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ADDENDUM NO. 2

WASHINGTON STATE PARKS AND RECREATION COMMISSION
NISQUALLY STATE PARK
NEW FULL-SERVICE PARK PHASE 2
NW-C1218

DATE: May 9, 2024

ATTENTION TO PLANHOLDERS OF RECORD. The following revisions are hereby made a part of the Contract Documents. Please be sure to acknowledge all Addenda on the Bid Form.

All Bidders are reminded to review 5.1.D.2 in the Instructions to Bidders section in the Project Manual. Clarification: Bidders shall submit questions by 5:00 PM, Pacific Standard Time, on Thursday, May 9, 2024. Questions received after this date and time may not be answered. The final Addendum will be issued by 5:00 PM, Pacific Standard Time, on Monday May 13, 2024.

PROJECT MANUAL

1. Delete Section 074646 – FIBER-CEMENT SIDING and replace with attached section 074646 – FIBER-CEMENT SIDING
2. Delete Section 096813 - TILE CARPETING and replace with attached section 096813 – TILE CARPETING
3. Add Section 282300 – IP SECURITY VIDEO ALARM
4. Add Section 283100 – FIRE DETECTION AND ALARM
5. Delete Section 323116 – SECURITY CANTILEVERED SLIDE GATE and replace with attached section 323116 – SECURITY CANTILEVERED SLIDE GATE.
6. Delete Section 323123 – POST AND RAIL FENCE and replace with the attached Section 323123 – POST AND RAIL FENCE.

PLANS

1. Delete Sheet 54, A-C9.2 and replace with Sheet 54, A-C9.2
2. Delete Sheet 74, A-251 and replace with Sheet 74, A-251
3. Delete Sheet 75, A-252 and replace with Sheet 75, A-252
4. Delete Sheet 79, A-501 and replace with Sheet 79, A-501
5. Delete Sheet 95 A-141 and replace with Sheet 95, A-141
6. Delete Sheet 102, A-252 and replace with Sheet 102 A-252
7. Delete Sheet 117, A-571 and replace with Sheet 117, A-571
8. Delete Sheet 121, A-621 and replace with Sheet 121, A-621
9. Delete Sheet 160, E102 and replace with Sheet 160, E102
10. Delete Sheet 164, E301 and replace with Sheet 164, E301
11. Delete Sheet 167, E402 and replace with Sheet 167, E402
12. Delete Sheet 169, E502 and replace with Sheet 169, E502
13. Delete Sheet 173, E601 and replace with Sheet 173 E601
14. Delete Sheet 233, B-C6.1 and replace with Sheet 233, B-C6.1

Attachments:

- 074646 Fiber-Cement Siding FL Addendum 2 (9 pages)
- 096813 Tile Carpeting FