
1	EA	EU MORTISE LOCK	L9092TEU 03B RX CON 12/24 VDC		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	LOCK GUARD	LG10		630	IVE
1	EA	CLOSER W/STOP ARM	4111 SCUSH WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	RAIN DRIP	142AA		AA	ZER
1	EA	GASKETING	188SBK PSA		BK	ZER
1	EA	DOOR SWEEP	8197AA		AA	ZER
1	EA	THERMAL BREAK THRESHOLD	626A-223		A	ZER
1	EA	WIRE HARNESS	CON-44P (FROM EPT TO ELEC. HARDWARE)			SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)			SCH
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28			

HARDWARE GROUP NO. 43

ED018

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP			630	IVE
1	EA	POWER TRANSFER	EPT10 CON			689	VON
1	EA	CONST LATCHING BOLT	FB51P			630	IVE
1	EA	DUST PROOF STRIKE	DP1			626	IVE
1	EA	EU MORTISE LOCK	L9092TEU 03B RX CON 12/24 VDC			626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)			626	SCH
1	EA	COORDINATOR	COR X FL			628	IVE
2	EA	MOUNTING BRACKET	MB			689	IVE
2	EA	CLOSER W/STOP ARM	4111 SCUSH WMS			689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS			630	IVE
1	EA	RAIN DRIP	142AA			AA	ZER
1	EA	GASKETING	188SBK PSA			BK	ZER
1	EA	GASKETING	488SBK PSA (APPLY TO ASTRAGAL)			BK	ZER
1	EA	ASTRAGAL	43STST			STST	ZER
2	EA	DOOR SWEEP	8197AA			AA	ZER
1	EA	THERMAL BREAK THRESHOLD	626A-223			A	ZER
1	EA	WIRE HARNESS	CON-44P (FROM EPT TO ELEC. HARDWARE)				SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)				SCH
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28				

HARDWARE GROUP NO. 44

ED003 ED105

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		630	IVE
1	EA	PANIC HARDWARE	LD-98-EO-1439		626	VON
1	EA	CLOSER W/STOP ARM	4111 SCUSH WMS		689	LCN
1	EA	CUSH SHOE SUPPORT	4110-30 SRT		689	LCN
1	EA	BLADE STOP SPACER	4110-61 SRT		689	LCN
1	SET	WEATHER STRIPPING	PROVIDED BY DOOR/FRAME MANUFACTURER			
1	EA	DOOR SWEEP	8197AA		AA	ZER
1	EA	THERMAL BREAK THRESHOLD	626A-223		A	ZER

EXIT ONLY

HARDWARE GROUP NO. 45

ED048A

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 5 X 4.5 NRP		630	IVE
1	EA	EU MORTISE LOCK	L9092TEU 03B RX CON 12/24 VDC	↯	626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	LOCK GUARD	LG10		630	IVE
1	EA	CLOSER W/STOP ARM	4111 SCUSH WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	RAIN DRIP	142AA		AA	ZER
1	EA	GASKETING	188SBK PSA		BK	ZER
1	EA	DOOR SWEEP	8197AA		AA	ZER
1	EA	THERMAL BREAK THRESHOLD	626A-223		A	ZER
1	EA	WIRE HARNESS	CON-50P (FROM EPT TO ELEC. HARDWARE)	↯		SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)	↯		SCH
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28			

HARDWARE GROUP NO. 46

ED049

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		630	IVE
1	EA	KEY REMOVABLE MULLION	KR4954 STAB		689	VON
1	EA	PANIC HARDWARE	LD-98-EO		626	VON
1	EA	PANIC HARDWARE	LD-98-NL		626	VON
1	EA	RIM CYLINDER	20-057 ICX		626	SCH
1	EA	MORTISE CYLINDER	20-061 36-083		626	SCH
2	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
2	EA	CLOSER W/STOP ARM	4111 SCUSH WMS		689	LCN
2	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	RAIN DRIP	142AA		AA	ZER
1	EA	GASKETING	188SBK PSA		BK	ZER
1	EA	MULLION SEAL	8780NBK PSA		BK	ZER
2	EA	DOOR SWEEP	8197AA		AA	ZER
1	EA	THERMAL BREAK THRESHOLD	626A-223		A	ZER

HARDWARE GROUP NO. 47

ED050

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1HW 5 X 4.5 NRP			630	IVE
1	EA	POWER TRANSFER	EPT10 CON		✓	689	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-98-NL-CON 24 VDC		✓	626	VON
1	EA	RIM CYLINDER	20-057 ICX			626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)			626	SCH
1	EA	OH STOP	100S ADJ			630	GLY
1	EA	SURF. AUTO OPERATOR	4642 WMS 120 VAC		✓	689	LCN
2	EA	ACTUATOR, TOUCHLESS	8310-813J		✓	BLK	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	RAIN DRIP	142AA			AA	ZER
1	EA	GASKETING	188SBK PSA			BK	ZER
1	EA	DOOR SWEEP	8197AA			AA	ZER
1	EA	THERMAL BREAK THRESHOLD	626A-223			A	ZER
1	EA	WIRE HARNESS	CON-32P		✓		SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)		✓		SCH
1	EA	POWER SUPPLY	PS902 900-2RS 120/240 VAC		✓		VON
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28				

POWER SUPPLY & AUTO OPERATOR REQUIRES 120VAC.

HARDWARE GROUP NO. 48

ED060C

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		630	IVE
1	EA	POWER TRANSFER	EPT10 CON		689	VON
1	EA	EU MORTISE LOCK	L9095TEU 03B CON 12/24 VDC		626	SCH
2	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	LOCK GUARD	LG10		630	IVE
1	EA	CLOSER W/STOP ARM	4111 SCUSH WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	RAIN DRIP	142AA		AA	ZER
1	EA	GASKETING	188SBK PSA		BK	ZER
1	EA	DOOR SWEEP	8197AA		AA	ZER
1	EA	THERMAL BREAK THRESHOLD	626A-223		A	ZER
1	EA	WIRE HARNESS	CON-44P (FROM EPT TO ELEC. HARDWARE)			SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)			SCH
2	EA	ACCESS CONTROL	PROVIDED BY DIV 28			

HARDWARE GROUP NO. 49

ED020A

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP			630	IVE
1	EA	POWER TRANSFER	EPT10 CON			689	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-98-NL-CON 24 VDC			626	VON
1	EA	RIM CYLINDER	20-057 ICX			626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)			626	SCH
1	EA	CLOSER W/STOP ARM	4111 SCUSH WMS			689	LCN
1	EA	CUSH SHOE SUPPORT	4110-30 SRT			689	LCN
1	EA	BLADE STOP SPACER	4110-61 SRT			689	LCN
1	EA	RAIN DRIP	142AA			AA	ZER
1	SET	WEATHER STRIPPING	PROVIDED BY DOOR/FRAME MANUFACTURER				
1	EA	DOOR SWEEP	8197AA			AA	ZER
1	EA	THERMAL BREAK THRESHOLD	626A-223			A	ZER
1	EA	WIRE HARNESS	CON-44P (FROM EPT TO ELEC. HARDWARE)				SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)				SCH
1	EA	POWER SUPPLY	PS902 900-2RS 120/240 VAC				VON
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28				

POWER SUPPLY REQUIRES 120VAC.

HARDWARE GROUP NO. 50

D050

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1HW 5 X 4.5 NRP			652	IVE
1	EA	POWER TRANSFER	EPT10 CON			689	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-98-L-BE-03-CON 24 VDC			626	VON
1	EA	SURF. AUTO OPERATOR	4642 WMS 120 VAC			689	LCN
2	EA	ACTUATOR, TOUCHLESS	8310-813J			BLK	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	FLOOR STOP	FS436			626	IVE
1	EA	GASKETING	188SBK PSA			BK	ZER
1	EA	WIRE HARNESS	CON-32P				SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)				SCH
1	EA	POWER SUPPLY	PS902 900-2RS 120/240 VAC				VON

AUTO OPERATOR & POWER SUPPLY REQUIRE 120VAC. LATCHING WAS REQUESTED AT THIS OPENING.

HARDWARE GROUP NO. 51

ED181

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 5 X 4.5 NRP		630	IVE
1	EA	PANIC HARDWARE	LD-98-EO-1439		626	VON
1	EA	CLOSER W/STOP ARM	4111 SCUSH WMS		689	LCN
1	EA	CUSH SHOE SUPPORT	4110-30 SRT		689	LCN
1	EA	BLADE STOP SPACER	4110-61 SRT		689	LCN
1	SET	WEATHER STRIPPING	PROVIDED BY DOOR/FRAME MANUFACTURER			
1	EA	DOOR SWEEP	8197AA		AA	ZER
1	EA	THERMAL BREAK THRESHOLD	626A-223		A	ZER

EXIT ONLY

HARDWARE GROUP NO. 52

ED154

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
10	EA	HINGE	5BB1HW 4.5 X 4.5 NRP			630	IVE
2	EA	POWER TRANSFER	EPT10 CON			689	VON
1	EA	ELEC PANIC HARDWARE	LD-RX-9849-EO-CON			626	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-9849-NL-CON 24 VDC			626	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-98-NL-CON 24 VDC			626	VON
1	EA	RIM CYLINDER	20-057 ICX			626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)			626	SCH
2	EA	CLOSER W/STOP ARM	4111 SCUSH WMS			689	LCN
1	EA	CUSH SHOE SUPPORT	4110-30 SRT			689	LCN
1	EA	BLADE STOP SPACER	4110-61 SRT			689	LCN
1	EA	RAIN DRIP	142AA			AA	ZER
1	EA	MULLION SEAL	8780NBK PSA			BK	ZER
1	SET	WEATHER STRIPPING	PROVIDED BY DOOR/FRAME MANUFACTURER				
2	EA	DOOR SWEEP	8197AA			AA	ZER
1	EA	THERMAL BREAK THRESHOLD	626A-223			A	ZER
2	EA	WIRE HARNESS	CON-32P				SCH
2	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)				SCH
1	EA	POWER SUPPLY	PS902 900-2RS 120/240 VAC				VON
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28				

POWER SUPPLY REQUIRES 120VAC.

HARDWARE GROUP NO. 53

ED019

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		630	IVE
1	EA	POWER TRANSFER	EPT10 CON		689	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-98-NL-CON 24 VDC		626	VON
1	EA	RIM CYLINDER	20-057 ICX		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	CLOSER W/STOP ARM	4111 SCUSH WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	RAIN DRIP	142AA		AA	ZER
1	EA	GASKETING	188SBK PSA		BK	ZER
1	EA	DOOR SWEEP	8197AA		AA	ZER
1	EA	THERMAL BREAK THRESHOLD	626A-223		A	ZER
1	EA	WIRE HARNESS	CON-44P (FROM EPT TO ELEC. HARDWARE)			SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)			SCH
1	EA	POWER SUPPLY	PS902 900-2RS 120/240 VAC			VON
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28			

POWER SUPPLY REQUIRES 120VAC.

HARDWARE GROUP NO. 54

D003

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
2	EA	PUSH PLATE	8200 4" X 16"	626	IVE
2	EA	PULL PLATE	8302 8" 4" X 16" G	630	IVE
2	EA	SURFACE CLOSER	4111 EDA WMS	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	SET	SOUND GASKETING	870AA-S	AA	ZER
2	EA	SEMI-MORTISE AUTO DR BTM	362AA	AA	ZER
1	EA	MEETING STILE SOUND SEAL	555AA	AA	ZER
1	EA	THRESHOLD	564A-223	A	ZER
1	EA	MOUNTING BRACKET	870SPB		ZER

MOUNT SOUND SEALS, BRACKETS AND THEN DOOR CLOSERS.

HARDWARE GROUP NO. 55

D008 D177 D184B

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5			652	IVE
1	EA	POWER TRANSFER	EPT10 CON			689	VON
1	EA	EU MORTISE LOCK	L9092TEU 03B RX CON 12/24 VDC			626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)			626	SCH
1	EA	SURFACE CLOSER	4011 WMS			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	WALL STOP	WS406/407CVX			630	IVE
1	SET	SOUND GASKETING	870AA-S			AA	ZER
1	EA	WIRE HARNESS	CON-44P (FROM EPT TO ELEC. HARDWARE)				SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)				SCH
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28				

HARDWARE GROUP NO. 56

D012 D013

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
1	EA	PRIVACY W/INDICATOR	L9056T 03B L583-363 L283-722		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	WALL STOP	WS406/407CVX		630	IVE
1			BALANCE OF HARDWARE BY DOOR MANUFACTURER			

HARDWARE GROUP NO. 57

D014

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	PRIVACY W/INDICATOR	L9056T 03B L583-363 L283-722		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	WALL STOP	WS406/407CVX		630	IVE
1	SET	SOUND GASKETING	870AA-S		AA	ZER
1	EA	SEMI-MORTISE AUTO DR BTM	362AA		AA	ZER
1	EA	THRESHOLD	564A-223		A	ZER

HARDWARE GROUP NO. 58

D016	D024	D025	D029	D033	D036
D037	D117	D131	D133	D135	D138
D139	D146	D147	D149	D151	D155
D163	D164	D165	D166	D171	D173
D175	D176	D179	D202		

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	OFFICE W/SIM RETRACT	L9056T 03B L583-363		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	WALL STOP	WS406/407CVX		630	IVE
1	SET	SOUND GASKETING	870AA-S		AA	ZER

HARDWARE GROUP NO. 59

D020

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	OFFICE W/SIM RETRACT	L9056T 03B L583-363		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	OH STOP	100S ADJ		630	GLY
1	EA	SURFACE CLOSER	4011 WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	SET	SOUND GASKETING	870AA-S		AA	ZER
1	EA	CONCEALED AUTO DR BTM	360AA		AA	ZER
1	EA	THRESHOLD	548A-223		A	ZER

VERIFY THRESHOLD DEPTH WITH FIELD CONDITIONS PRIOR TO ORDERING.

HARDWARE GROUP NO. 60

D026

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		652	IVE
1	EA	POWER TRANSFER	EPT10 CON		689	VON
1	EA	EU MORTISE LOCK	L9092TEU 03B RX CON 12/24 VDC		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	CLOSER W/STOP ARM	4111 SCUSH WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	SET	SOUND GASKETING	870AA-S		AA	ZER
1	EA	MOUNTING BRACKET	870SPB			ZER
1	EA	WIRE HARNESS	CON-44P (FROM EPT TO ELEC. HARDWARE)			SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)			SCH
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28			

MOUNT SOUND SEALS, BRACKET AND THEN DOOR CLOSER.

HARDWARE GROUP NO. 61

D021A D022A

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5		652	IVE
1	EA	PUSH PLATE	8200 4" X 16"		626	IVE
1	EA	PULL PLATE	8302 8" 4" X 16" G		630	IVE
1	EA	SURFACE CLOSER	4111 EDA WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	FLOOR STOP	FS436		626	IVE
1	SET	SOUND GASKETING	870AA-S		AA	ZER
1	EA	MOUNTING BRACKET	870SPB			ZER

MOUNT SOUND SEALS, BRACKET AND THEN DOOR CLOSER.

HARDWARE GROUP NO. 62

D030

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5		652	IVE
1	EA	PASSAGE SET	L9010 03B		626	SCH
1	EA	CLOSER W/STOP ARM	4111 SCUSH WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	SET	SOUND GASKETING	870AA-S		AA	ZER
1	EA	CONCEALED AUTO DR BTM	360AA		AA	ZER
1	EA	THRESHOLD	548A-223		A	ZER
1	EA	MOUNTING BRACKET	870SPB			ZER

MOUNT SOUND SEALS, BRACKET AND THEN DOOR CLOSER. VERIFY THRESHOLD DEPTH WITH FIELD CONDITIONS PRIOR TO ORDERING.

HARDWARE GROUP NO. 63

D034	D035	D120	D122	D123	D124
D125	D127	D128	D183		

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	OFFICE W/SIM RETRACT	L9056T 03B L583-363		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	WALL STOP	WS406/407CVX		630	IVE
1	SET	SOUND GASKETING	870AA-S		AA	ZER
1	EA	SEMI-MORTISE AUTO DR BTM	362AA		AA	ZER
1	EA	THRESHOLD	564A-223		A	ZER

HARDWARE GROUP NO. 64

D041	D209

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	PRIVACY W/INDICATOR	L9056T 03B L583-363 L283-722		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	SURFACE CLOSER	4011 WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX		630	IVE
1	SET	SOUND GASKETING	870AA-S		AA	ZER

HARDWARE GROUP NO. 65

D047A D047B

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
1	SET	GATE PIVOT/CLOSER	MAMMOTH 180		AL	LOX
1	EA	WELDABLE GATE BOX	K-BXMOR1		600	KEE
1	EA	STOREROOM LOCK	L9080T 03B		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	ELECTRIC STRIKE	6210 FSE CON 24VDC		630	VON
1	EA	LOCK GUARD	LG14		630	IVE
1	EA	ELECTRIC STRIKE MOUNTING BOX-VON DUPRIN 6211	K-BXES4		600	KEE
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28			
1	EA	RX MOTION SENSOR	PROVIDED BY DIV 28			

BOXES MUST BE WELDED INTO THE GATE DURING MANUFACTURING. SCREENING SHALL BE PROVIDED IN ALL DIRECTIONS TO PREVENT REACHING THE INSIDE LEVER WITH A WIRE TO GAIN ACCESS.

HARDWARE GROUP NO. 66

D100

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
10	EA	HINGE	5BB1HW 4.5 X 4.5 NRP			630	IVE
2	EA	POWER TRANSFER	EPT10 CON			689	VON
1	EA	ELEC PANIC HARDWARE	LD-RX-9849-EO-CON			626	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-9849-NL-OP-110MD-CON 24 VDC			626	VON
1	EA	RIM CYLINDER	20-057 ICX			626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)			626	SCH
1	EA	LONG DOOR PULL	9264F 36" O (ACTIVE LEAF ONLY)			630-316	IVE
1	EA	OH STOP	100S ADJ			630	GLY
1	EA	CLOSER W/STOP ARM	4111 SCUSH WMS			689	LCN
1	EA	SURF. AUTO OPERATOR	4642 WMS 120 VAC			689	LCN
2	EA	ACTUATOR, TOUCHLESS	8310-813J			BLK	LCN
1	EA	MULLION SEAL	8780NBK PSA			BK	ZER
1	SET	WEATHER STRIPPING	PROVIDED BY DOOR/FRAME MANUFACTURER				
2	EA	WIRE HARNESS	CON-32P				SCH
2	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)				SCH
1	EA	POWER SUPPLY	PS902 900-2RS 120/240 VAC				VON
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28				

POWER SUPPLY & AUTO OPERATOR REQUIRE 120VAC. THIS DOOR IS WIRED TO RECEPTION DESK FOR REMOTE LOCK/UNLOCK OPERATION. USE THE FIRE ALARM INPUT FOR AUTO OPERATOR SHUT OFF IN A LOCKDOWN. ACCESS CONTROL IS PROVIDING A LOCKDOWN CAPABILITY AT THIS OPENING TO PREVENT ENTRANCE. FREE EGRESS IS ALWAYS ALLOWED.

HARDWARE GROUP NO. 67

D105B

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
6	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	CONST LATCHING BOLT	FB61P		630	IVE
1	EA	DUST PROOF STRIKE	DP2		626	IVE
1	EA	PASSAGE SET	L9010 03B		626	SCH
2	EA	WALL STOP	WS406/407CVX		630	IVE
1	EA	FLAT ASTRAGAL	44STST		STST	ZER
2	EA	SILENCER	SR64		GRY	IVE

HARDWARE GROUP NO. 68

D105E D105F D105G D220 D222 D223

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
6	EA	HINGE	5BB1 4.5 X 4.5 NRP		652	IVE
1	EA	CONST LATCHING BOLT	FB61P		630	IVE
1	EA	DUST PROOF STRIKE	DP2		626	IVE
1	EA	STOREROOM LOCK	L9080T 03B		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
2	EA	OH STOP & HOLDER	90F		630	GLY
1	EA	ASTRAGAL	43SP		SP	ZER
2	EA	SILENCER	SR64		GRY	IVE

HARDWARE GROUP NO. 69

ED200

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
4	EA	HINGE	5BB1HW 4.5 X 4.5 NRP			630	IVE
1	EA	POWER TRANSFER	EPT10 CON			689	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-98-NL-OP-110MD-CON 24 VDC			626	VON
1	EA	RIM CYLINDER	20-057 ICX			626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)			626	SCH
1	EA	LONG DOOR PULL	9264F 36" O			630-316	IVE
1	EA	OH STOP	100S ADJ			630	GLY
1	EA	SURF. AUTO OPERATOR	4642 WMS 120 VAC			689	LCN
2	EA	ACTUATOR, TOUCHLESS	8310-813J			BLK	LCN
1	EA	BOLLARD	8310-866				LCN
1	SET	WEATHER STRIPPING	PROVIDED BY DOOR/FRAME MANUFACTURER				
1	EA	DOOR SWEEP	8197AA			AA	ZER
1	EA	THERMAL BREAK THRESHOLD	626A-223			A	ZER
1	EA	WIRE HARNESS	CON-44P (FROM EPT TO ELEC. HARDWARE)				SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)				SCH
1	EA	PUSH BUTTON	623GR 12/24 VDC			630	SCE
1	EA	POWER SUPPLY	PS902 900-2RS 120/240 VAC				VON
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28				

AUTO OPERATOR AND POWER SUPPLY REQUIRE 120VAC. MOUNT REMOTE RELEASE PUSH BUTTON AT RECEPTION DESK.

HARDWARE GROUP NO. 70

D200

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
4	EA	HINGE	5BB1HW 4.5 X 4.5			652	IVE
1	EA	DUMMY PUSH BAR	350			626	VON
1	EA	LONG DOOR PULL	9264F 36" O			630-316	IVE
1	EA	OH STOP	100S ADJ			630	GLY
1	EA	SURF. AUTO OPERATOR	4642 WMS 120 VAC		✓	689	LCN
2	EA	ACTUATOR, TOUCHLESS	8310-813J		✓	BLK	LCN
1	SET	WEATHER STRIPPING	PROVIDED BY DOOR/FRAME MANUFACTURER				

AUTO OPERATOR REQUIRES 120VAC.

HARDWARE GROUP NO. 71

ED208

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
4	EA	HINGE	5BB1HW 5 X 4.5 NRP			630	IVE
1	EA	POWER TRANSFER	EPT10 CON		✓	689	VON
1	EA	EU MORTISE LOCK	L9092TEU 03B RX CON 12/24 VDC		✓	626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)			626	SCH
1	EA	LOCK GUARD	LG10			630	IVE
1	EA	CLOSER W/STOP ARM	4111 SCUSH WMS			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	RAIN DRIP	142AA			AA	ZER
1	EA	GASKETING	188SBK PSA			BK	ZER
1	EA	DOOR SWEEP	8197AA			AA	ZER
1	EA	THERMAL BREAK THRESHOLD	626A-223			A	ZER
1	EA	WIRE HARNESS	CON-44P (FROM EPT TO ELEC. HARDWARE)		✓		SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)		✓		SCH
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28				

HARDWARE GROUP NO. 72

ED224

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
4	EA	HINGE	5BB1HW 5 X 4.5 NRP		630	IVE
1	EA	STOREROOM LOCK	L9080T 03B		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	LOCK GUARD	LG10		630	IVE
1	EA	CLOSER W/STOP ARM	4111 SCUSH WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	RAIN DRIP	142AA		AA	ZER
1	EA	GASKETING	188SBK PSA		BK	ZER
1	EA	DOOR SWEEP	8197AA		AA	ZER
1	EA	THERMAL BREAK THRESHOLD	626A-223		A	ZER

HARDWARE GROUP NO. 73

ED225 ED226

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
8	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		630	IVE
1	EA	POWER TRANSFER	EPT10 CON		689	VON
1	EA	CONST LATCHING BOLT	FB51P		630	IVE
1	EA	DUST PROOF STRIKE	DP1		626	IVE
1	EA	EU MORTISE LOCK	L9092TEU 03B RX CON 12/24 VDC		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	COORDINATOR	COR X FL		628	IVE
2	EA	MOUNTING BRACKET	MB		689	IVE
2	EA	CLOSER W/STOP & HOLD	4111 SHCUSH WMS		689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS		630	IVE
1	EA	RAIN DRIP	142AA		AA	ZER
1	EA	GASKETING	188SBK PSA		BK	ZER
1	EA	GASKETING	488SBK PSA (APPLY TO ASTRAGAL)		BK	ZER
1	EA	ASTRAGAL	43STST		STST	ZER
2	EA	DOOR SWEEP	8197AA		AA	ZER
1	EA	THERMAL BREAK THRESHOLD	626A-223		A	ZER
1	EA	WIRE HARNESS	CON-44P (FROM EPT TO ELEC. HARDWARE)			SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)			SCH
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28			

HARDWARE GROUP NO. 74

ED227 ED228

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
4	EA	HINGE	5BB1HW 5 X 4.5 NRP			630	IVE
1	EA	POWER TRANSFER	EPT10 CON			689	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-98-NL-CON 24 VDC			626	VON
1	EA	RIM CYLINDER	20-057 ICX			626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)			626	SCH
1	EA	CLOSER W/STOP ARM	4111 SCUSH WMS			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	RAIN DRIP	142AA			AA	ZER
1	EA	GASKETING	188SBK PSA			BK	ZER
1	EA	DOOR SWEEP	8197AA			AA	ZER
1	EA	THERMAL BREAK THRESHOLD	626A-223			A	ZER
1	EA	WIRE HARNESS	CON-50P (FROM EPT TO ELEC. HARDWARE)				SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)				SCH
1	EA	POWER SUPPLY	PS902 900-2RS 120/240 VAC				VON
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28				

POWER SUPPLY REQUIRES 120VAC.

HARDWARE GROUP NO. 75

ED229

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
4	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		630	IVE
1	EA	POWER TRANSFER	EPT10 CON		689	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-98-NL-CON 24 VDC		626	VON
1	EA	RIM CYLINDER	20-057 ICX		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	CLOSER W/STOP ARM	4111 SCUSH WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	RAIN DRIP	142AA		AA	ZER
1	EA	GASKETING	188SBK PSA		BK	ZER
1	EA	DOOR SWEEP	8197AA		AA	ZER
1	EA	THERMAL BREAK THRESHOLD	626A-223		A	ZER
1	EA	WIRE HARNESS	CON-44P (FROM EPT TO ELEC. HARDWARE)			SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)			SCH
1	EA	POWER SUPPLY	PS902 900-2RS 120/240 VAC			VON
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28			

POWER SUPPLY REQUIRES 120VAC.

HARDWARE GROUP NO. 76

D208

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM LOCK	L9070T 03B	626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)	626	SCH
1	EA	SURFACE CLOSER	4011 WMS	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 77

D214

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	OFFICE W/SIM RETRACT	L9056T 03B L583-363		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	WALL STOP	WS406/407CVX		630	IVE
1	SET	SOUND GASKETING	870AA-S		AA	ZER
1	EA	CONCEALED AUTO DR BTM	360AA		AA	ZER
1	EA	THRESHOLD	564A-223		A	ZER

HARDWARE GROUP NO. 78

D215

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 5 X 4.5		652	IVE
1	EA	STOREROOM LOCK	L9080T 03B		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	WALL STOP	WS406/407CVX		630	IVE
3	EA	SILENCER	SR64		GRY	IVE

HARDWARE GROUP NO. 79

D218

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	CLASSROOM LOCK	L9070T 03B		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	OH STOP	100S ADJ		630	GLY
1	EA	SURFACE CLOSER	4011 ST-1544 WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	SET	SOUND GASKETING	870AA-S		AA	ZER
1	EA	SEMI-MORTISE AUTO DR BTM	362AA		AA	ZER
1	EA	THRESHOLD	564A-223		A	ZER

HARDWARE GROUP NO. 80

D219

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5		652	IVE
1	EA	CLASSROOM LOCK	L9070T 03B		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	OH STOP	100S ADJ		630	GLY
1	EA	SURFACE CLOSER	4011 ST-1544 WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX		630	IVE
1	SET	SOUND GASKETING	870AA-S		AA	ZER

HARDWARE GROUP NO. 81

D221A D221B

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP		652	IVE
1	EA	PANIC HARDWARE	9875-L-03		626	VON
1	EA	MORTISE CYLINDER	20-061 36-083		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	SURFACE CLOSER	4111 EDA WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP/HOLDER	WS45		626	IVE
1	SET	SOUND GASKETING	870AA-S		AA	ZER

HARDWARE GROUP NO. 82

D229A

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP		652	IVE
1	EA	POWER TRANSFER	EPT10 CON		689	VON
1	EA	EU MORTISE LOCK	L9092TEU 03B RX CON 12/24 VDC		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	SURFACE CLOSER	4111 EDA WMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CVX		630	IVE
1	SET	SOUND GASKETING	870AA-S		AA	ZER
1	EA	MOUNTING BRACKET	870SPB			ZER
1	EA	WIRE HARNESS	CON-44P (FROM EPT TO ELEC. HARDWARE)			SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)			SCH
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28			

INSTALL SOUND SEALS, BRACKET AND THEN DOOR CLOSER.

HARDWARE GROUP NO. 83

D229B

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	CLASSROOM LOCK	L9070T 03B	626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)	626	SCH
1	EA	SURFACE CLOSER	4111 EDA WMS	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
1	SET	SOUND GASKETING	870AA-S	AA	ZER
1	EA	CONCEALED AUTO DR BTM	360AA	AA	ZER
1	EA	THRESHOLD	564A-223	A	ZER
1	EA	MOUNTING BRACKET	870SPB		ZER

INSTALL SOUND SEALS, BRACKET AND THEN DOOR CLOSER.

HARDWARE GROUP NO. 84

D132 D159B

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
1	EA	POWER TRANSFER	EPT10 CON			689	VON
1	EA	EU MORTISE LOCK	L9092TEU 03B RX CON 12/24 VDC			626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)			626	SCH
1	EA	DELAYED CLOSER	4040XP RW/PA			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	WALL STOP	WS406/407CVX			630	IVE
1	EA	WIRE HARNESS	CON-44P (FROM EPT TO ELEC. HARDWARE)				SCH
1	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)				SCH
1			BALANCE OF HARDWARE BY DOOR MANUFACTURER				
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28				

THE CAM LIFT HINGES FROM THE SOUND DOOR MANUFACTURER REQUIRE A 4040XP WITH A RW/PA SHOE (THE ARM MUST FLEX)

HARDWARE GROUP NO. 85

ED060A ED060B

PROVIDE EACH RU DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1			HARDWARE BY DOOR MANUFACTURER		
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28		

GOOSENECK POST FOR ACCESS CONTROL PROVIDED BY DIV 28.

HARDWARE GROUP NO. 86

ED100

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
10	EA	HINGE	5BB1HW 4.5 X 4.5 NRP			630	IVE
2	EA	POWER TRANSFER	EPT10 CON			689	VON
1	EA	ELEC PANIC HARDWARE	LD-RX-9849-EO-CON			626	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-9849-NL-OP-110MD-CON 24 VDC			626	VON
1	EA	RIM CYLINDER	20-057 ICX			626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)			626	SCH
1	EA	LONG DOOR PULL	9264F 36" O (ACTIVE LEAF ONLY)			630-316	IVE
1	EA	OH STOP	100S ADJ			630	GLY
1	EA	CLOSER W/STOP ARM	4111 SCUSH WMS			689	LCN
1	EA	SURF. AUTO OPERATOR	4642 WMS 120 VAC			689	LCN
2	EA	ACTUATOR, TOUCHLESS	8310-813J			BLK	LCN
1	EA	BOLLARD	8310-866				LCN
1	EA	MULLION SEAL	8780NBK PSA			BK	ZER
1	SET	WEATHER STRIPPING	PROVIDED BY DOOR/FRAME MANUFACTURER				
2	EA	DOOR SWEEP	8197AA			AA	ZER
1	EA	THERMAL BREAK THRESHOLD	626A-223			A	ZER
2	EA	WIRE HARNESS	CON-32P				SCH
2	EA	WIRE HARNESS	CON-6W (FROM EPT OR STRIKE TO POWER)				SCH
1	EA	POWER SUPPLY	PS902 900-2RS 120/240 VAC				VON
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28				

POWER SUPPLY & AUTO OPERATOR REQUIRE 120VAC. THIS DOOR IS WIRED TO RECEPTION DESK FOR REMOTE LOCK/UNLOCK OPERATION. USE THE FIRE ALARM INPUT FOR AUTO OPERATOR SHUT OFF IN A LOCKDOWN. ACCESS CONTROL IS PROVIDING A LOCKDOWN CAPABILITY AT THIS OPENING TO PREVENT ENTRANCE. FREE EGRESS IS ALWAYS ALLOWED.

HARDWARE GROUP NO. 87

D330

PROVIDE EACH SL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	FLOOR MOUNT STOP	940.40.053	626	HAF
2	EA	GUIDE RAIL- GLUE IN	941.61.130	AL	HAF
2	EA	TRACK STOPPERS	942.56.004	AL	HAF
2	EA	UPPER TRACK	942.56.960	AL	HAF
4	EA	KEY TO DEADBOLT LOCK	943.04.090		HAF
2	EA	SLIP FIT ROSETTE	943.04.091	626	HAF
2	EA	HAWA DOOR FIX- BAR BOLT LOCK	946.21.100	626	HAF
2	EA	STRIKE PLATE WITH OBLONG HOLE	946.23.910	626	HAF
2	EA	DUST PROOF STRIKE WITH SPRING COVER	946.23.920	626	HAF
2	EA	ROSETTE TO DUST PROOF STRIKE	946.23.921	626	HAF

BAR BOLT LOCK TO HAVE KEYING FROM FACE OF DOOR (NOT EDGE). LOCK TO BE USED WITH HEXAGONAL KEY.

HARDWARE GROUP NO. 88

G301

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
1	SET	GATE PIVOT/CLOSER	MAMMOTH 180		AL	LOX
1	EA	PANIC HARDWARE	LD-98-NL-WH		626	VON
1	EA	RIM CYLINDER	20-057 ICX		626	SCH
1	EA	FSIC CORE	23-030 EV29 T (COORDINATE KEYWAY WITH OWNER)		626	SCH
1	EA	ELECTRIC STRIKE	6300 FSE 12/24 VAC/VDC		630	VON
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28			

GATE MUST BE DESIGNED TO ACCEPT THE PANIC HARDWARE AND INCLUDE A 12" TALL C CHANNEL ACROSS THE GATE TO SET THE PANIC HARDWARE INTO, WITH SCREENING NO LESS THAN 3' OF THE PANIC DEVICE PUSHBAR IN ALL DIRECTIONS.

HARDWARE GROUP NO. 89

G303

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1			HARDWARE BY GATE MANUFACTURER		
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28		

SEE GATE SECTION DIV 32 FOR ALL COMPONENTS REQUIRED FOR THE GATE. POWER TO VEHICLE GATE TO BE 208/1 MOTOR.

HARDWARE GROUP NO. 90

ED190

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY	DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1		HARDWARE BY STRUCTURAL GLASS RAILING MANUFACTURER		

HARDWARE GROUP NO. 91

G302

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1			HARDWARE BY GATE MANUFACTURER		
1	EA	ACCESS CONTROL	PROVIDED BY DIV 28		

SEE GATE SECTION DIV 32 FOR ALL COMPONENTS REQUIRED FOR THE GATE. POWER TO VEHICLE GATE TO BE 208/1 MOTOR.

END OF SECTION 087100

SECTION 210800

COMMISSIONING OF FIRE SUPPRESSION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. System specific commissioning procedures.

B. Related Sections:
   1. The following sections specify commissioning activities for this project:
      01 91 13 – General Commissioning Requirements
   2. All sections related to the following commissioned systems may contain start-up, testing and/or commissioning related activities:
      Fire Suppression System

1.2 DESCRIPTION OF WORK

A. Work includes the completion and documentation of formal commissioning procedures by the Contractor on selected equipment and systems as listed under 1.1 B. Commissioning is defined as the process of verifying and documenting that the installation and performance of selected building systems meet the specified design criteria and therefore satisfies the design intent and the Owner's operational needs. The Contractor shall be responsible for participation in the commissioning process as outlined herein, and in subsequent sectional references and attachments throughout the project documents. Commissioning procedures shall be designed and conducted under the direction of the Commissioning Authority (CxA) and coordinated by the Contractor Commissioning Coordinator (CCC).

B. This section contains the system specific commissioning requirements for the systems referenced herein.

PART 2 – PRODUCTS

2.1 SECTION NOT USED

PART 3 – EXECUTION

3.1 Execution of the commissioning process for the systems to be commissioned is specified Section 01 91 13, Part 3 – Execution.

3.2 Functional Performance Testing consists of the documented testing of system parameters, under actual or simulated operating conditions, to demonstrate the system operates in accordance with the design intent and the Contract Documents. The test plan shall be prepared by the contractor and executed by the contractor.

3.3 Functional Performance Testing of systems shall begin only after the contractor certifies that systems are 100% complete and ready for Functional Performance Testing, by completing the Contractor Checklists.

3.4 Test documentation shall be uploaded to the SharePoint site for the CxA to review.

3.5 Responsibilities for Functional Performance Testing are detailed in the following table. The CxA-witnessed sample testing shall only begin after completion and documentation of the contractor-tested sample by the contractor and approval of that data by the CxA.

C Commissioned System/Equipment	**Test Plan & Data Sheets By:**	**Tests Conducted By:**	**Contractor-tested Sample (%)**	**CxA-witnessed Sample (%)**
Fire Suppression System	Contractor	Contractor	100%	Up to 100%

END OF SECTION 210800

SECTION 220800

COMMISSIONING OF PLUMBING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. System specific commissioning procedures.

B. Related Sections:
   1. The following sections specify commissioning activities for this project:
      01 91 13 – General Commissioning Requirements
   2. All sections related to the following commissioned systems may contain start-up, testing and/or commissioning related activities:
      Plumbing Fixtures
      Plumbing Pumps
      Domestic Hot Water Heaters
      Domestic Hot Water Pumps
      Water Meters

1.2 DESCRIPTION OF WORK

A. Work includes the completion and documentation of formal commissioning procedures by the Contractor on selected equipment and systems as listed under 1.1 B. Commissioning is defined as the process of verifying and documenting that the installation and performance of selected building systems meet the specified design criteria and therefore satisfies the design intent and the Owner's operational needs. The Contractor shall be responsible for participation in the commissioning process as outlined herein, and in subsequent sectional references and attachments throughout the project documents. Commissioning procedures shall be designed and conducted under the direction of the Commissioning Authority (CxA) and coordinated by the Contractor Commissioning Coordinator (CCC).

B. This section contains the system specific commissioning requirements for the systems referenced herein.

PART 2 – PRODUCTS

2.1 SECTION NOT USED

PART 3 – EXECUTION

3.1 Execution of the commissioning process for the systems to be commissioned is specified Section 01 91 13, Part 3 – Execution.

3.2 Functional Performance Testing consists of the documented testing of system parameters, under actual or simulated operating conditions, to demonstrate the system operates in accordance with the design intent and the Contract Documents. The test plan shall be prepared by the CxA and executed by the contractor.

3.3 Functional Performance Testing of systems shall begin only after the contractor certifies that systems are 100% complete and ready for Functional Performance Testing, by completing the Contractor Checklists.

3.4 Test documentation shall be uploaded to the SharePoint site for the CxA to review.

3.5 Responsibilities for Functional Performance Testing are detailed in the following table. The CxA-witnessed sample testing shall only begin after completion and documentation of the contractor-tested sample by the contractor and approval of that data by the CxA.

Commissioned System/Equipment	Test Plan & Data Sheets By:	Tests Conducted By:	Contractor-tested Sample (%)	CxA-witnessed Sample (%)
Plumbing Fixtures	CxA	Contractor	100%	Up to 100%
Plumbing Pumps	CxA	Contractor	100%	Up to 100%
Domestic Hot Water Heaters	CxA	Contractor	100%	Up to 100%
Domestic Hot Water Pumps	CxA	Contractor	100%	Up to 100%
Water Meters	CxA	Contractor	100%	Up to 100%

END OF SECTION 220800

SECTION 230800

COMMISSIONING OF HVAC

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. System specific commissioning procedures.

B. Related Sections:
1. The following sections specify commissioning activities for this project:
   01 91 13 – General Commissioning Requirements
2. All sections related to the following commissioned systems may contain start-up, testing and/or commissioning related activities:
   HVAC Systems
   Building Automation and Control Systems
   Fault Detection and Diagnostics
   Metering Systems
   Testing, Adjusting and Balancing

1.2 DESCRIPTION OF WORK

A. Work includes the completion and documentation of formal commissioning procedures by the Contractor on selected equipment and systems as listed under 1.1 B. Commissioning is defined as the process of verifying and documenting that the installation and performance of selected building systems meet the specified design criteria and therefore satisfies the design intent and the Owner's operational needs. The Contractor shall be responsible for participation in the commissioning process as outlined herein, and in subsequent sectional references and attachments throughout the project documents. Commissioning procedures shall be designed and conducted under the direction of the Commissioning Authority (CxA) and coordinated by the Contractor Commissioning Coordinator (CCC).

B. This section contains the system specific commissioning requirements for the systems referenced herein.

PART 2 – PRODUCTS

2.1 SECTION NOT USED

PART 3 – EXECUTION

3.1 Execution of the commissioning process for the systems to be commissioned is specified Section 01 91 13, Part 3 – Execution.

3.2 Functional Performance Testing consists of the documented testing of system parameters, under actual or simulated operating conditions, to demonstrate the system operates in accordance with the design intent and the Contract Documents. The test plan shall be prepared by the CxA and executed by the contractor.

3.3 Functional Performance Testing of systems shall begin only after the contractor certifies that systems are 100% complete and ready for Functional Performance Testing, by completing the Contractor Checklists.

3.4 Test documentation shall be uploaded to the SharePoint site for the CxA to review.

3.5 The Testing, Adjusting, and Balancing (TAB) contractor shall perform a demonstration of a sample of field measurements to the CxA after the final TAB report is produced. The intent of this demonstration is to verify that field measurements match the values listed in the final TAB report. In the event that the TAB verification values are off by more than 10% of the values reported in the final TAB report, the TAB contractor shall readjust the systems to the satisfaction of the owner and design team. The TAB demonstration requirements are included in the following table.

Commissioned System	Test Plan & Data Sheets By:	Tests Conducted By:	CxA-witnessed Demonstration Sample (%)
Testing, Adjusting and Balancing	Contractor	Contractor	10%

3.6 Responsibilities for Functional Performance Testing are detailed in the following table. The CxA-witnessed sample testing shall only begin after completion and documentation of the contractor-tested sample by the contractor and approval of that data by the CxA.

Commissioned System/Equipment	Test Plan & Data Sheets By:	Tests Conducted By:	Contractor-tested Sample (%)	CxA-witnessed Sample (%)
Rooftop Units	CxA	Contractor	100%	Up to 100%
Air Handling Units	CxA	Contractor	100%	Up to 100%
VAV Terminal Units	CxA	Contractor	100%	Up to 100%
Unit Heaters	CxA	Contractor	100%	Up to 100%
Exhaust Fans	CxA	Contractor	100%	Up to 100%
Split System Air Conditioning Units	CxA	Contractor	100%	Up to 100%
Other HVAC Systems	CxA	Contractor	100%	Up to 100%
Building Control System (including interlocks)	CxA	Contractor	100%	Up to 100%

END OF SECTION 230800

SECTION 232100

SLEEVES AND SEALS FOR HVAC PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 GENERAL

A. Includes sleeving and sealing of piping and ductwork.

1.2 RELATED SECTIONS

A. General Conditions, Division 1

B. Section 221116 – Domestic Water Pipe and Fittings

C. Section 233113 – Steel Ductwork

D. Section 15900 – Fiberglass Ductwork

1.3 REFERENCES

A. ASTM E814: Fire Tests of Through-Penetration Fire Stops

B. UL 1479: Through-Penetration Fire Stop Systems

1.4 SUBMITTAL REQUIREMENTS

A. Submittal requirements for this Section:
   1. Seals

1.5 OPERATION AND MAINTENANCE REQUIREMENTS FOR THIS SECTION

A. Not Applicable

PART 2 - PRODUCTS

2.1 APPROVED MANUFACTURERS

A. Products shall comply with Section 200000, paragraph 2.01, Approved Manufacturers.

B. Fire Seals: 3M, Dow Corning, General Electric, Rectorseal Metacaulk

2.2 PIPE SLEEVES

A. Size: Inside diameter of pipe sleeves shall be at least 1/2-inch larger than the outside diameter of the pipe or pipe covering, so as to allow free movement of piping.

B. Ends: Sleeve ends shall be cut flush with finished surfaces, except in rooms having floor drains where sleeves shall be extended 3/4-inch above finished floor.

C. Material - Structural: Sleeves through structural elements shall be fabricated from Schedule 40 steel pipe.

D. Material - Non-structural: Sleeves through non-structural elements shall be fabricated from 18-gauge galvanized sheet metal or 24-gauge spiral duct.

E. De-burr pipe ends and smooth slab penetration (to accept final slab finish) from sleeves extending above finished floor.

2.3 DUCT SLEEVES

A. Size: Inside dimension of sleeves shall be at least ½" larger than the outside dimensions of the duct or duct covering on all sides.

B. Ends: Sleeve ends shall be cut flush with finished surface.

C. Material - Non-structural: Sleeves shall be fabricated from 20-gauge galvanized steel, shall be continuous around the interior without holes or openings, and shall match the configuration of the item being sleeved.

D. Material - Structural: Sleeves through structural elements shall be fabricated from Schedule 40 steel pipe (round openings) and welded steel supporting elements (sizes/arrangement as shown on drawings) for other openings.

2.4 SEALS

A. Seals in Interior Fire Rated Assemblies: Shall be tested in accordance with ASTM E814 and shall be UL classified per UL 1479 as a through-penetration fire stop device.

B. Seals in Exterior Masonry Walls and Floors:
1. Piping: Seals shall consist of interlocking synthetic rubber links shaped to continuously fill the annular space between the pipe and wall opening. The seal assembly shall expand when mechanically tightened to provide an absolute watertight seal between the pipe and wall opening. Sizing shall be per manufacturer's recommendations. Seal shall be Thunderline "Link-Seal" or approved equal.
2. Ducts: Silicone type sealant, designed for use with duct material involved as weatherproof sealant and as specified in Section 079200.

C. Seals in Other Areas: Packed fiberglass or wool insulation, where no weatherproofing or adhesive properties are required; otherwise, sealants shall be silicone type, as specified in applicable Division 7 Specification Section.

PART 3 - EXECUTION

3.1 INSTALLATION OF PIPE SLEEVES

A. Provide pipe sleeves for all piping passing through walls, floors, partitions, roofs, foundations, footings, grade beams, and similar elements, except that sleeves are not required for penetrations through existing single solid elements, having no voids, at the location where the piping passes through the solid elements (e.g., solid wood stud, core drilled solid concrete, etc.). Where a sleeve is required, such sleeve shall continue all the way through any solid items within that element.

B. Set sleeves plumb or level (or sloped as required for drainage pipe) in proper position, tightly fitted into the work.

C. Fill openings around outside of pipe sleeve with same material as surrounding construction, or with material of equivalent fire and smoke rating.

D. Seal around all pipes inside of pipe sleeve.

E. Insulation shall run continuous through sleeves in non-fire rated elements. Insulation shall not run continuous through sleeves in fire rated elements unless the fire sealant system used is UL accepted for use with insulated pipes.

F. Do not place sleeves around soil, waste, vent, or roof drain lines passing through concrete floors on grade.

3.2 INSTALLATION OF DUCT SLEEVES

A. Provide duct sleeves for all round ducts less than 15 inches in diameter where the duct passes through any floors, walls, ceilings, partitions, or roofs and similar elements.

B. Provide duct sleeves for all square and rectangular ducts having their largest dimension 14 inches and less where the duct passes through any floors, walls, ceilings, partitions, roofs, and similar elements.

C. Round ducts larger than 15 inches in diameter, and square or rectangular ducts larger than 14 inches in any dimension, shall have framed openings where the duct passes through any element. Such framed openings shall be of the same type as the structural materials used in the wall and shall comply with materials specified for this project. Sleeves shall be provided in addition to the framed opening where any void space(s) occurs through the penetration (as through CMU walls, double walls, etc.).

D. Set sleeves plumb or level, in proper position and location, tightly fitted into the work.

E. Fill openings around outside of duct sleeve with same material as surrounding construction, or with material of equivalent fire and smoke rating.

F. Sleeves are not required for penetrations through existing single solid elements, having no voids, at the location where the duct passes through the element (e.g., precast concrete panels with pre-framed openings, core drilled/saw cut solid concrete, etc.). Where a sleeve is required, such sleeve shall continue all the way through any solid items within that element however.

G. Insulation shall run continuous through sleeves in non-fire rated elements. Insulation shall not run continuous through sleeves in fire rated elements unless the fire sealant system used is UL accepted for use with insulated pipes.

H. Sleeves for fire dampers shall be as specified for fire dampers and be in compliance with the damper UL listing.

3.3 INSTALLATION OF SEALS

A. Provide seals around all piping and ducts passing through walls, floors, roofs, foundations, footings, grade beams, partitions, and similar elements.

B. Seals shall be of material and workmanship to maintain the fire and smoke rating of element being penetrated. Seals ability to maintain the rating of the element being penetrated shall be listed in UL Laboratories Building Materials Directory or otherwise confirmed by an approved listing agency. It shall be the Contractor's responsibility to submit shop drawings and technical data showing seals and systems proposed, and corresponding agency approval. The Contractor shall also be responsible to submit any data as required by local agencies to satisfy them that the Contractor's proposed fire seals are satisfactory.

C. Seals shall be watertight where the penetration may be exposed to water or moisture.

D. Duct penetrations through roof or exterior wall assemblies shall be provided with flashings for a weathertight assembly in accordance with SMACNA HVAC Duct Construction Standards. Such openings shall be sealed to be weatherproof.

END OF SECTION 232100

SECTION 260800

COMMISSIONING OF ELECTRICAL

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. System specific commissioning procedures.

B. Related Sections:
1. The following sections specify commissioning activities for this project:
   01 91 13 – General Commissioning Requirements
2. All sections related to the following commissioned systems may contain start-up, testing and/or commissioning related activities:
   Power Distribution System
   Emergency Power System
   Lighting Control System
   Controlled Receptacles
   Power Monitoring System

1.2 DESCRIPTION OF WORK

A. Work includes the completion and documentation of formal commissioning procedures by the Contractor on selected equipment and systems as listed under 1.1 B. Commissioning is defined as the process of verifying and documenting that the installation and performance of selected building systems meet the specified design criteria and therefore satisfies the design intent and the Owner's operational needs. The Contractor shall be responsible for participation in the commissioning process as outlined herein, and in subsequent sectional references and attachments throughout the project documents. Commissioning procedures shall be designed and conducted under the direction of the Commissioning Authority (CxA) and coordinated by the Contractor Commissioning Coordinator (CCC).

B. This section contains the system specific commissioning requirements for the systems referenced herein.

PART 2 – PRODUCTS

2.1 SECTION NOT USED

PART 3 – EXECUTION

3.1 Execution of the commissioning process for the systems to be commissioned is specified Section 01 91 13, Part 3 – Execution.

3.2 Functional Performance Testing consists of the documented testing of system parameters, under actual or simulated operating conditions, to demonstrate the system operates in accordance with the design intent and the Contract Documents. The test plan shall be prepared by the CxA and executed by the contractor.

3.3 Functional Performance Testing of systems shall begin only after the contractor certifies that systems are 100% complete and ready for Functional Performance Testing, by completing the Contractor Checklists.

3.4 Test documentation shall be uploaded to the SharePoint site for the CxA to review.

3.5 Responsibilities for Functional Performance Testing are detailed in the following table. The CxA-witnessed sample testing shall only begin after completion and documentation of the contractor-tested sample by the contractor and approval of that data by the CxA.

Commissioned System/Equipment	**Test Plan & Data Sheets By:**	**Tests Conducted By:**	**Contractor-tested Sample (%)**	**CxA-witnessed Sample (%)**
Power Distribution System	Contractor	Contractor	100%	Up to 100%
Emergency Power System	CxA	Contractor	100%	100%
Lighting Control System	CxA	Contractor	100%	Up to 100%
Controlled Receptacles	CxA	Contractor	100%	Up to 100%
Power Monitoring System	CxA	Contractor	100%	Up to 100%

END OF SECTION 260800

SECTION 270800

COMMISSIONING OF COMMUNICATIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. System specific commissioning procedures.

B. Related Sections:
   1. The following sections specify commissioning activities for this project:
      01 91 13 – General Commissioning Requirements
   2. All sections related to the following commissioned systems may contain start-up, testing and/or commissioning related activities:
      Network Infrastructure
      Telephone System
      Intercom System

1.2 DESCRIPTION OF WORK

A. Work includes the completion and documentation of formal commissioning procedures by the Contractor on selected equipment and systems as listed under 1.1 B. Commissioning is defined as the process of verifying and documenting that the installation and performance of selected building systems meet the specified design criteria and therefore satisfies the design intent and the Owner's operational needs. The Contractor shall be responsible for participation in the commissioning process as outlined herein, and in subsequent sectional references and attachments throughout the project documents. Commissioning procedures shall be designed and conducted under the direction of the Commissioning Authority (CxA) and coordinated by the Contractor Commissioning Coordinator (CCC).

B. This section contains the system specific commissioning requirements for the systems referenced herein.

PART 2 – PRODUCTS

2.1 SECTION NOT USED

PART 3 – EXECUTION

3.1 Execution of the commissioning process for the systems to be commissioned is specified Section 01 91 13, Part 3 – Execution.

3.2 Functional Performance Testing consists of the documented testing of system parameters, under actual or simulated operating conditions, to demonstrate the system operates in accordance with the design intent and the Contract Documents. The test plan shall be prepared by the CxA and executed by the contractor.

3.3 Functional Performance Testing of systems shall begin only after the contractor certifies that systems are 100% complete and ready for Functional Performance Testing, by completing the Contractor Checklists.

3.4 Test documentation shall be uploaded to the SharePoint site for the CxA to review.

3.5 Responsibilities for Functional Performance Testing are detailed in the following table. The CxA-witnessed sample testing shall only begin after completion and documentation of the contractor-tested sample by the contractor and approval of that data by the CxA.

Commissioned System	Test Plan & Data Sheets By:	Tests Conducted By:	Contractor-tested Sample (%)	CxA-witnessed Sample (%)
Network Infrastructure	Contractor	Contractor	100%	Up to 100%
Telephone	Contractor	Contractor	100%	Up to 100%
Intercom	Contractor	Contractor	100%	Up to 100%

END OF SECTION 270800

SECTION 280800

COMMISSIONING OF ELECTRONIC SAFETY AND SECURITY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. System specific commissioning procedures.

B. Related Sections:
   1. The following sections specify commissioning activities for this project:
      01 91 13 – General Commissioning Requirements
   2. All sections related to the following commissioned systems may contain start-up, testing and/or commissioning related activities:
      Fire Alarm System
      Access Control System
      Intrusion Detection System
      Closed Circuit Television System

1.2 DESCRIPTION OF WORK

A. Work includes the completion and documentation of formal commissioning procedures by the Contractor on selected equipment and systems as listed under 1.1 B. Commissioning is defined as the process of verifying and documenting that the installation and performance of selected building systems meet the specified design criteria and therefore satisfies the design intent and the Owner's operational needs. The Contractor shall be responsible for participation in the commissioning process as outlined herein, and in subsequent sectional references and attachments throughout the project documents. Commissioning procedures shall be designed and conducted under the direction of the Commissioning Authority (CxA) and coordinated by the Contractor Commissioning Coordinator (CCC).

B. This section contains the system specific commissioning requirements for the systems referenced herein.

PART 2 – PRODUCTS

2.1 SECTION NOT USED

PART 3 – EXECUTION

3.1 Execution of the commissioning process for the systems to be commissioned is specified Section 01 91 13, Part 3 – Execution.

3.2 Functional Performance Testing consists of the documented testing of system parameters, under actual or simulated operating conditions, to demonstrate the system operates in accordance with the design intent and the Contract Documents. The test plan shall be prepared by the CxA and executed by the contractor.

3.3 Functional Performance Testing of systems shall begin only after the contractor certifies that systems are 100% complete and ready for Functional Performance Testing, by completing the Contractor Checklists.

3.4 Test documentation shall be uploaded to the SharePoint site for the CxA to review.

3.5 Responsibilities for Functional Performance Testing are detailed in the following table. The CxA-witnessed sample testing shall only begin after completion and documentation of the contractor-tested sample by the contractor and approval of that data by the CxA.

Commissioned System/Equipment	Test Plan & Data Sheets By:	Tests Conducted By:	Contractor-tested Sample (%)	CxA-witnessed Sample (%)
Fire Alarm System	Contractor	Contractor	100%	Up to 100%
Access Control System	Contractor	Contractor	100%	Up to 100%
Intrusion Detection System	Contractor	Contractor	100%	Up to 100%
Closed Circuit Television System	Contractor	Contractor	100%	Up to 100%

END OF SECTION 28 08 00

SECTION 323100
SITE FENCE AND GATES

PART 1 -GENERAL

1.1 SUMMARY

A. Provide all labor, materials, and equipment necessary to supply or fabricate and install the following:

1. Site Secure Perimeter Wire Mesh Fence.
2. G301 – North Pedestrian Gate.
3. G302 – North Vehicle Gate.
4. G303 – South Vehicle Gate.
5. Pedestrian egress gate.

B. Related Work:

1. Electrical Work In Connection With Motor Operated Gates: Division 16 ELECTRICAL.

1.2 PERFORMANCE CHARACTERISTICS

A. Polyester Powder Coating:

1. Salt Spray Resistance: When tested in accordance with ASTM B117, Bonderite 1000 steel panels, in a scored condition, exhibit no undercutting after 500 hours in 5 percent salt spray testing at 95 degrees F and 95 percent relative humidity. No rusting or blistering on panel face. Under the same conditions after 1000 hours, the panels showed less than 3/16 inch undercutting.
2. Weatherability: When tested in accordance with ASTM D822, with one year exposure in South Florida, with panels facing south and tilted at a 45 degree angle, a high gloss white polyester coating retains 88 percent of its gloss (gloss reading obtained on washed panels). No film failure.
3. Hardness: 2 H (min) when measured in accordance with ASTM D3363.
4. Direct Impact: Up to 160 in./lbs. when measured in accordance with ASTM D2794.

B. Polyurethane Coating: Tests below conducted on Bonderite 1000 panels at 1.0 mil dry film thickness, cured for 30 minutes at 180 degrees F and aged 14 days at room temperature (70 degrees F). Results of each test: Excellent or no failure.

1. 5 percent salt spray: 500 hours.
2. 100 percent relative humidity: 1000 hours.
3. Water immersion: 100 hours.
4. Lacquer thinner, acetone, MEK, gasoline, xylene - 20 double rubs with saturated cloth.
5. Lubricating oils, hydraulic fluids, and cutting oils.
6. Cold Check: 16 cycles, 24 hours at 100 percent humidity; 24 hours at 10 degrees F; 24 hours at 77 degrees F.
7. Pencil Hardness: H to 2H.
8. Flexibility: 1/8 inch conical mandrel.

1.3 REFERENCE STANDARDS

A. NAAMM – National Association of Architectural Metal Manufacturers “Metal Finishes Manual for Architecture and Metal Products”.

B. American Society for Testing and Materials International (ASTM):

1. ASTM A36/A36M-01, Standard Specification for Carbon Structural Steel.

2. ASTM A53/A53M-01, Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc Coated, Welded and Seamless.
3. ASTM A153/A153M-01a, Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
4. ASTM A307-00, Standard Specification for Carbon Steel Bolts and Studs, 60000 PSI Tensile Strength.

C. xxxxxx.

1.4 SUBMITTALS

A. Submit under provisions of Section 013000 – Submittal Procedures.

B. Manufactured Items:

1. Manufacturer's Product Literature: Identify specific product, model, finishes, and features for all specified manufactured items.
2. Manufacturer's installation instructions.
3. Samples of all specified materials, fasteners, and finishes.
4. Site Fence: One 12" x 12" section of panel with specified finish. One 12" length of post with specified finish.
5. Shop Drawings for all Manufactured Items:
   a. Provide details of construction and installation. Include materials, dimensions, and methods of joining, fastening, and anchoring, post layout.
   b. Obtain approval for minor variations in detail for the purpose of improving fabrication and installation procedures, but not affecting general design for structural stability or size.
   c. Include shop drawings for all candidates submitted for equivalency status to specified products.
   d. For motor operated gates, include details of provisions to accommodate motor operator components.

C. Fabricated Items:

6. Submit literature identifying all materials included in the finished product prior to fabrication.
7. Samples of all specified materials, fasteners, and finishes.
8. Shop Drawings: Provide details of construction and installation including materials, dimensions, methods of joining, fastenings and anchoring for all fabricated items:
   a. Obtain approval for minor variations in detail for the purpose of improving fabrication and installation procedures, but not affecting general design for structural stability or size.
9. Metal fabrication shall be in accordance with Sections 055000 - Metal Fabrications and 057000 - Decorative Metal.
   a. Weld Certificates.

1.5 QUALITY ASSURANCE

A. Review layout and installation methods in Pre-Construction Meeting.

B. Installer Qualifications:

1. Completed work similar in material, design, and extent to that indicated for this Project.
2. Work has resulted in construction with a record of successful in-service performance.
3. Minimum 5 years of successful experience at a similar scope and scale.
4. Equipment and personnel familiar with installation techniques to perform the work specified.

C. Supervision:

5. Supervisor shall have 5 years of successful experience similar to that of the installer and shall be present at all times during the execution of the Work of this Section.
6. Individual shall be thoroughly familiar with the types of materials being installed and the proper methods for their installation.
7. Utilize the same field supervisor throughout the Project unless a substitution is submitted to and approved in writing by the Owner's Representative.

D. Source Limitations for Fences and Gates: Obtain each color, grade, finish, type, and variety of component for fences and gates from one source with resources to provide fences and gates of consistent quality in appearance and physical properties.

E. Manufacturer's instructions: Adhere to manufacturer's instructions for product handling, assembly and installation, and maintenance.

F. Manufacturer's original factory finish must be intact for the installation to be considered satisfactory. On-site touch-up painting or finishing will not be accepted.

G. Inspect surfaces to receive fence, gates, and equipment prior to any installation. Verify accuracy of layout. Ensure that surface and grades are complete and meet quality requirements of Contract Documents and the Owner's Representative. If layout, grades and or surface do not meet quality requirements, notify Owner's Representative immediately.

H. Ensure fence panel and posts are plumb and are centered and aligned with adjacent site features as shown in Contract Documents unless otherwise specified.

I. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

J. UL Standard: Provide gate operators that comply with UL 325.

K. Emergency Access Requirements: Comply with requirements of authorities having jurisdiction for automatic gate operators serving as a required means of access.

1.6 SEQUENCE AND SCHEDULING

A. Coordinate installation of site furnishings as shown on the Contract Drawings with all other Work.

1.7 DELIVERY, HANDLING AND STORAGE

A. Deliver products in good condition.

B. Store products to prevent corrosion, deterioration, and damage.

C. Handle products to prevent damage.

D. Bent, scratched, or otherwise damaged items are not acceptable.

1.8 FIELD CONDTIONS

A. Existing Conditions:

1. Carefully examine the site before submitting a Bid. Be informed as to the nature and location of the Work; general and local conditions including climate, adjacent properties, and utilities; confirmation of the extents and nature of waterproofing and protection board at the facade; and the character of equipment and facilities needed prior to and during execution of the Work.
2. Utilities: Determine location of utilities and perform work to avoid possible damage.

3. Field Measurements: Verify actual locations and dimensions of walls, pavements, and other construction contiguous with fabrications by field measurements to ensure that actual dimensions correspond to established dimensions.
4. Provide allowance for adjusting, trimming, and/or fitting of all furnishings on site.
   a. Adjust shop drawings for the Site Fence layout if modifications are required to avoid significant existing tree roots that require protection or other field conditions that prevent installation as illustrated.

B. Inform the Owner's Representative immediately in writing for clarification if in the course of work discrepancies are found:

5. Between Contract Drawings and physical conditions.
6. Omissions or errors in Contract Drawings, or in layout as furnished by the Owner's Representative.
7. Work done after such discovery, unless authorized by the Owner's Representative, is at the Contractor's risk.

C. Proceed with and complete work as rapidly as portions of the site become available, working within seasonal limitations for each type of work required.

D. Do not install fence, gates, and equipment when ground, surfaces, or materials are frozen.

1.9 MEETINGS AND INSPECTIONS

A. Preconstruction Meeting:

1. Arrange a preconstruction meeting to take place at least 2 weeks before commencement of installation of steel frames and wood seats between the Owner's Representative and Landscape Architect, and Contractor.
2. Review the proposed schedule, overview specifications, describe installation sequence, and the coordination with associated construction activities.
3. Provide meeting notes for approval by Owner's Representative.

B. Inspections:

4. Inspections shall occur for mock-ups and final installation of finished components in the project. Notify the Owner's Representative (4) working days prior to inspections, unless noted otherwise.

1.10 MOCK-UPS

A. Provide the following mock-ups of fabricated items for acceptance by the Owner's Representative for review and acceptance prior to installation:

1. Site Fence: One panel section with post and attachments.

B. Mock-up review may occur on-site or in the fabrication facility.

C. Do not begin final installation prior to acceptance of mock-up by Owner's Representative.

D. Protect and maintain accepted mock-up as standard of quality for Work of this Section. Accepted mock-ups may be retained as part of final installation.

1.11 SUBSTANTIAL COMPLETION AND ACCEPTANCE

A. The Owner's Representative shall schedule an inspection for Substantial Completion. Submit a written request for Substantial Completion inspection.

B. The Contractor will furnish full and complete written submittals for review by the Owner's Representative at the time of the request for Acceptance.

1.12 WARRANTY

A. General Warranty: The Warranty specified in this Section shall not deprive the Owner of other rights which the Owner may have under other provisions of the Contract Documents, and shall be in addition to, and run concurrent with, other Warranties made by the Contractor under requirements of the Contract Documents.

1. All manufactures standard warranties apply.

B. Make repairs and replacements and guarantee the satisfactory operation of the entire system in every detail for the 1-year Warranty Period. All warranty repairs and replacements are part of the Contract.

PART 2 -PRODUCTS

2.1 MANUFACTURED ITEMS

A. Site Fence and Gates (Basis of Design):

1. Manufacturer: Omega II Fence Systems.
   a. Alternate supplier and product option: MFR Manufacturing (Metalco) 'Twinbar' Fence Panel and Gates.

   See manufacturer's current specifications for all components and installation requirements.
2. Model: OMEGA SECUR.

B. GATE TYPES:

   a. G301 – North Pedestrian Gate. 8 feet tall x 4 feet wide. Swing gate.
   b. G302 – North Vehicle Gate. 8 feet tall x 26 feet wide. Slide gate.
   c. G303 – South Vehicle Gate. 8 feet tall x 20 feet wide. Two-door swing gate.
   d. Pedestrian egress gate. 8 feet tall x 8 feet wide, Two-door swing gate.

C. MATERIALS:

1. Steel.
   a. 98-5/8-inch wide, welded by one vertical wire of 4-gauge placed between two horizontal wires of 0.303 inch to form rectangles 1-15/16-inch x 7-7/8-inch.
   b. Cold rolled annealed wire made of AISI Grade 1018 steel with tensile strength of at least 75 000 psi (515 Mpa) in accordance with ASTM A853.
   c. One end of the vertical wires of the panel shall extend 1 inch from the last or the first horizontal wire to create a spiked top or bottom depending on installed position. The other end is cut flush.
   d. Panel camber may not exceed 0.094 inches.
   e. Fence panel components shall be manufactured using the electro-forge welding process for complete penetration of cross members.
2. Typical Fence Posts: 3-inch x 3-inch square shape. 11-gauge. Cold rolled 1008 grade steel to meet ASTM A500 and ASTM A787 and the following maximum horizontal loads, length as required for installation type. Aluminum alloy post caps.
3. Pedestrian Gate Frames: Two (2) 16-gauge 1-1/2-inch x 1-1/2-inch horizontal tubes and two (2) 11-gauge 2-inch x 2-inch vertical tubes, welded at intersections to create a rigid frame, in accordance with ASTM F900. See manufacturers specification for all gate frame design.
   a. Vehicle Access Gate frame tube sizes shall be confirmed by manufacturer engineering based upon gate sizes and load requirements.
4. Pedestrian Gate Posts: Minimum 4-inch x 4-inch square shape. 11-gauge. Cold rolled from 1008 grade steel to meet ASTM A500 and ASTM A787. Posts are to include cap and SPF-W Kit for adjacent panel mounting. Length as required for installation type.

5. Vehicle Access Post tube size shall be confirmed by manufacturer engineering based upon gate sizes and load requirements.

2.2 GATE HARDWARE

A. Latches permitting operation from both sides of gate, hinges, center gate stops and, for each gate leaf more than 5 feet wide, keepers. Fabricate latches with integral eye openings for padlocking; padlock accessible from both sides of gate.

B. Hot-dip galvanized steel in conformity with ASTM F900, sized to assure proper gate operation. Non-moving parts shall be powder coated.

C. Slide Gate Track Assembly: Manufacturer's standard track, with framing supports, bracing, and accessories, engineered to support size, weight, width, operation, and design of gate and roller assemblies.

2.3 GATE OPERATOR

A. General: Provide factory-assembled automatic gate operation system designed for gate size, type, weight, construction, use, traffic-flow patterns, and operation frequency. Provide operation system for gate specified, of size and capacity and with features, characteristics, and accessories suitable for Project conditions, recommended or provided by gate manufacturer. Complete with electric motor and factory-prewired motor controls, remote-control stations, control devices, power disconnect switch, obstruction detection device, lockable weatherproof enclosures protecting controls and all operating parts, and accessories required for proper operation. Provide enclosures with corrosion-resistant-protective and decorative finish and two (2) keys per lock. Include wiring from motor controls to motor. Coordinate operator wiring requirements and electrical characteristics with building electrical system.

B. Comply with NFPA 70.

C. Control Equipment: Comply with NEMA ICS 1, NEMA ICS 2, and NEMA ICS 6, with NFPA 70, Class 2 control circuit, maximum 24-V ac or dc.

2.4 FENCE AND GATE FINISHES

1. Finish: Standard polyester powder coating.
2. Color: Standard black.
3. Design: See drawings:
   a. 8-foot tall x 8-foot wide standard panels.
   b. Assume modified panels are required to meet site layout and geometry.
   c. Assume all posts and panels are installed above grade. No burial in soil or mulch.
4. Quantity: See drawings.
5. Privacy screening: Provide visual screening on panels between secure parking slide gate and the police building façade, and surrounding the waste bin enclosure. See drawings for locations. Color TBD.
6. Opaque Screen:
   a. Manufacturer: COLOURTREE Privacy Fence Screens
   b. Design: 170 GSM HDPE and 3 in. reinforced bindings, commercial UV stabilization, anti-rust brass grommets. 90% visibility blockage and 95% UV blockage.
   c. Color: Grey
   d. Size:
      1) One 8’ height x 50’ length.
      2) One 8’ height x 25’ length.

7. Alternate design options:
   a. MFR Manufacturing (Metalco) 'Twinbar' Fence Panel and Gates.
   b. Or approved alternate.

8. Owner's stock shall be provided prior to final acceptance:
   a. (2) Two full height/width fence panels.
   b. (2) Two full height fence posts.
   c. (2) Two full sets of attachment hardware and accessories.

2.5 ANCHORS, FASTENERS, FITTINGS, AND HARDWARE

A. Anchors, Fasteners, Fittings, and Hardware: Stainless steel unless otherwise noted in drawings. Corrosion-resistant-coated or non-corrodible materials; commercial quality, tamperproof, vandal and theft-resistant, concealed, recessed, and capped or plugged.

1. Manufacturer's standard anchors, fasteners, shims, and hardware for all manufactured products.
2. Paint exposed any exposed non-stainless fasteners with Tnemic paint finish to match Architectural specifications for color and finish. See Section 099600 - High Performance Coatings.

2.6 FABRICATION

A. Metal Components: Form to required shapes and sizes with true, level, and consistent curves, lines, and angles. Cut, drill, and punch metals cleanly and accurately. Remove burrs and sharp or rough areas on exposed surfaces, and ease edges unless otherwise indicated. Separate metals from dissimilar materials to prevent electrolytic action. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, bolts, and similar items.

1. Welded Connections: Weld connections continuously. Weld solid members with full length, full penetration welds and hollow members with full-circumference welds. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals. Obtain fusion without undercut or overlap. Remove weld flux immediately. At exposed connections, finish surfaces smooth and blended, so no roughness or unevenness shows after finishing and welded surface matches contours of adjoining surfaces.
2. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, bolts, and similar items.

B. Steel Shop Assembly: Preassemble items in the shop to the greatest extent possible to minimize field assembly. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation. Clearly mark units for assembly in the field.

2.7 FINISHES

A. Comply with National Association of Architectural Metal Manufacturer's "Metal Finishes Manual for Architecture and Metal Products AMP 500" for recommendations for applying and designating finishes.

B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of accepted Submittals. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of accepted Submittals and are assembled or installed to minimize contrast.

C. Reference specification Section 057000 - Decorative Metal for exterior metal finish standards.

PART 3 -EXECUTION

3.1 EXAMINATION

A. Verify installation conditions as satisfactory by Owner's Representative to receive Work of this Section. Do not install until unsatisfactory conditions are corrected. Beginning of installation constitutes acceptance of existing condition.

B. See Section 015639 - Temporary Tree and Plant Protection, for guidelines regarding work adjacent to existing tree critical root zones if required by the jurisdiction.

3.2 PREPARATION

A. Protection of existing conditions: Use every possible precaution to prevent damage to site features, such as structures, utilities, and irrigation, at the site of the Work. Report any damage immediately to the Owner's Representative.

1. Adjust Site Fence layout if modifications are required to avoid significant existing tree roots that require protection or other field conditions that prevent installation as illustrated.
2. Stake Site Fence layout in field for approval by Landscape Architect or Owner's Representative prior to installation of footings.

B. Fence and Gate layout: Coordinate layout and installation of fence and gate elements with all pavements, curbs, mechanical, plumbing, electrical features, and installation of the irrigation system and crushed gravel areas.

3.3 INSTALLATION GENERAL

A. Chalk mark location of site furnishings for review by the Owner's Representative.

B. Install all manufactured items in accordance with Specifications, Drawings, and manufacturer's directions. Where these may be in conflict, the more stringent requirements govern.

C. Set fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels. Maximum variation of seats or mounts from level or plumb is 1/16 inch unless otherwise noted.

D. Ensure units are plumb, level, and are centered and aligned with adjacent elements and pavement patterns as indicated on the Contract Drawings. Locate as indicated on the Contract Drawings.

E. Fit exposed connections accurately together to form hairline joints. Field weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations.

F. Comply with the following for field welding: Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals. Obtain fusion without undercut or overlap. Remove weld flux immediately. At exposed connections, finish surfaces smooth and blended, so no roughness or unevenness shows after finishing and welded surface matches contours of adjoining surfaces.

G. Fastening to in-place construction: Provide fasteners where metal fabrications are required to be fastened to in-place construction.

3.4 INSTALLATION OF MANUFACTURED ITEMS

A. Install in accordance with the manufacturer's specifications.

B. Securely anchor units' level and square in accordance with manufacturer's instructions. Install units without damage to shape or finish.

C. Post setting:

a. Post Setting: Hand-excavate holes for post foundations in firm, undisturbed or compacted soil. Set posts in concrete footing. Protect portion of posts aboveground from concrete splatter. Place concrete around posts and vibrate or tamp for consolidation. Using mechanical devices to set posts is not permitted. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during placement and finishing operations until concrete is sufficiently cured.

1) Dimensions and Profile: As indicated on Drawings.

2) Dimensions and Profile: 12" diameter for terminal posts, 10" diameter for intermediate posts. Concrete to be 6" deeper than post length in ground.
3) Exposed Concrete Footings: Extend concrete 2 inches above grade, smooth, and shape to shed water.
4) Concealed Concrete Footings: Stop footings flush with top of soil grade to allow covering with mulch.
5) Posts Set into Concrete in Sleeves: Use steel pipe sleeves preset and anchored into concrete for installing posts. After posts have been inserted into sleeves, fill annular space between post and sleeve with anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions, and finished sloped to drain water away from post.
6) Posts Set into Concrete in Voids: Form or core drill holes not less than 5 inches deep and 3/4 inch larger than OD of post. Clean holes of loose material, insert posts, and fill annular space between post and concrete with anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions, and finished sloped to drain water away from post.

Mounting Plate Installation: Bolt mounting plates attached to each post to slab or structure as indicated, using expansion bolts

D. Site Fence:

1. Align tops of Site Fence posts and panels typically across each segment length.
2. Step panels at posts where segment orientation changes direction to avoid stepped panel tops along segments.
3. Set posts in concrete footing. Protect portion of posts above ground from concrete splatter. Place concrete around posts and consolidation. Using mechanical devices to set posts is not permitted. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during placement and finishing operations until concrete is sufficiently cured.
4. Assume all posts and panels are installed above grade. No burial in soil or mulch.
5. See manufacturer installation specifications for requirements.

E. Install with galvanic isolation from surface to which each unit is mounted.

3.5 GATE OPERATOR INSTALLATION

A. General: Install gate operators according to manufacturer's written instructions, aligned and true to fence line and grade.

A. Excavation for Concrete Bases/Pads: Hand-excavate holes for bases/pads, in firm, undisturbed or compacted soil to dimensions and depths and at locations as required by gate operator component manufacturer's written instructions and as indicated on Drawings.

B. Retain paragraph above if gate operator, drives, or controls are support post, pedestal, or base/pad mounted. Retain paragraph below if gate operator, drives, or controls are base/pad mounted.

C. Concrete Bases/Pads: Cast-in-place or precast concrete, made of not less than 3000-psi compressive strength (28 days), [depth not less than 12 inches below frost line or detail on Drawings, dimensioned and reinforced according to gate operator component manufacturer's written instructions and as indicated on Drawings.

D. Vehicle Loop Detector System: [Cut grooves in pavement and] bury and seal wire loop according to manufacturer's written instructions. Connect to equipment operated by detector.

E. Comply with NFPA 70 and manufacturer's written instructions for grounding of electric-powered motors, controls, and other devices.

3.6 INSTALLATION OF FABRICATED ITEMS

A. Install in accordance with Contract Drawings.

B. Do not start fabrication prior to approval of shop drawings by the Owner’s Representative.

C. Verify layout dimensions in field before proceeding with fabrication. Verify measurements at Site.

D. Ensure units are plumb, level, and are centered and aligned with adjacent elements and/or pavement patterns as indicated on the Contract Drawings. Locate as indicated on the Contract Drawings.

E. Securely anchor units level and square in accordance with Contract Drawings. Install units without damage to shape or finish.

F. Provide anchorage to substrates indicated in accordance with Contract Drawings and shop drawing submittals.

G. Install with galvanic isolation from surface to which each unit is mounted.

3.7 ADJUSTING

a. Gate: Adjust gate to operate smoothly, easily, and quietly, free from binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.

b. Automatic Gate Operator: Energize circuits to electrical equipment and devices. Adjust operators, controls, safety devices, and limit switches.

c. Lubricate hardware, gate operator, and other moving parts.

3.8 DEMONSTRATION

a. Engage a factory-authorized service representative to train Owner's personnel to adjust, operate, and maintain gates.

3.9 CLEANING

A. Clean exterior finish on exposed and semi-exposed surfaces.

B. Touch up factory-applied finishes to restore damaged or soiled areas.

3.10 PROTECTION

A. After work in this section is complete, the Contractor shall be responsible for protecting work from sediment deposition and damage due to subsequent construction activity on the site.

END OF SECTION

SECTION 323300
SITE FURNISHINGS

PART 1 -GENERAL

1.1 SUMMARY

A. Provide all labor, materials, and equipment necessary to supply or fabricate and install the following:

1. Wood Timber Benches
2. Wood Timber Seat Tops
3. Site Handrails
4. Site Guard Rails
5. Trench Grates
6. Site Bike Racks
7. Waste Receptacles
8. Site Bollards
9. Site Fence and Waste Enclosure Gates

1.2 RELATED SECTIONS

Section 323100 - Site Fence and Gates

1.3 REFERENCE STANDARDS

A. ANSI/ICC A117.1 – American National Standard for Accessible and Usable Buildings and Facilities; International Code Council; current edition.

B. ATBCB ADAAG – Americans with Disabilities Act Accessibility Guidelines; 2010.

C. NAAMM – National Association of Architectural Metal Manufacturers “Metal Finishes Manual for Architecture and Metal Products”.

D. American Society for Testing and Materials International (ASTM):

1. ASTM A36/A36M-01, Standard Specification for Carbon Structural Steel.
2. ASTM A53/A53M-01, Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc Coated, Welded and Seamless.
3. ASTM A153/A153M-01a, Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
4. ASTM A307-00, Standard Specification for Carbon Steel Bolts and Studs, 60000 PSI Tensile Strength.

E. Concrete for seat walls, pavements, and footings shall be as specified in Section 033000 - Cast-In-Place Concrete and Section 321313 - Pedestrian Concrete Paving.

1.4 SUBMITTALS

A. Submit under provisions of Section 013000 – Submittal Procedures.

B. Manufactured Items:

1. Manufacturer’s Product Literature: Identify specific product, model, finishes, and features for all specified manufactured items.
2. Manufacturer’s installation instructions.
3. Samples of all specified materials, fasteners, and finishes.
4. Trench Grates: One material sample with specified finish for each trench grate type.
5. Site Fence: One 12” x 12” section of panel with specified finish. One 12” length of post with specified finish.

6. Shop Drawings for all Manufactured Items:
   a. Provide details of construction and installation. Include materials, dimensions, and methods of joining, fastening, and anchoring, post layout.
   b. Obtain approval for minor variations in detail for the purpose of improving fabrication and installation procedures, but not affecting general design for structural stability or size.
   c. Include shop drawings for all candidates submitted for equivalency status to specified products.

C. Fabricated Items:

7. Submit literature identifying all materials included in the finished product prior to fabrication.
8. Samples of all specified materials, fasteners, and finishes:
   a. Wood Timber Benches, Wood Timber Seat Tops:
      1) Timber with, and without, the final finishes.
      2) Stainless steel frame used in benches: Two 4-inch squares with sandblast finished edges and surfaces.
      3) Associated metal items and accessories.
   b. Skate Deterrents: One (1) fabricated unit with finished edges.
   c. Handrail: 6-inch length of tube with finished edges.
   d. Guardrail: 6-inch length of plate with finished edges.

9. Shop Drawings: Provide details of construction and installation including materials, dimensions, methods of joining, fastenings and anchoring for all fabricated items:
   a. Obtain approval for minor variations in detail for the purpose of improving fabrication and installation procedures, but not affecting general design for structural stability or size.
10. Wood fabrication shall be in accordance with Section 062013 - Exterior Finish Carpentry.
11. Metal fabrication shall be in accordance with Sections 055000 - Metal Fabrications and 057000 - Decorative Metal.
    a. Weld Certificates.

1.5 QUALITY ASSURANCE

A. Review layout and installation methods in Pre-Construction Meeting.

B. Installer Qualifications:

1. Completed work similar in material, design, and extent to that indicated for this Project.
2. Work has resulted in construction with a record of successful in-service performance.
3. Minimum 5 years of successful experience at a similar scope and scale.
4. Equipment and personnel familiar with installation techniques to perform the work specified.

C. Supervision:

5. Supervisor shall have 5 years of successful experience similar to that of the installer and shall be present at all times during the execution of the Work of this Section.
6. Individual shall be thoroughly familiar with the types of materials being installed and the proper methods for their installation.
7. Utilize the same field supervisor throughout the Project unless a substitution is submitted to and approved in writing by the Owner's Representative.

D. Manufacturer's instructions: Adhere to manufacturer's instructions for product handling, assembly and installation, and maintenance.

E. Manufacturer's original factory finish must be intact for the installation to be considered satisfactory. On-site touch-up painting or finishing will not be accepted.

F. Inspect surfaces to receive furnishings prior to any installation. Verify accuracy of layout. Ensure that surface and grades are complete and meet quality requirements of Contract Documents and the Owner's Representative. If layout, grades and or surface do not meet quality requirements, notify Owner's Representative immediately.

G. Ensure furnishings are plumb and are centered and aligned with other furnishings or pavement patterns as shown in Contract Documents unless otherwise specified.

1.6 SEQUENCE AND SCHEDULING

A. Coordinate installation of site furnishings as shown on the Contract Drawings with all other Work.

1.7 DELIVERY, HANDLING AND STORAGE

A. Deliver products in good condition.

B. Store products to prevent corrosion, deterioration, and damage.

1. Salvaged timber and Thermally Modified Wood may have inherent imperfections, aged character, and requires special storage prior to fabrication to ensure material quality is maintained.

C. Handle products to prevent damage.

D. Bent, scratched, or otherwise damaged items are not acceptable.

1.8 FIELD CONDTIONS

A. Existing Conditions:

1. Carefully examine the site before submitting a Bid. Be informed as to the nature and location of the Work; general and local conditions including climate, adjacent properties, and utilities; confirmation of the extents and nature of waterproofing and protection board at the facade; and the character of equipment and facilities needed prior to and during execution of the Work.
2. Utilities: Determine location of utilities and perform work to avoid possible damage.
3. Field Measurements: Verify actual locations and dimensions of walls, pavements, and other construction contiguous with fabrications by field measurements to ensure that actual dimensions correspond to established dimensions.
4. Provide allowance for adjusting, trimming, and/or fitting of all furnishings on site.
    a. Adjust shop drawings for the Site Fence layout if modifications are required to avoid significant existing tree roots that require protection or other field conditions that prevent installation as illustrated.

B. Inform the Owner's Representative immediately in writing for clarification if in the course of work discrepancies are found:

5. Between Contract Drawings and physical conditions.
6. Omissions or errors in Contract Drawings, or in layout as furnished by the Owner's Representative.
7. Work done after such discovery, unless authorized by the Owner's Representative, is at the Contractor's risk.

C. Proceed with and complete work as rapidly as portions of the site become available, working within seasonal limitations for each type of work required.

D. Do not install furnishings when ground, surfaces, or materials are frozen.

1.9 MEETINGS AND INSPECTIONS

A. Preconstruction Meeting:

1. Arrange a preconstruction meeting to take place at least 2 weeks before commencement of installation of steel frames and wood seats between the Owner's Representative and Landscape Architect, and Contractor.
2. Review the proposed schedule, overview specifications, describe installation sequence, and the coordination with associated construction activities.
3. Provide meeting notes for approval by Owner's Representative.

B. Inspections:

4. Inspections shall occur for mock-ups and final installation of finished components in the project. Notify the Owner's Representative (4) working days prior to inspections, unless noted otherwise.

1.10 MOCK-UPS

A. Provide the following mock-ups of fabricated items for acceptance by the Owner's Representative for review and acceptance prior to installation:

1. Guard Rail: One panel section with posts and attachment at each mounting condition (on-slope w/ footings, on level surface, on wall mount).
2. Salvaged Timber Bench: One full-size unit including all installation materials, fasteners, and accessories.
3. Salvaged Timber Seat Wall Top: One 4-foot-long unit including all installation materials, fasteners, and accessories.
4. Site Fence: One panel section with post and attachments.

B. Mock-up review may occur on-site or in the fabrication facility.

C. Do not begin final installation prior to acceptance of mock-up by Owner's Representative.

D. Protect and maintain accepted mock-up as standard of quality for Work of this Section. Accepted mock-ups may be retained as part of final installation.

1.11 SUBSTANTIAL COMPLETION AND ACCEPTANCE

A. The Owner's Representative shall schedule an inspection for Substantial Completion. Submit a written request for Substantial Completion inspection.

B. The Contractor will furnish full and complete written submittals for review by the Owner's Representative at the time of the request for Acceptance.

1.12 WARRANTY

A. General Warranty: The Warranty specified in this Section shall not deprive the Owner of other rights which the Owner may have under other provisions of the Contract Documents, and shall be in addition to, and run concurrent with, other Warranties made by the Contractor under requirements of the Contract Documents.

1. All manufactures standard warranties apply.

B. Make repairs and replacements and guarantee the satisfactory operation of the entire system in every detail for the 1-year Warranty Period. All warranty repairs and replacements are part of the Contract.

PART 2 -PRODUCTS

2.1 MANUFACTURED ITEMS

A. Trench Grates Type 1:

1. Supplier: Iron Age Designs. https://www.ironagegrates.com
2. Material: Cast iron, 100% Recycled.
3. Finish: Raw Natural Finish.
4. Design: 4" wide 'Regular Joe', Heel-proof, ADA compliant.

B. Site Bike Racks:

1. Manufacturer: Sportworks
2. Model: Tofino 'NoScratch'
3. Material: 316 stainless steel / rubber sides.
4. Installation: Surface mount.
5. Finish: Manufacturer's standard.
6. Quantity: See drawings.

C. Waste Receptacles:

1. Manufacturer: Superior.
2. Model: 'Regal VIP'.
3. Color: Mariner Blue.
4. Size: TR32 with 32-inch black dome lid.
5. Installation type: Surface mount.
6. Quantity: See drawings.

D. Site Bollards:

1. Manufacturer: 1-800-Bollards.
2. Type 1: High Security Fixed Deep Mount M50 (K12 equivalent). (8) bollards in entry plaza location.
   a. Type 2: M30 (K4 equivalent) shall be used for site bollards inside secure fence.
3. Model: FDMCS1080.
4. Design requirements: Meet the ASTM 2656 standard for high security/high impact and perimeter protection. Arrests a 15,000 lb. vehicle @ 50 mph.
5. Material: Stainless steel.
6. Size: See manufacturer standard details.
7. Quantity: See drawings.

E. Site Fence and Waste Enclosure Gates (Basis of Design):

1. See Section 323100 Site Fence and Gates for all perimeter secure access gates.
2. Manufacturer: Omega II Fence Systems.
   a. Alternate supplier and product option: MFR Manufacturing (Metalco) 'Twinbar' Fence Panel and Gates.

   See manufacturer's current specifications for all components and installation requirements.
3. Model: OMEGA SECUR.
4. Material: Steel.
   a. 98-5/8-inch wide, welded by one vertical wire of 4-gauge placed between two horizontal wires of 0.303 inch to form rectangles 1-15/16-inch x 7-7/8-inch.
   b. Cold rolled annealed wire made of AISI Grade 1018 steel with tensile strength of at least 75 000 psi (515 Mpa) in accordance with ASTM A853.
   c. One end of the vertical wires of the panel shall extend 1 inch from the last or the first horizontal wire to create a spiked top or bottom depending on installed position. The other end is cut flush.
   d. Panel camber may not exceed 0.094 inches.

5. Typical Fence Posts: 3-inch x 3-inch square shape. 11-gauge. Cold rolled 1008 grade steel to meet ASTM A500 and ASTM A787 and the following maximum horizontal loads, length as required for installation type. Aluminum alloy post caps.
6. Pedestrian Gate Frames: Two (2) 16-gauge 1-1/2-inch x 1-1/2-inch horizontal tubes and two (2) 11-gauge 2-inch x 2-inch vertical tubes, welded at intersections to create a rigid frame, in accordance with ASTM F900. See manufacturers specification for all gate frame design.
   a. Vehicle Access Gate frame tube sizes shall be confirmed by manufacturer engineering based upon gate sizes and load requirements.
7. Pedestrian Gate Posts: Minimum 4-inch x 4-inch square shape. 11-gauge. Cold rolled from 1008 grade steel to meet ASTM A500 and ASTM A787. Posts are to include cap and SPF-W Kit for adjacent panel mounting. Length as required for installation type.
   a. Vehicle Access Post tube size shall be confirmed by manufacturer engineering based upon gate sizes and load requirements.
8. ~~Gate Hardware: Standard Hardware: Hot-dip galvanized steel in conformity with ASTM F900, sized to assure proper gate operation. Non-moving parts shall be powder coated.~~
   a. ~~Hinge: Structurally designed to support all gates without deformation during opening and closing.~~
   b. ~~Spring Hinge: For self-closing gate mechanism.~~
   c. ~~Latch: Clamp-on gravity system that is self-latching. Includes Self-locking Device with padlock eyes as an integral part of latch.~~
   d. ~~Panic Bar and Plate: (Dorex 8500).~~
   e. ~~Additional Hardware for Double Gates:~~
      1) ~~Drop bar: Secure one gate in closed position, with stop pipe to engage the center drop rod.~~
      2) ~~Double Gate Keyed Lock: LOCINOX (LAKQ U2) with double levers, both sides of gate.~~
9. ~~Slide Gate Operator: General: Provide factory-assembled automatic gate operation system designed for gate size, type, weight, construction, use, traffic-flow patterns, and operation frequency. Provide operation system for gate specified, of size and capacity and with features, characteristics, and accessories suitable for Project conditions, recommended or provided by gate manufacturer. Complete with electric motor and factory-prewired motor controls, remote-control stations, control devices, power disconnect switch, obstruction detection device, lockable weatherproof enclosures protecting controls and all operating parts, and accessories required for proper operation. Provide enclosures with corrosion-resistant protective and decorative finish and two (2) keys per lock. Include wiring from motor controls to motor. Coordinate operator wiring requirements and electrical characteristics with building electrical system.~~
   a. ~~See manufacturers specifications for details.~~
   b. ~~Coordinate electronic keypad and access system requirements with building management systems and vehicle detection systems.~~
10. Finish: Standard polyester powder coating.
11. Color: Standard black.
12. Design: See drawings:
    a. 8-foot tall x 8-foot wide standard panels.
    b. Assume modified panels are required to meet site layout and geometry.
    c. Assume all posts and panels are installed above grade. No burial in soil or mulch.
13. Quantity: See drawings.

14. Privacy screening: Provide visual screening on panels between secure parking slide gate and the police building façade, and surrounding the waste bin enclosure. See drawings for locations. Color TBD.
15. Opaque Screen:
    a. Manufacturer: COLOURTREE Privacy Fence Screens
    b. Design: 170 GSM HDPE and 3 in. reinforced bindings, commercial UV stabilization, anti-rust brass grommets. 90% visibility blockage and 95% UV blockage.
    c. Color: Grey
    d. Size:
        1) One 8’ height x 50’ length.
        2) One 8’ height x 25’ length.
16. Alternate design options:
    a. Designmaster ‘Contempo’ Fence.
    b. Or approved alternate.
    c. MFR Manufacturing (Metalco) ‘Twinbar’ Fence Panel and Gates.

17. Owner’s stock shall be provided prior to final acceptance:
    a. (2) Two full height/width fence panels.
    b. (2) Two full height fence posts.
    c. (2) Two full sets of attachment hardware and accessories.

2.2 FABRICATED ITEMS

A. Wood Timber Benches:

1. See Construction Documents for design, layout, and quantity.
2. Stainless Steel Frame:
    a. Grind all welds smooth, ease all exposed edges.
    b. Finish: light sandblast
        1) Option 2: Painted, Tnemec, ‘Dark Bronze’
3. Wood options:
    a. Salvaged Timber: Douglas Fir
    b. Kebony (Thermally Modified Wood) 2x4 decking
4. Wood color and finish:
    a. 2-coat stain, color TBD
    b. Unstained Thermally Modified Wood.
5. Wood fabrication shall be in accordance with 062013 Exterior Finish Carpentry for fabrication and assembly standards.
6. All fasteners, shims, washers, and accessories shall be stainless steel.
7. Owner’s stock shall be provided prior to final acceptance:
    a. (2) Two full length/width bench timber units.

B. Wood Timber Seat Tops:

1. See Construction Documents for design, layout, and quantity.
2. Stainless Steel Frame:
    a. Grind all welds smooth, ease all exposed edges.
    b. Finish: light sandblast
        1) Option 2: Painted, Tnemec, ‘Matte black color’
3. Wood options:
    a. Salvaged Timber: Douglas Fir
    b. Kebony (Thermally Modified Wood) 2x4 decking
4. Wood color and finish:
    a. 2-coat stain, color TBD
    b. Unstained Thermally Modified Wood.

5. Wood fabrication shall be in accordance with Section 06 20 13 - Exterior Finish Carpentry for fabrication and assembly standards.
6. All fasteners, shims, washers, and accessories shall be stainless steel.
7. Owner's stock shall be provided prior to final acceptance:
   a. (2) Two full length/width bench timber units.

C. Handrails:

1. Materials: 1-1/2-inch diameter, 3/8-inch round type 316 stainless steel tube.
2. Finish: Grind all welds smooth, ease all exposed edges. Brushed.
3. Design: See Drawings.
4. Quantity: See Drawings.

D. Guard Rails:

1. Materials: 4-inch wide, 1/2-inch thick, ~~type 316 stainless~~ galvanized steel plate.
2. Finish: Grind all welds smooth, ease all exposed edges. ~~Light sandblast finish~~. Shop applies primer. Shop applied Tnemic paint. Matte black.
3. Design: See Drawings.
4. Quantity: See Drawings.

E. Skate Deterrents:

1. Materials:1/2-inch square solid type 316 stainless steel bar w/ (3) 3/8-inch diameter x 2" long threaded stainless steel dowels welded to bottom face. Grind welds smooth to provide flush bottom surface.
2. Color and finish: Ease all edges to remove sharp surfaces and corners. Light sandblast finish.
3. Design: 8" L x 1/2" SQ.
4. Quantity: 40.

2.3 ANCHORS, FASTENERS, FITTINGS, AND HARDWARE

A. Anchors, Fasteners, Fittings, and Hardware: Stainless steel unless otherwise noted in drawings. Corrosion-resistant-coated or non-corrodible materials; commercial quality, tamperproof, vandal and theft-resistant, concealed, recessed, and capped or plugged.

1. Manufacturer's standard anchors, fasteners, shims, and hardware for all manufactured products.
2. Paint exposed any exposed non-stainless fasteners with Tnemic paint finish to match Architectural specifications for color and finish. See Section 099600 - High Performance Coatings.

2.4 FABRICATION

A. Metal Components: Form to required shapes and sizes with true, level, and consistent curves, lines, and angles. Cut, drill, and punch metals cleanly and accurately. Remove burrs and sharp or rough areas on exposed surfaces, and ease edges unless otherwise indicated. Separate metals from dissimilar materials to prevent electrolytic action. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, bolts, and similar items.

1. Welded Connections: Weld connections continuously. Weld solid members with full length, full penetration welds and hollow members with full-circumference welds. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals. Obtain fusion without undercut or overlap. Remove weld flux immediately. At exposed connections, finish surfaces smooth and blended, so no roughness or unevenness shows after finishing and welded surface matches contours of adjoining surfaces.

2. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, bolts, and similar items.

B. Wood and Steel Shop Assembly: Preassemble items in the shop to the greatest extent possible to minimize field assembly. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation. Clearly mark units for assembly in the field.

C. Reference specification Section 062013 - Exterior Finish Carpentry for wood fabrication and assembly standards.

2.5 FINISHES

A. Comply with National Association of Architectural Metal Manufacturer's "Metal Finishes Manual for Architecture and Metal Products AMP 500" for recommendations for applying and designating finishes.

B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of accepted Submittals. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of accepted Submittals and are assembled or installed to minimize contrast.

C. Reference specification Section 062013 - Exterior Wood Carpentry for wood finish standards.

D. Reference specification Section 057000 - Decorative Metal for exterior metal finish standards.

E. Provide mock-up of finish with Thermally Modified Wood sample for acceptance by Owner's Representative prior to finish application.

PART 3 -EXECUTION

3.1 EXAMINATION

A. Verify installation conditions as satisfactory by Owner's Representative to receive Work of this Section. Do not install until unsatisfactory conditions are corrected. Beginning of installation constitutes acceptance of existing condition.

B. See Section 015639 - Temporary Tree and Plant Protection, for guidelines regarding work adjacent to existing tree critical root zones if required by the jurisdiction.

3.2 PREPARATION

A. Protection of existing conditions: Use every possible precaution to prevent damage to site features, such as structures, utilities, and irrigation, at the site of the Work. Report any damage immediately to the Owner's Representative.

1. Adjust Site Fence layout if modifications are required to avoid significant existing tree roots that require protection or other field conditions that prevent installation as illustrated.
2. Stake Site Fence layout in field for approval by Landscape Architect or Owner's Representative prior to installation of footings.

B. Furnishing layout: Coordinate layout and installation of furnishings with all pavements, curbs, mechanical, plumbing, electrical features, and installation of the irrigation system and crushed gravel areas.

3.3 INSTALLATION GENERAL

A. Chalk mark location of site furnishings for review by the Owner's Representative.

B. Install all manufactured items in accordance with Specifications, Drawings, and manufacturer's directions. Where these may be in conflict, the more stringent requirements govern.

C. Set fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels. Maximum variation of seats or mounts from level or plumb is 1/16 inch unless otherwise noted.

D. Ensure furnishing units are plumb, level, and are centered and aligned with adjacent elements and pavement patterns as indicated on the Contract Drawings. Locate as indicated on the Contract Drawings.

E. Fit exposed connections accurately together to form hairline joints. Field weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations.

F. Comply with the following for field welding: Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals. Obtain fusion without undercut or overlap. Remove weld flux immediately. At exposed connections, finish surfaces smooth and blended, so no roughness or unevenness shows after finishing and welded surface matches contours of adjoining surfaces.

G. Fastening to in-place construction: Provide fasteners where metal fabrications are required to be fastened to in-place construction.

3.4 INSTALLATION OF MANUFACTURED ITEMS

A. Install in accordance with the manufacturer's specifications.

B. Securely anchor furnishing units' level and square in accordance with manufacturer's instructions. Install units without damage to shape or finish.

C. Site Fence:

1. Align tops of Site Fence posts and panels typically across each segment length.
2. Step panels at posts where segment orientation changes direction to avoid stepped panel tops along segments.
3. Set posts in concrete footing. Protect portion of posts above ground from concrete splatter. Place concrete around posts and consolidation. Using mechanical devices to set posts is not permitted. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during placement and finishing operations until concrete is sufficiently cured.
4. Assume all posts and panels are installed above grade. No burial in soil or mulch.
5. See manufacturer installation specifications for requirements.

D. Install with galvanic isolation from surface to which each unit is mounted.

3.5 INSTALLATION OF FABRICATED ITEMS

A. Install in accordance with Contract Drawings.

B. Do not start fabrication prior to approval of shop drawings by the Owner's Representative.

C. Verify layout dimensions in field before proceeding with fabrication. Verify measurements at Site.

D. Ensure furnishing units are plumb, level, and are centered and aligned with adjacent elements and/or pavement patterns as indicated on the Contract Drawings. Locate as indicated on the Contract Drawings.

E. Securely anchor furnishing units level and square in accordance with Contract Drawings. Install units without damage to shape or finish.

F. Provide anchorage to substrates indicated in accordance with Contract Drawings and shop drawing submittals.

G. Install with galvanic isolation from surface to which each unit is mounted.

3.6 CLEANING

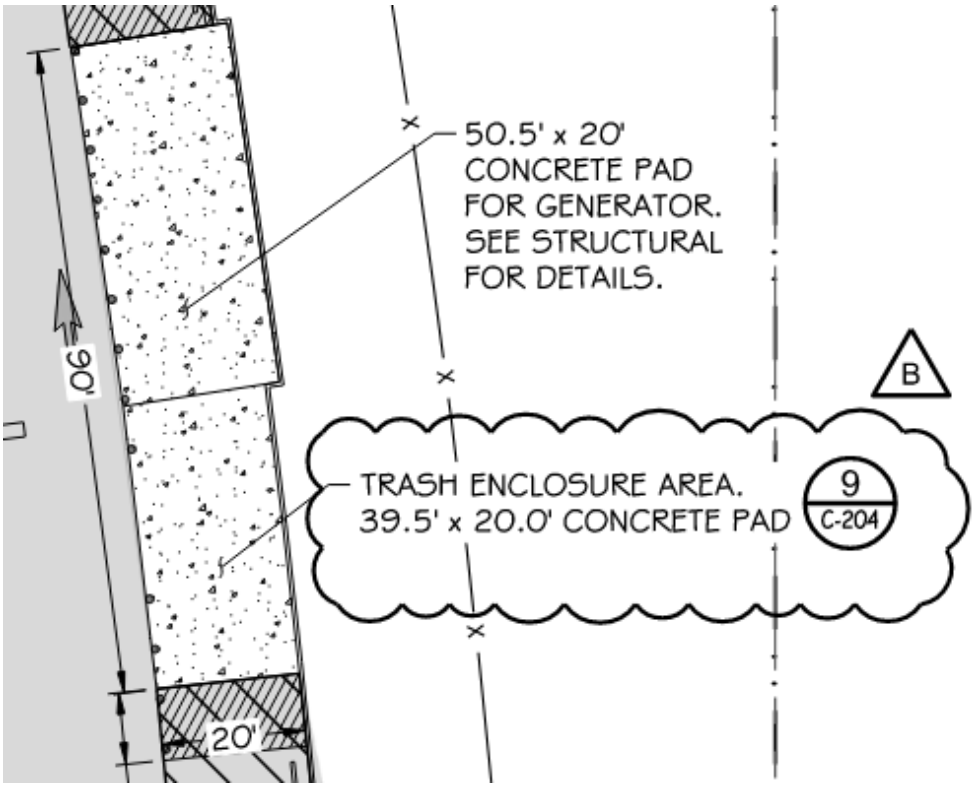
A. Clean exterior finish on exposed and semi-exposed surfaces.

B. Touch up factory-applied finishes to restore damaged or soiled areas.

3.7 PROTECTION

A. After work in this section is complete, the Contractor shall be responsible for protecting work from sediment deposition and damage due to subsequent construction activity on the site.

END OF SECTION



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www.kpff.com

KPFF Project # 1018202200044

NEW POLICE STATION
CITY OF LACEY
222 COLLEGE STREET SE, LACEY, WA 98503
CITY PROJECT NO. PW 2022-13

ORIGINAL SHEET SIZE = 11 x 17
HALF SIZE REDUCTIONS = N/A

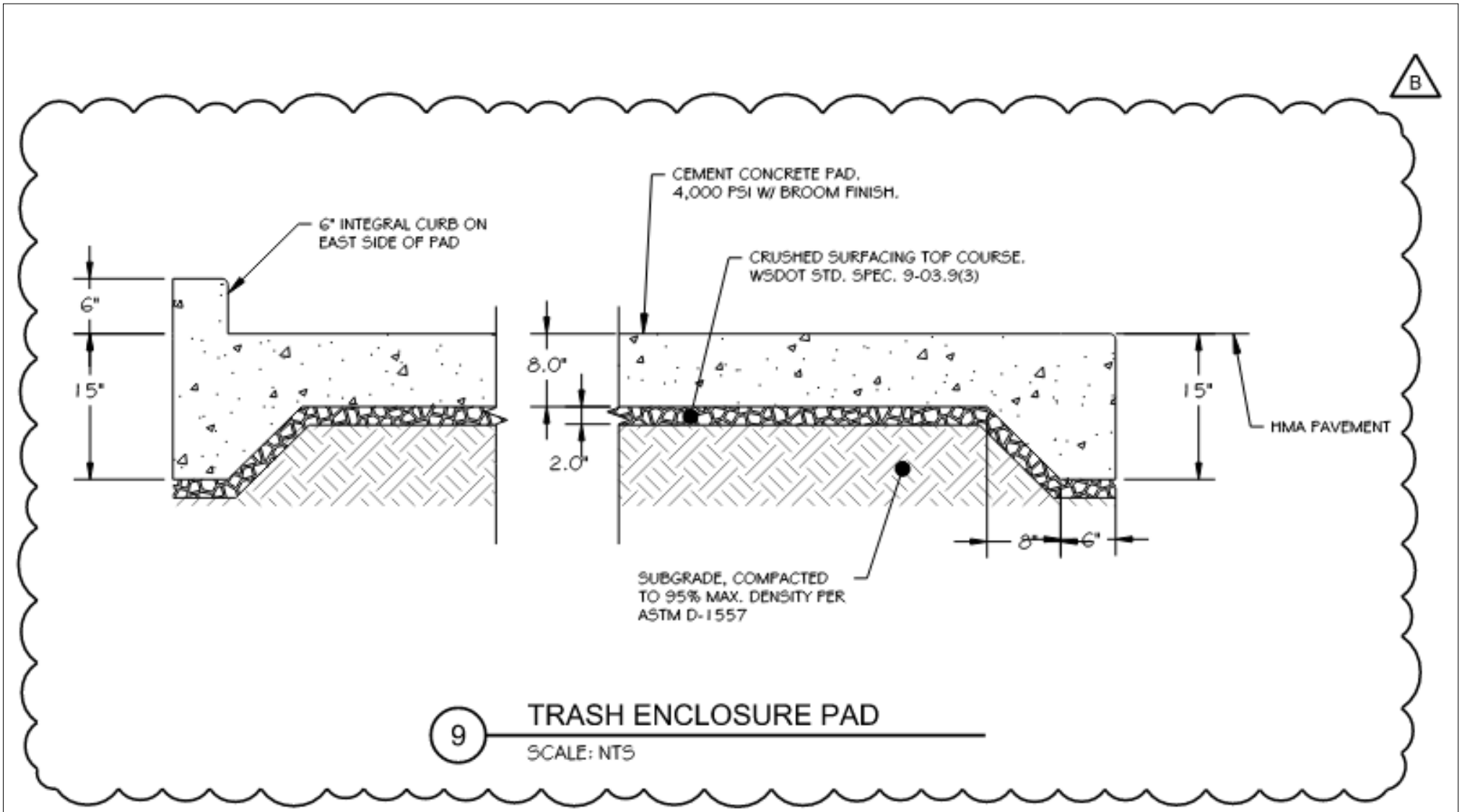
REVISIONS:
B ADDENDUM NO. 02 10.19.2023

DATE:
10.19.2023

ADDENDUM NO. 02

SHEET NO.
C-200-A2

PAVING & HORIZONTAL
CONTROL PLAN NORTH



9 TRASH ENCLOSURE PAD

SCALE: NTS

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NEW POLICE STATION

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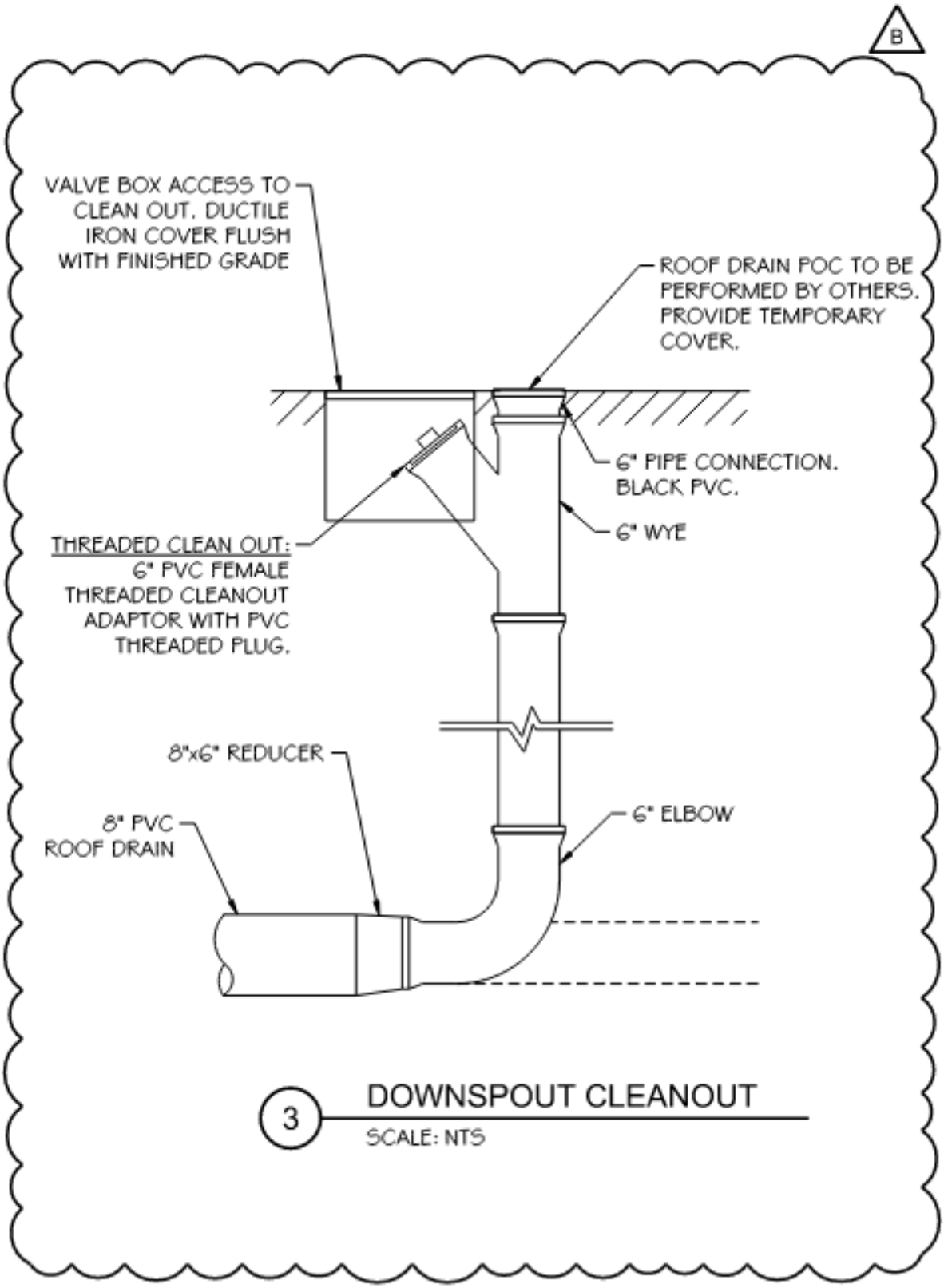
10.19.2023
ADDENDUM NO. 02

SHEET NO.
C-204-A2
SITE DETAILS



3 DOWNSPOUT CLEANOUT

SCALE: NTS

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811 First Avenue, Suite 220
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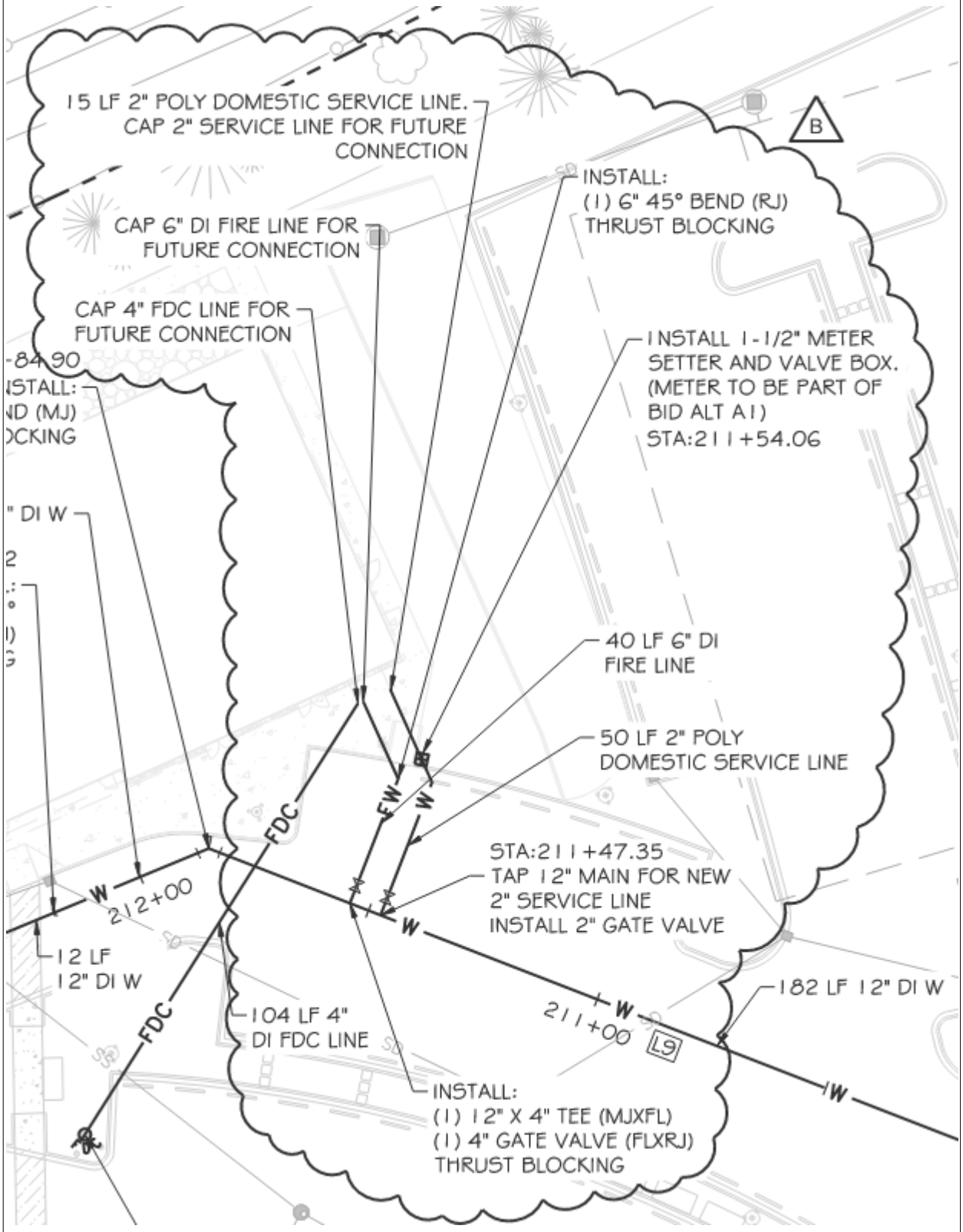
SHEET NO.
C-504-A2
STORM DRAINAGE DETAILS



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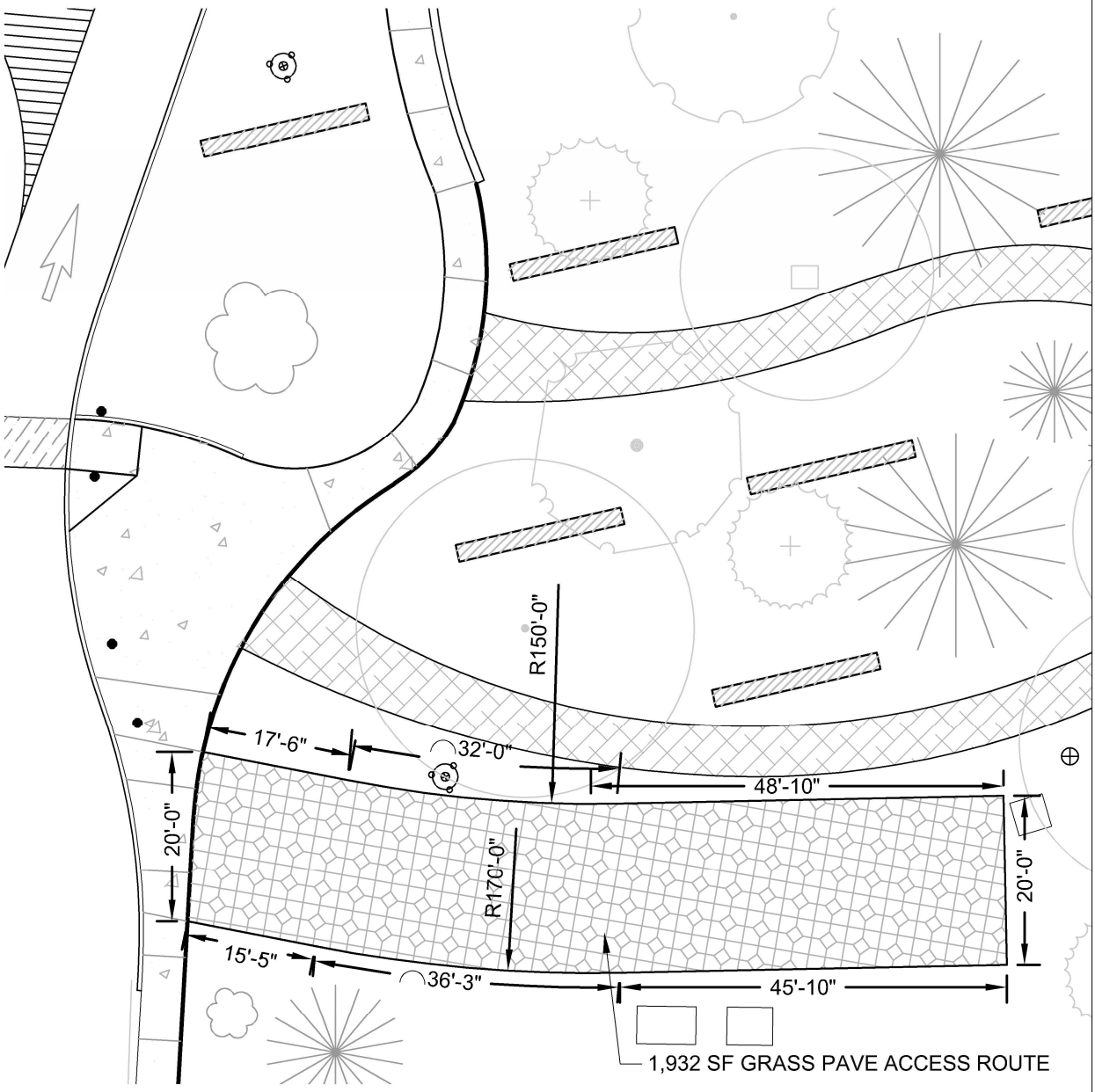
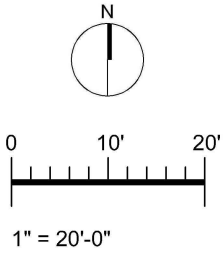
SHEET NO.
C-600-A2
WATER PLAN NORTH



1 ACCESS ROUTE

SCALE: 1" = 20'-0"



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SWIFT COMPANY LLC

[redacted]

Project #202202

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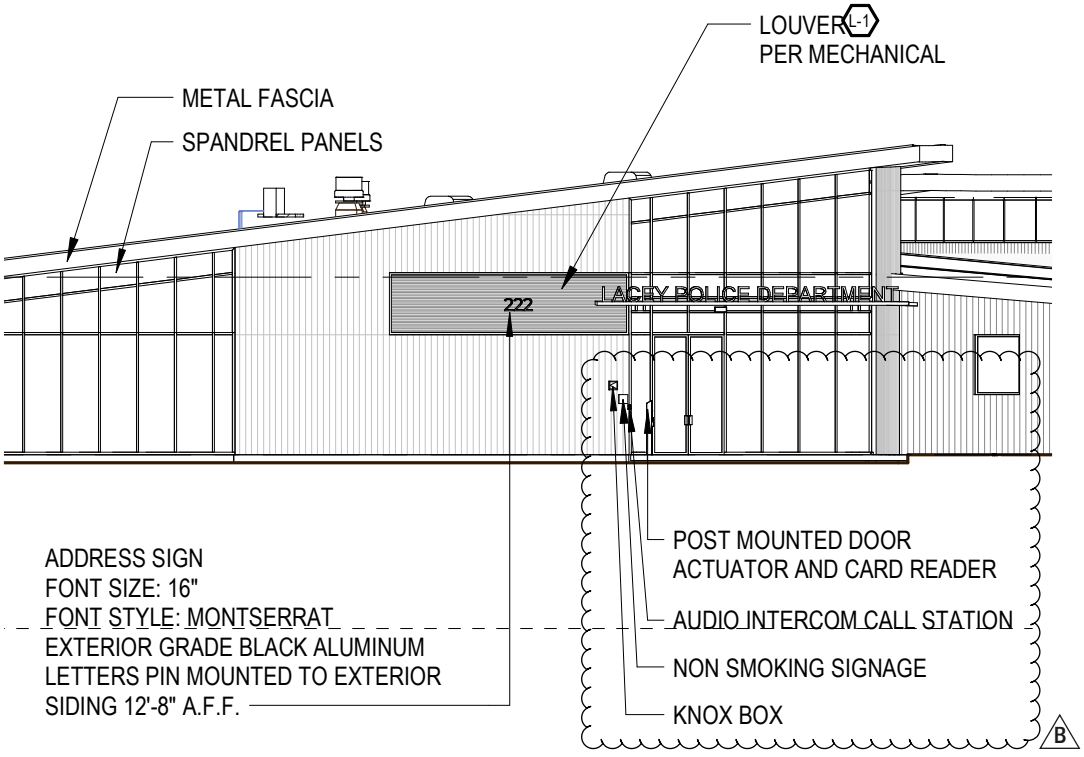
10.19.2023

ADDENDUM NO. 02

SHEET NO.

L-112-A2

MATERIALS
AND LAYOUT
PLAN



4 MAIN BUILDING WEST (PARTIAL)
1/16" = 1'-0"

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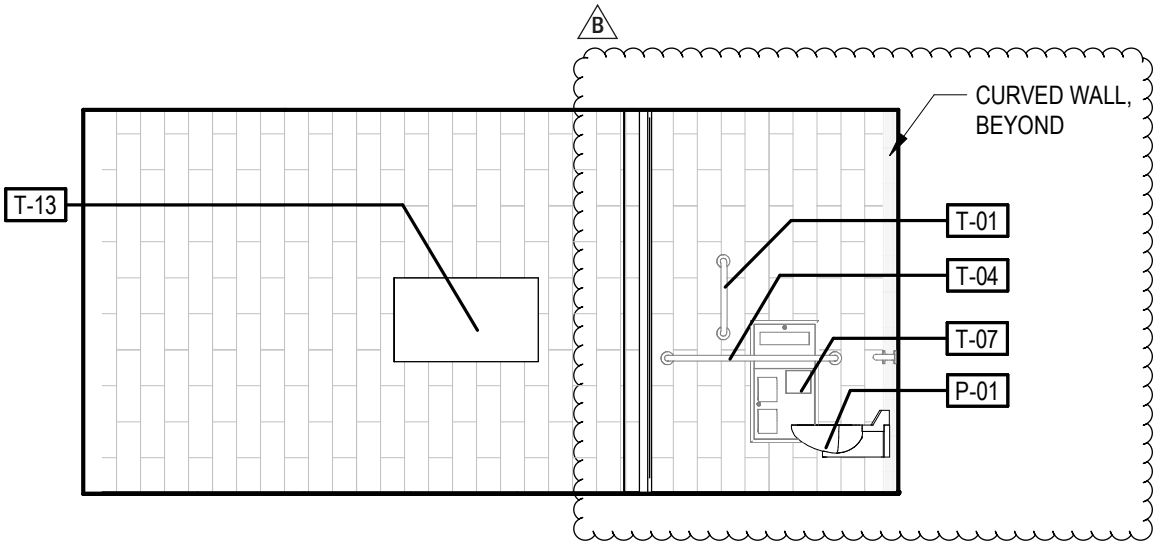
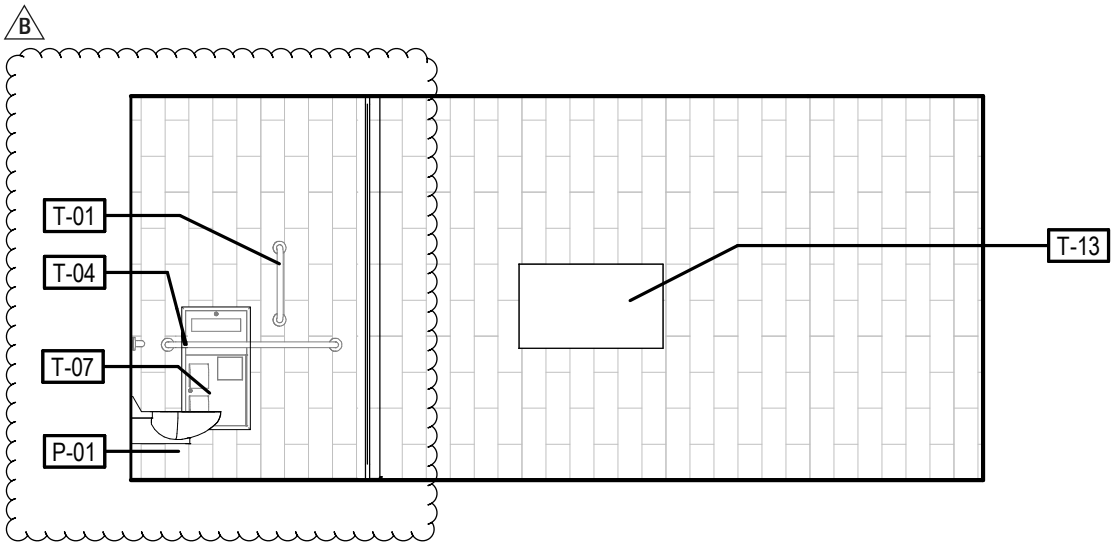
SHEET NO.
A-201-A2
EXTERIOR ELEVATIONS



4 MEN'S RESTROOM 103 - S
1/4" = 1'-0"



6 WOMEN'S RESTROOM 104 - N
1/4" = 1'-0"

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906 Columbia Street SW, Suite 400
Olympia, Washington 98501
811 First Avenue, Suite 220
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ADDENDUM NO. 02

SHEET NO.
A-402-A2

ENLARGED RESTROOM - PLANS / ELEVATIONS

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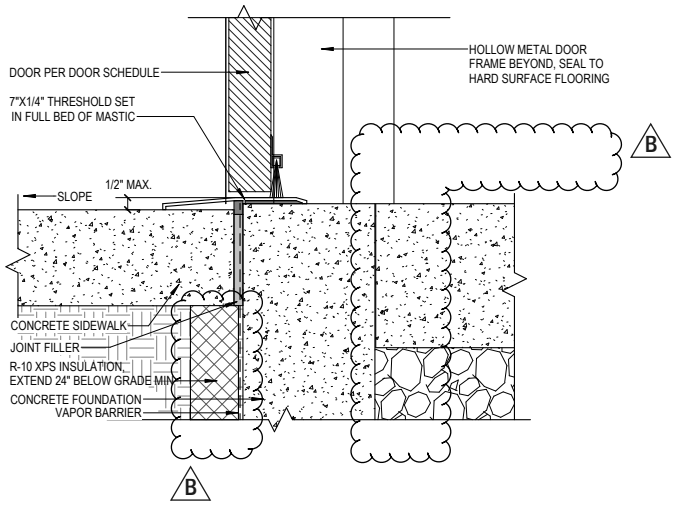
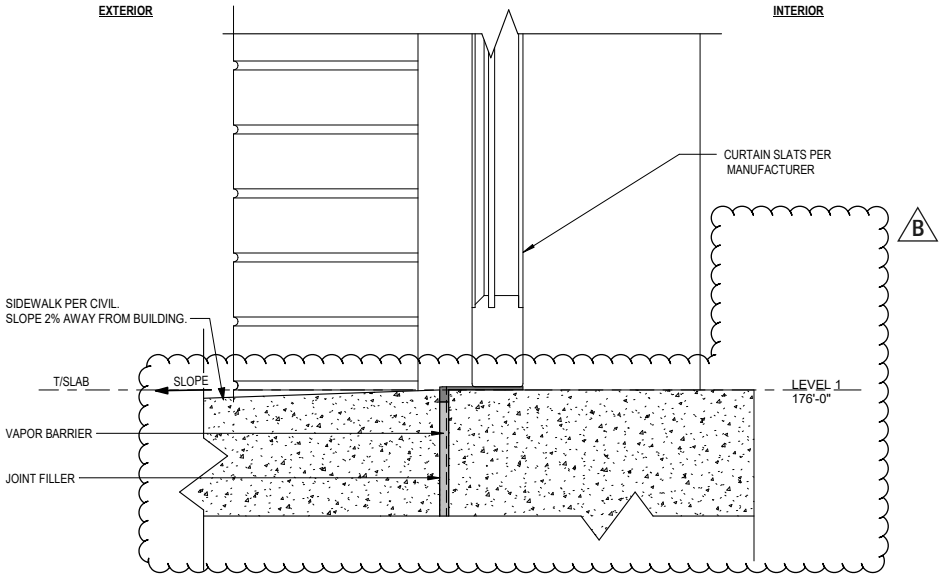


9 EXTERIOR HM DOOR THRESHOLD

1 1/2" = 1'-0"



13 EXTR OVERHEAD DOOR THRESHOLD

1 1/2" = 1'-0"

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10.19.2023

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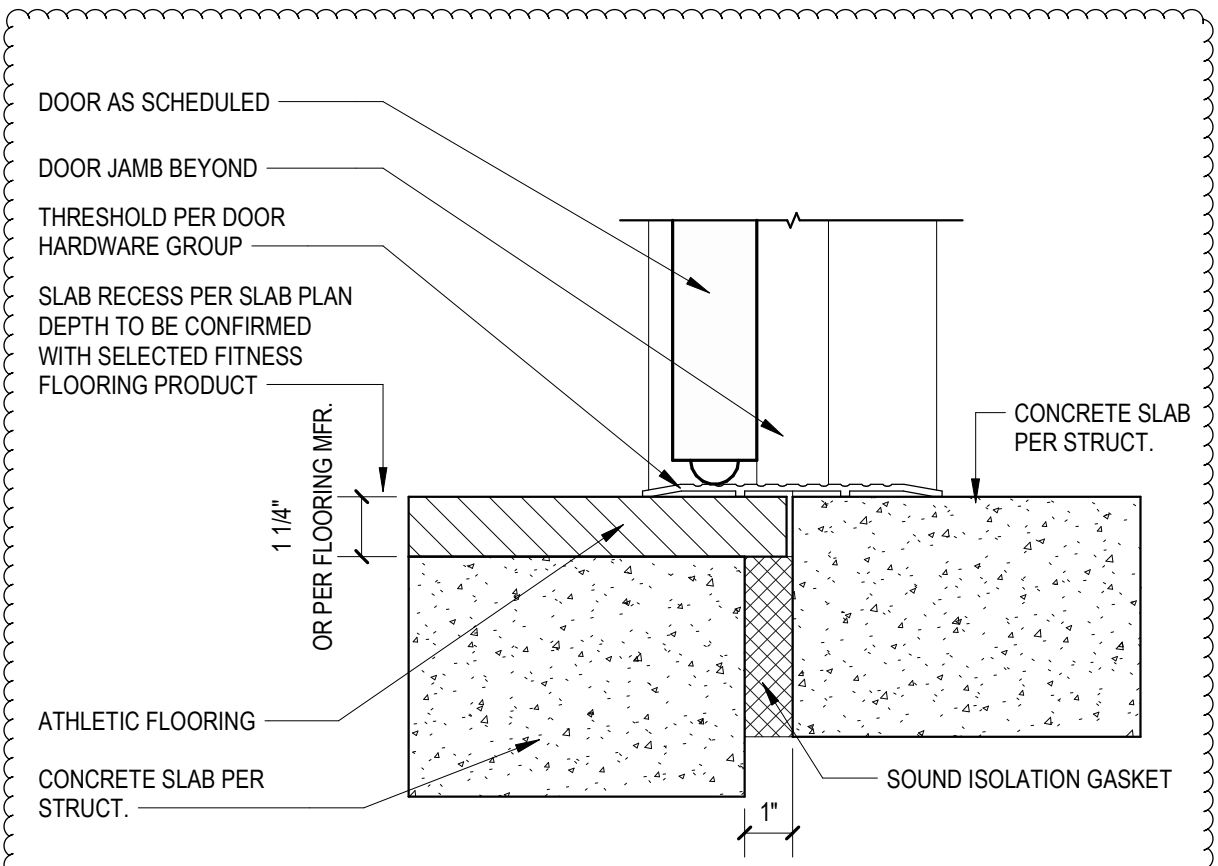
SHEET NO.
A-541-A2

EXTERIOR HOLLOW METAL DOOR & FRAME DETAIL

B



17 FITNESS SOUND ISOLATION THRESHOLD
3" = 1'-0"

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SHEET NO.
A-548-A2

INTERIOR DOOR, FRAME & RELITE DETAILS

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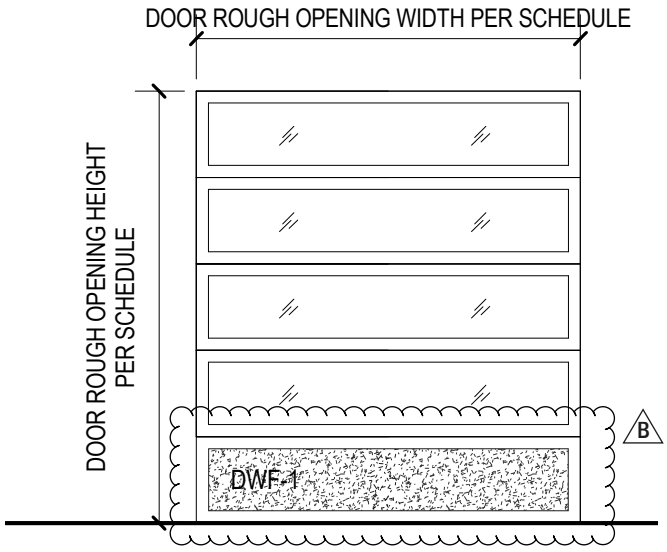

OHD-A

1 DOOR TYPES
1/4" = 1'-0"

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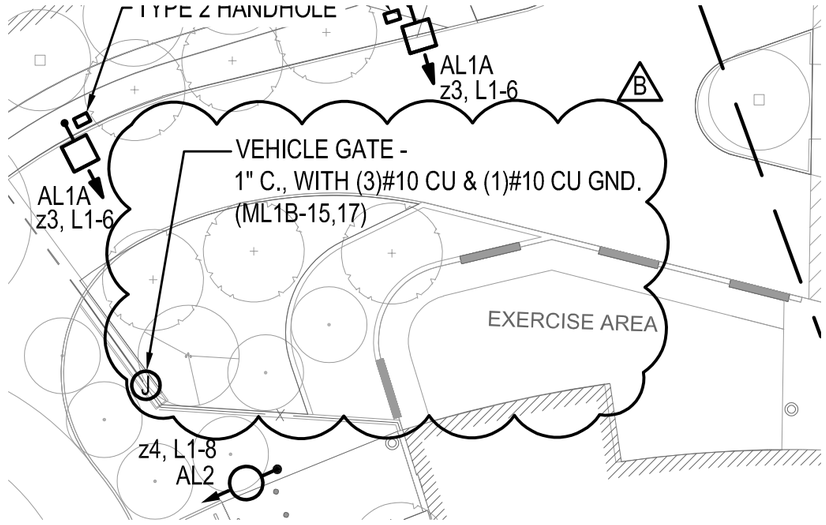
ADDENDUM NO. 02

SHEET NO.
A-602-A2

DOOR, FRAME & LOUVER TYPES



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906 Columbia Street SW, Suite 400
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811 First Avenue, Suite 220
Seattle, Washington 98104
www.KMB-architects.com
360.352.8883

KMB Project No. 22022

BCE engineers, inc.
6021 12th Street East, Suite 200
Fife, Washington 98424
T: 253.922.0446
F: 253.922.0896

BCE Project No. 222-055

NEW POLICE STATION
CITY OF LACEY
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CITY PROJECT NO. PW 2022-13

ORIGINAL SHEET SIZE = 11 x 17
HALF SIZE REDUCTIONS = N/A

REVISIONS:
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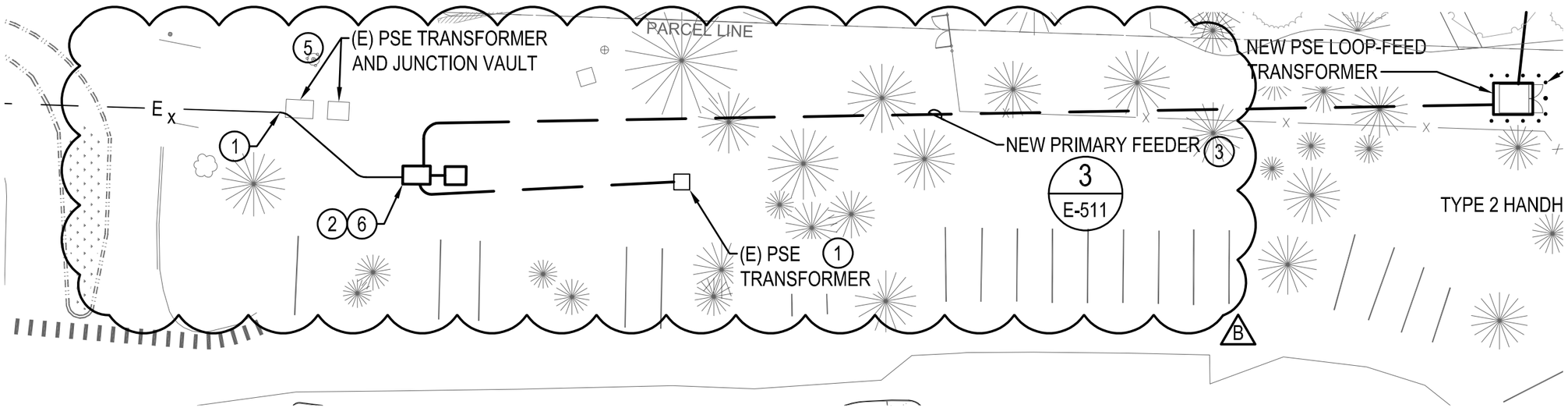
DATE:
10.19.2023

ADDENDUM NO. 02

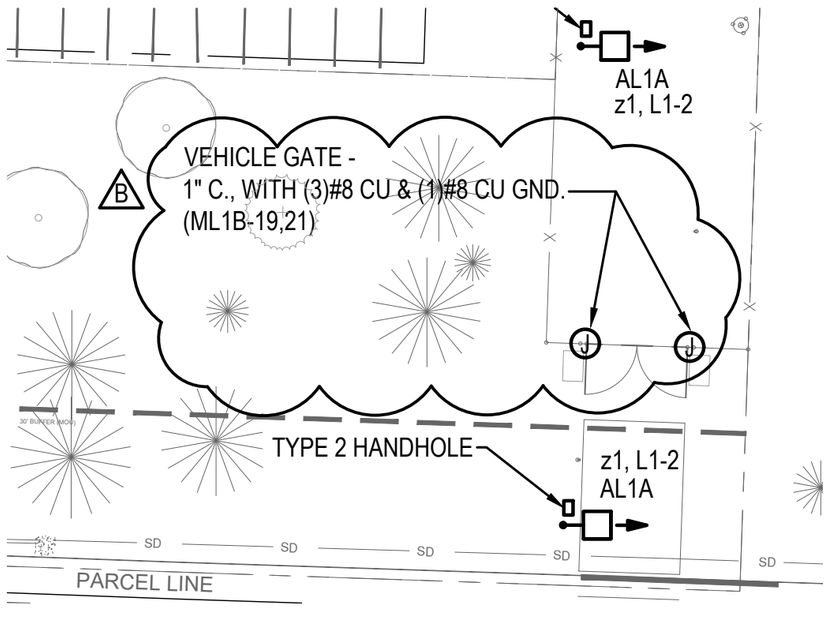
SHEET NO.
ES102-A2

ELECTRICAL SITE PLAN - NORTH



CONSTRUCTION NOTES

1. COORDINATE WITH PSE FOR INTERCEPTION AND EXTENSION OF EXISTING CONDUIT TO NEW LOCATION. B
2. NEW PSE SERVICE CONNECTION - COORDINATE WITH PSE FOR UNDERGROUND LINE EXTENSION.
3. PROVIDE (2) 4" PVC CONDUITS - COORDINATE WITH PSE FOR CONDUIT, WIRE, AND TRENCHING REQUIREMENTS.
4. PROVIDE 444-LA VAULT WITH LID AND SLIP RESISTANT HATCH.
5. COORDINATE WITH PSE FOR RELOCATION OF EXISTING JUNCTION VAULT AND SERVICE TRANSFORMER VAULT OUT OF NEW FIRE LANE EXTENTS. SEE APPROXIMATE NEW LOCATION ON THIS SHEET. B
6. NEW LOCATION FOR PSE JUNCTION VAULT AND TRANSFORMER VAULT.



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811 First Avenue, Suite 220
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360.352.8883
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BCE engineers, inc.
6021 12th Street East, Suite 200
Fife, Washington 98424
T: 253.922.0446
F: 253.922.0896
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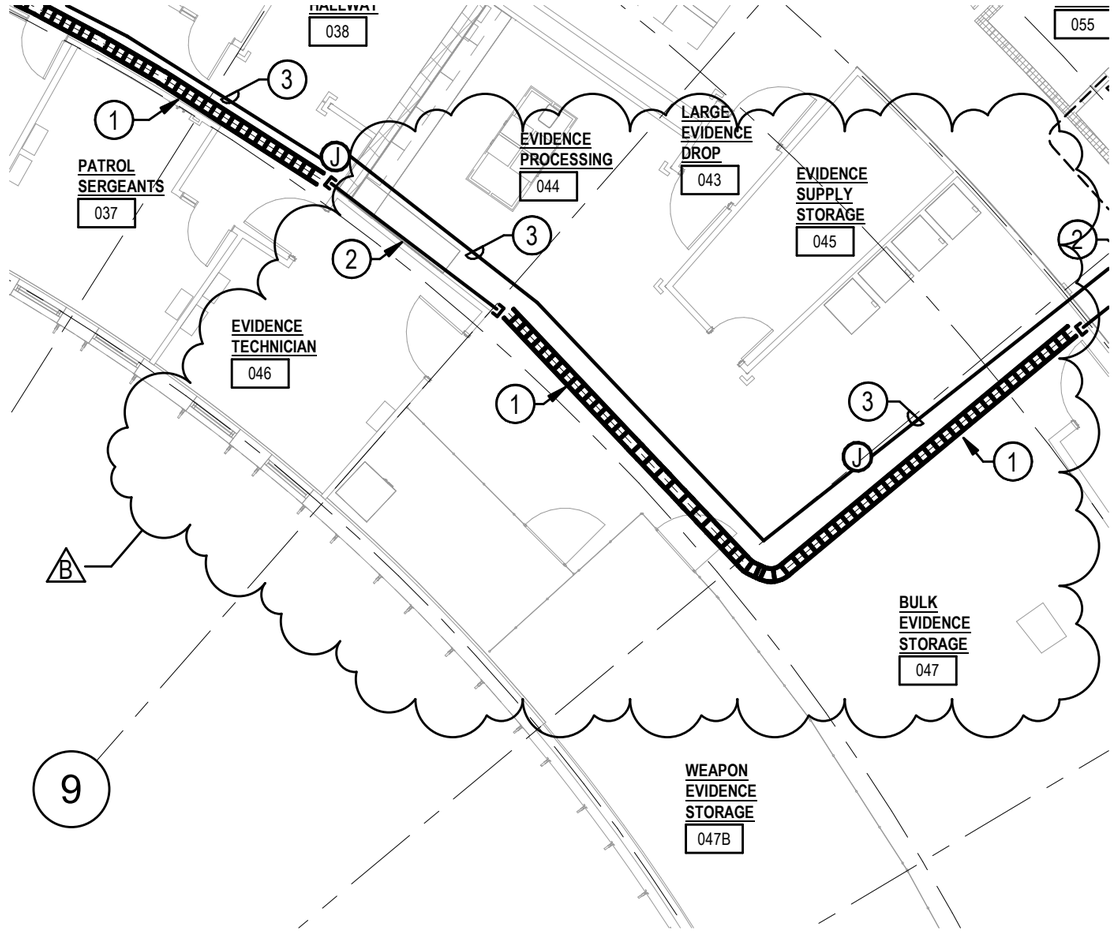
SHEET NO.
ES103-A2
ELECTRICAL SITE PLAN - SOUTH



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6021 12th Street East, Suite 200
Fife, Washington 98424
T: 253.922.0446
F: 253.922.0896

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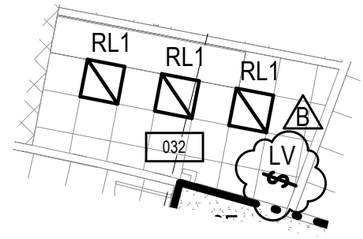
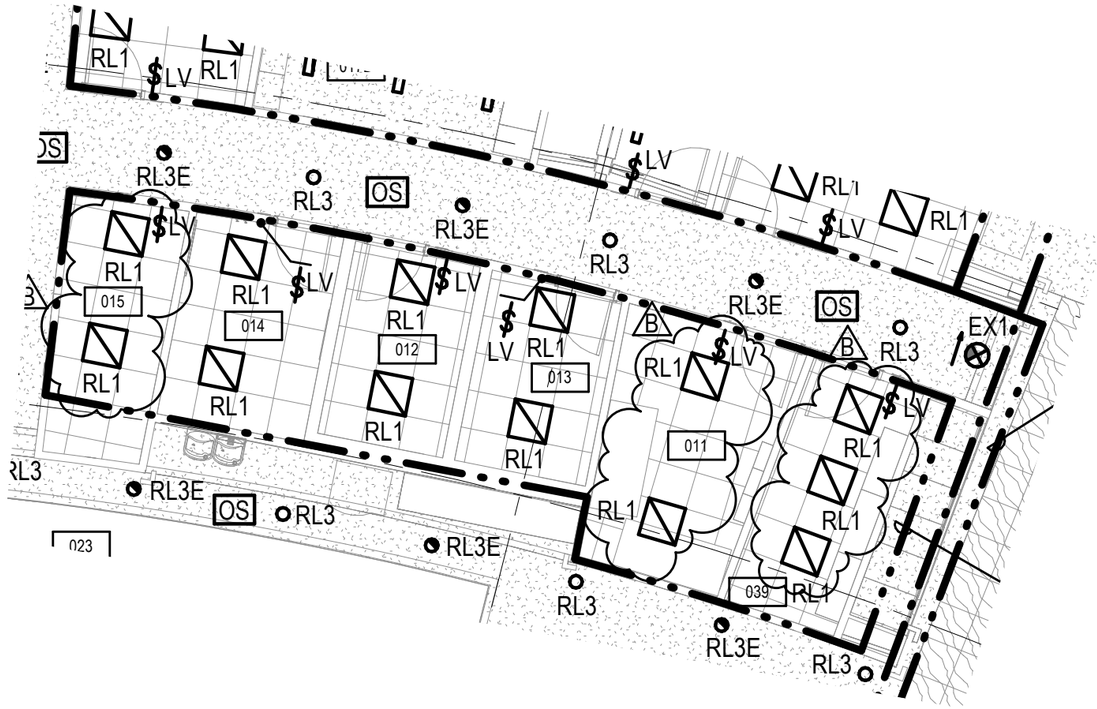
10.19.2023

ADDENDUM NO. 02

SHEET NO.
E-011-A2

OVERALL LOWER LEVEL
-SYSTEMS CONDUIT
ROUTING PLAN





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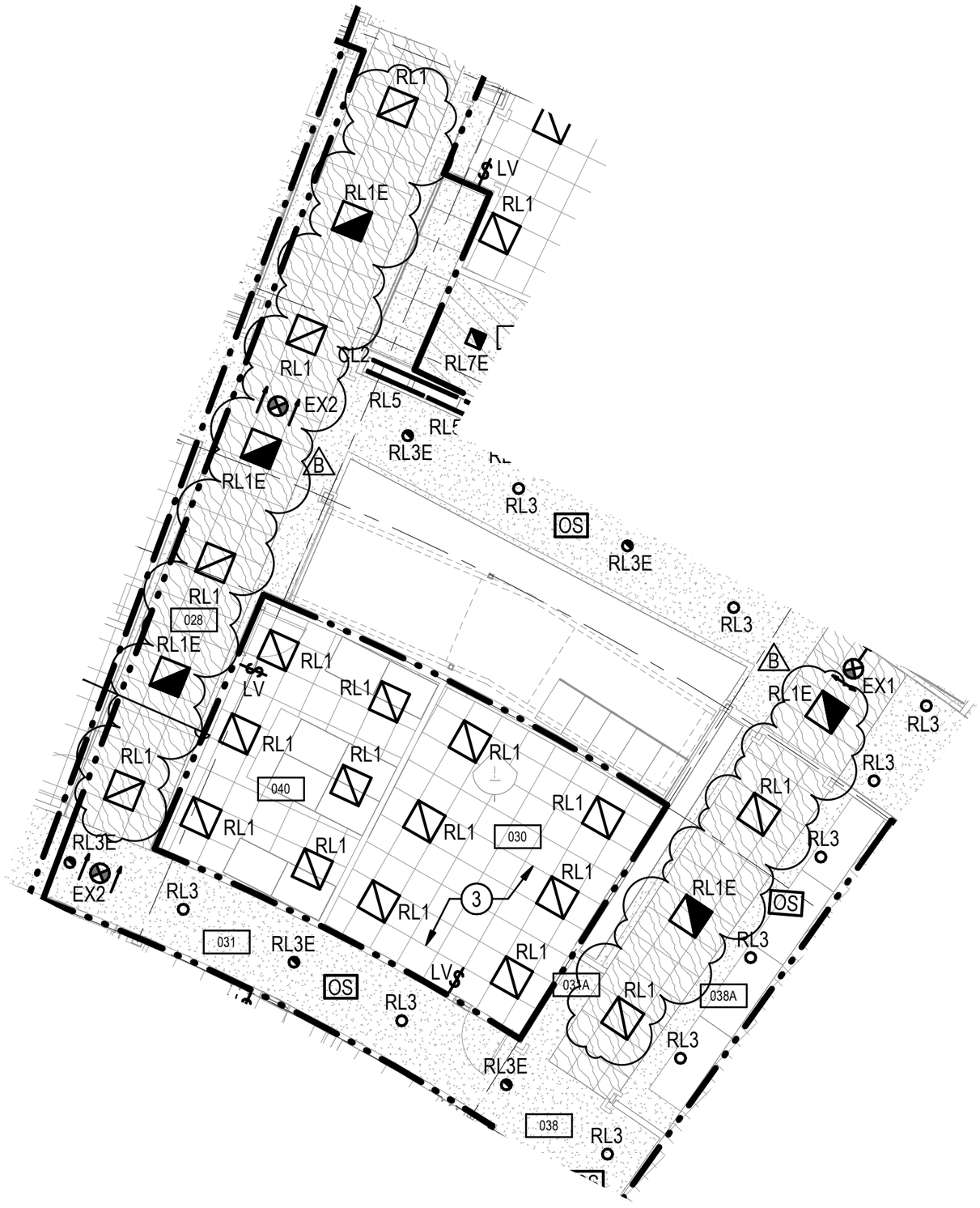
SHEET NO.
E-121-A2
LOWER LEVEL - LIGHTING PLAN - WEST



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BCE engineers, inc.

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F: 253.922.0896

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NEW POLICE STATION
CITY OF LACEY

222 COLLEGE STREET SE, LACEY, WA 98503
CITY PROJECT NO. PW 2022-13

ORIGINAL SHEET SIZE = 11 x 17
HALF SIZE REDUCTIONS = N/A

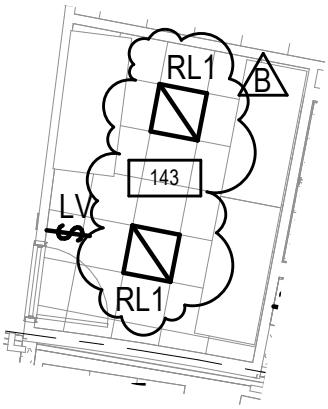
REVISIONS:
B ADDENDUM NO. 02 10.19.2023

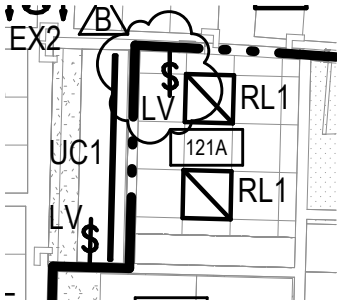
DATE:
10.19.2023

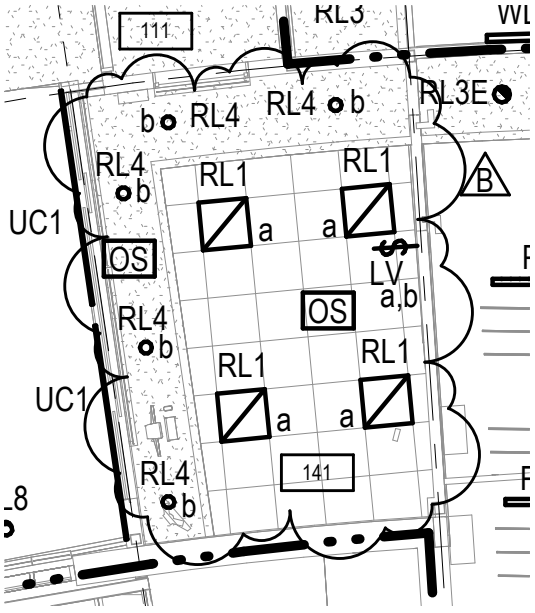
ADDENDUM NO. 02

SHEET NO.
E-122

LOWER LEVEL - LIGHTING PLAN - EAST







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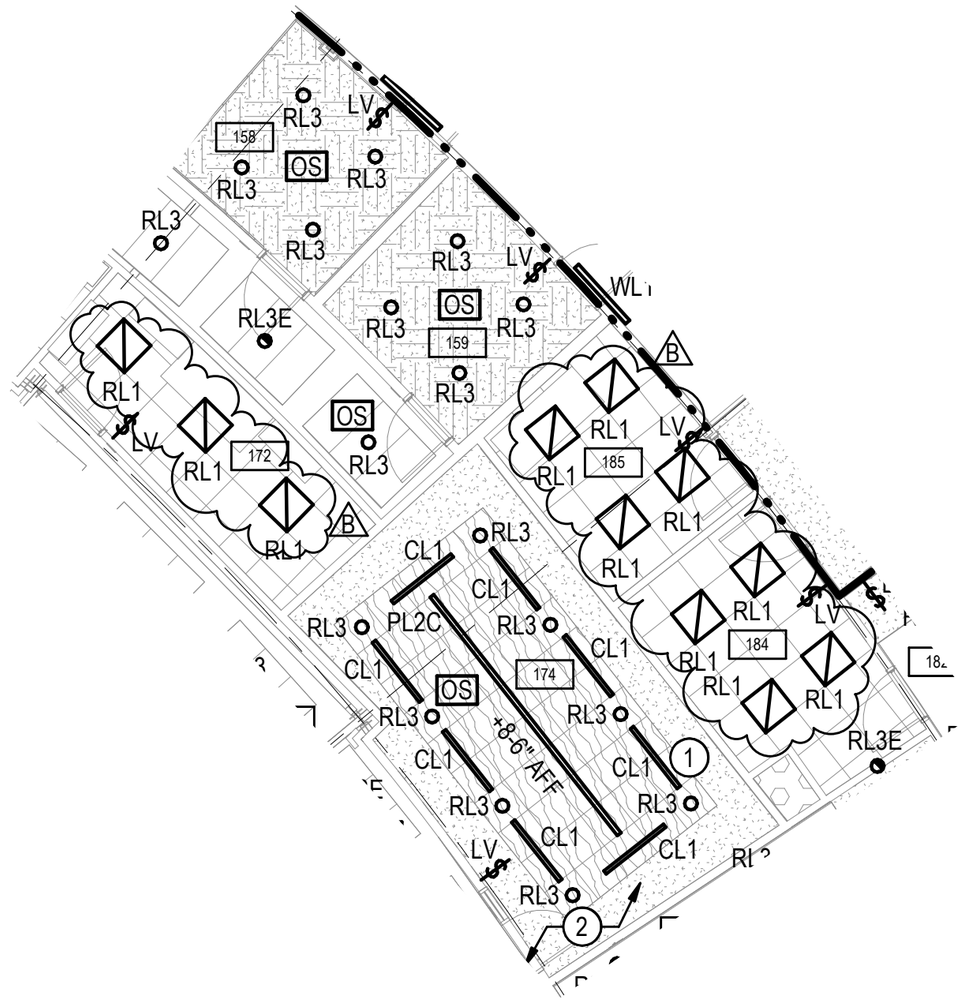
REVISIONS:

DATE:
10.12.2023

ADDENDUM NO. 01

SHEET NO.
E-123-A2

UPPER LEVEL - LIGHTING PLAN - WEST



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DATE:
10.19.2023
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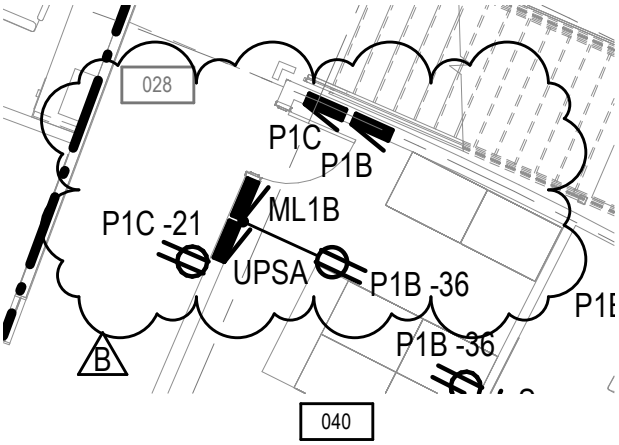
SHEET NO.
E-124-A2

UPPER LEVEL - LIGHTING PLAN - EAST



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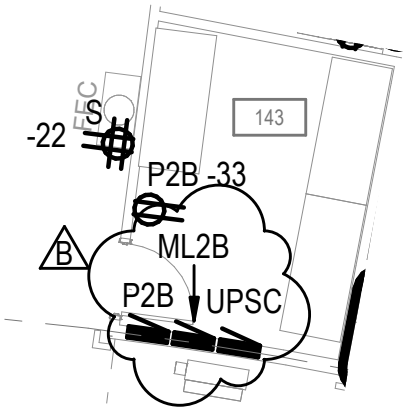
ADDENDUM NO. 01

SHEET NO.
E-132-A2

LOWER LEVEL - POWER PLAN - EAST



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811 First Avenue, Suite 220
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6021 12th Street East, Suite 200
Fife, Washington 98424
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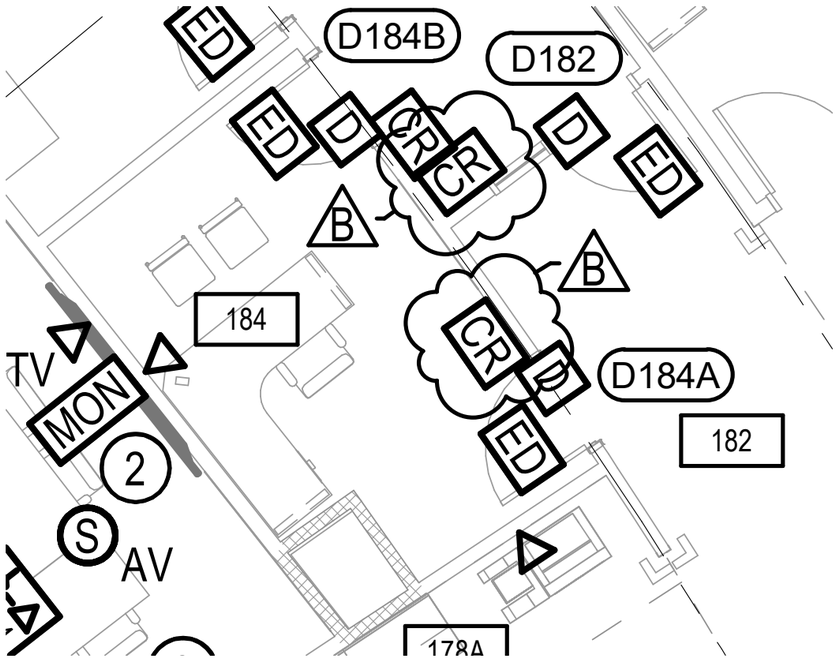
DATE:
10.12.2023

ADDENDUM NO. 01

SHEET NO.
E-133-A2
UPPER LEVEL - POWER PLAN - WEST



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811 First Avenue, Suite 220
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www.KMB-architects.com
360.352.8883

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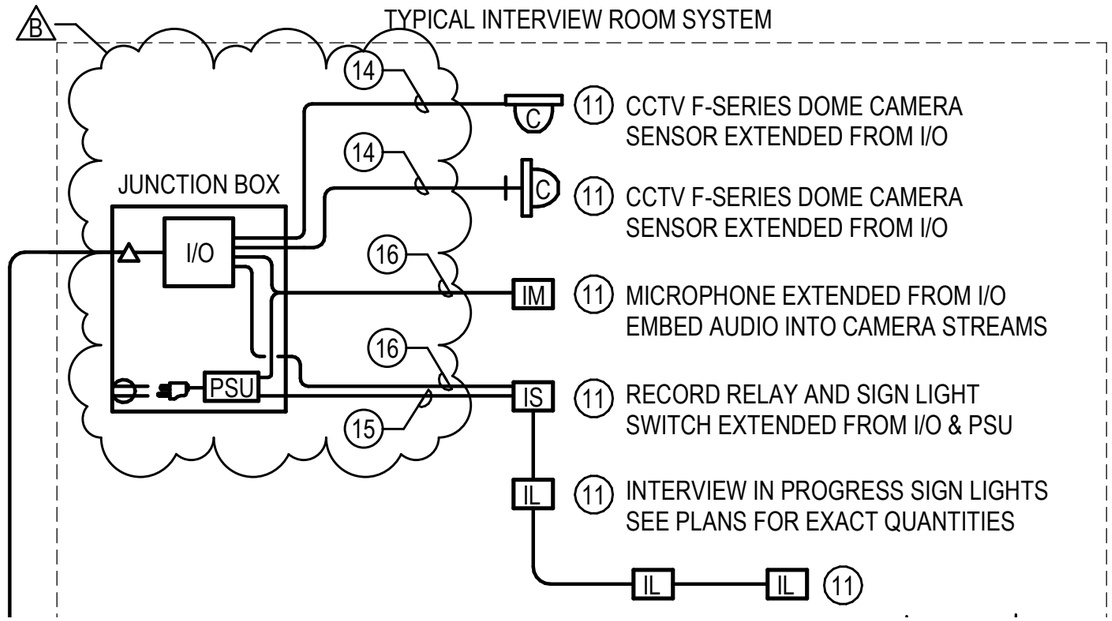
ADDENDUM NO. 02

SHEET NO.
E-144-A2

UPPER LEVEL -SYSTEMS PLAN -EAST



CONSTRUCTION NOTES

B

14 PROVIDE F-SERIES CAMERA SENSOR CABLING PER SPECIFICATIONS.

15 PROVIDE 12AWG 2-CONDUCTOR (12/2) CABLING FOR SIGN LIGHT SWITCH AND 12VDC SIGN LIGHTS.

16 PROVIDE SHIELDED PAIR MIC/LINE CABLING FOR MICROPHONE AND SWITCH RELAYS.

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906 Columbia Street SW, Suite 400
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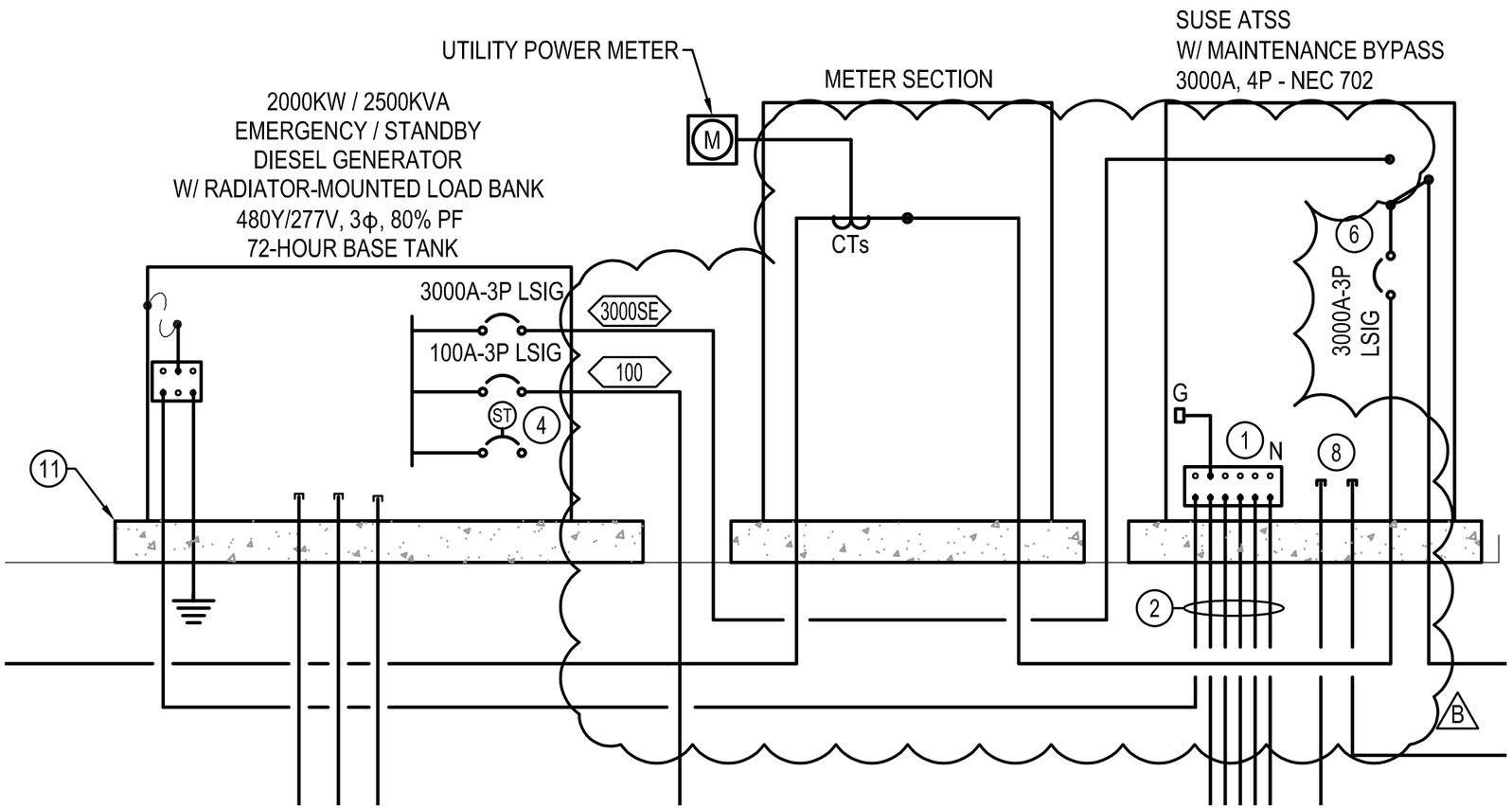
ADDENDUM NO. 02

SHEET NO.
E-529-A2
CCTV RISER DIAGRAM



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10.19.2023

ADDENDUM NO. 02

SHEET NO.
E-601-A2

ELECTRICAL ONE-LINE DIAGRAM

PANEL: ML1B **PHASE: 3** **VOLTAGE: 208Y/120V** **FEED TYPE: Bottom** **100 A MLO**

LOCATION: STORAGE 040 **MOUNT: Recessed** **WIRE: 4** **100 A BUS**

TYPE: Type 1 **POLES: 42** **SF MAINS: No** **10,000 AIC MIN.**

LC	#	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	#	LC
Motor	1	CF-1	20	1	36 VA	840 VA					1	20	DH-102	2	Motor
H	3	EWH-201	20	2			1125 VA	1125 VA			2	20	EWH-301	4	H
	5								1125 VA	1125 VA				6	
D	7	FAUCET/FLUSH VALVES - LOCKERS	20	1	300 VA	0 VA					2	20	SPARE	8	--
HVAC; D	9	EF-210 RECEPTACLE	20	1			312 VA	0 VA						10	
--	11	SPARE	20	2					0 VA	--	1	--	SPACE	12	--
	13				0 VA	--					1	--	SPACE	14	--
D	15	VEHICLE NORTH GATE POWER	20	2			750 VA	--			1	--	SPACE	16	--
	17								750 VA	--	1	--	SPACE	18	--
D	19	VEHICLE SOUTH GATE POWER	20	2	1500 VA	--					1	--	SPACE	20	--
	21						1500 VA	--			1	--	SPACE	22	--
--	23	SPARE	20	1					0 VA	--	1	--	SPACE	24	--
--	25	SPARE	20	1	0 VA	--					1	--	SPACE	26	--
--	27	SPARE	20	1			0 VA	--			1	--	SPACE	28	--
--	29	SPARE	20	1					0 VA	--	1	--	SPACE	30	--
--	31	SPACE	--	1	--	--					1	--	SPACE	32	--
--	33	SPACE	--	1			--	--			1	--	SPACE	34	--
--	35	SPACE	--	1					--	--	1	--	SPACE	36	--
--	37	SPACE	--	1	--	--					1	--	SPACE	38	--
--	39	SPACE	--	1			--	--			1	--	SPACE	40	--
--	41	SPACE	--	1					--	--	1	--	SPACE	42	--
		Total Connected Load (VA):			2676 VA		4812 VA		3001 VA						
		Total Connected Current (A):			22		41		25						

B

L (125%) =
R<10,000(100%) = 0 VA
R>10,000 (50%) = 0 VA
RECEPTS TOTAL =
AW (ESTIMATED DEMAND) =
AW (DEMAND FACTOR) =

H (100%) = 4501 VA
Motor-LARGE (125%) = 1050 VA
Motor-OTHER (100%) = 36 VA
MOTOR TOTAL = 1086 VA
RW (ESTIMATED DEMAND) =
RW (DEMAND FACTOR) =

WH (100%) =
K (65%) =
A (100%) =
D (100%) = 5040 VA
E (80%) =

Panel Totals	
Total Conn. Load:	10489 VA
Total Conn. Current:	29 A
Total Demand Load:	10699 VA
Total Demand Current:	30 A

Notes: L = LIGHTING, R = RECEPTACLES, Motor = MOTOR LOADS, H = ELECTRIC HEAT, WH = WATER HEATER, K = KITCHEN EQUIP., A = APPLIANCES, D = DEDICATED LOADS, SF = SUB-FEEDS, E = EQUIP., AW = ARC WELDER, RW = RESISTIVE WELDER

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811 First Avenue, Suite 220
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BCE engineers, inc.
6021 12th Street East, Suite 200
Fife, Washington 98424
T: 253.922.0446
F: 253.922.0896

BCE Project No. 222-055

NEW POLICE STATION
CITY OF LACEY
222 COLLEGE STREET SE, LACEY, WA 98503
CITY PROJECT NO. PW 2022-13

ORIGINAL SHEET SIZE = 11 x 17
HALF SIZE REDUCTIONS = N/A

REVISIONS:
B ADDENDUM NO. 02 10.19.2023

DATE: 10.19.2023
ADDENDUM NO. 02
SHEET NO.
E-612-A2
PANEL SCHEDULES

PANEL: P1C **PHASE: 3** **VOLTAGE: 208Y/120V** **FEED TYPE: Bottom** **100 A MLO**

LOCATION: STORAGE 040 **MOUNT: Recessed** **WIRE: 4** **100 A BUS**

TYPE: Type 1 **POLES: 42** **SF MAINS: No** **10,000 AIC MIN.**

LC	#	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	#	LC
R	1	RCPT - EXTERIOR BUILDING	20	1	1080 VA	720 VA					1	20	RCPT - FITNESS ROOM 020	2	R
R	3	RCPT - ROOMS 020, 020A	20	1			720 VA	360 VA			1	20	TV RCPT - FITNESS ROOM 020	4	R
R	5	TV RCPT - FITNESS ROOM 020	20	1					360 VA	720 VA	1	20	RCPT - ROOMS 009, 016A, 019	6	R
D	7	MICROWAVE - ALCOVE 027 (GFCI)	20	1	1500 VA	720 VA					1	20	RCPT - RM 020	8	R
R	9	RCPT - ROOMS 008A, 017A, 018	20	1			720 VA	360 VA			1	20	RCPT - RM 007	10	R
R	11	RCPT - ROOMS 014, 015	20	1					920 VA	760 VA	1	20	RCPT - ROOMS 012, 013	12	R
R	13	RCPT - ROOMS 009, 010, 011	20	1	360 VA	1080 VA					1	20	RCPT - RM 020	14	R
D	15	DRINKING FTN RM 020 (GFCI)	20	1			400 VA	1000 VA			1	20	VENDING MACH - RM 002 (GFCI)	16	D
D	17	VENDING MACH. - RM 002 (GFCI)	20	1					1000 VA	360 VA	1	20	RCPT - ROOMS 021A, 022A, 023	18	R
R	19	RCPT - ROOMS 021, 021B, 021C, 021D,...	20	1	1080 VA	720 VA					1	20	RCPT - ROOMS 523, 022 022D	20	R
R	21	RCPT - ROOMS 028, 031, 038	20	1			720 VA	1000 VA			1	20	VENDING MACH. - ALCOVE 027 (GFCI)	22	D
D	23	ICE MACH. - ALCOVE 027 (GFCI)	20	1					1000 VA	360 VA	1	20	RCPT - COFFEE ALCOVE 027	24	R
D	25	COFFEE MAKER - ALCOVE 027 (GFCI)	20	1	500 VA	0 VA					1	20	SPARE	26	--
D	27	DRINKING FTN - ALCOVE 027 (GFCI)	20	1			400 VA	0 VA			1	20	SPARE	28	--
R	29	FITNESS EQUIPMENT ROOM 020	20	1					1000 VA	0 VA	1	20	SPARE	30	--
R	31	FITNESS EQUIPMENT ROOM 020	20	1	1000 VA	0 VA					1	20	SPARE	32	--
D	33	WASH MACHINE (GFCI) - 015	20	1			750 VA	--			1	--	SPACE	34	--
D	35	DRYER (GFCI) - 015	30	2					1250 VA	--	1	--	SPACE	36	--
	37				1250 VA	0 VA								38	
D	39	MICROWAVE ALCOVE 027 (GFCI)	20	1			1500 VA	0 VA			3	30	SPD	40	--
--	41	SPARE	20	1					0 VA	0 VA				42	
Total Connected Load (VA):					10010 VA		7930 VA		7730 VA						
Total Connected Current (A):					84		66		64						

L (125%) =	H (100%) =	WH (100%) =
R<10,000(100%) = 10000 VA	Motor-LARGE (125%) = 0 VA	K (65%) =
R>10,000 (50%) = 2060 VA	Motor-OTHER (100%) = 0 VA	A (100%) =
RECEPTS TOTAL = 12060 VA	MOTOR TOTAL =	D (100%) = 11550 VA
AW (ESTIMATED DEMAND) =	RW (ESTIMATED DEMAND) =	E (80%) =
AW (DEMAND FACTOR) =	RW (DEMAND FACTOR) =	

Panel Totals	
Total Conn. Load:	25670 VA
Total Conn. Current:	71 A
Total Demand Load:	23610 VA
Total Demand Current:	66 A

Notes: L = LIGHTING, R = RECEPTACLES, Motor = MOTOR LOADS, H = ELECTRIC HEAT, WH = WATER HEATER, K = KITCHEN EQUIP., A = APPLIANCES, D = DEDICATED LOADS, SF = SUB-FEEDS, E = EQUIP., AW = ARC WELDER, RW = RESISTIVE WELDER

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E-613-A2
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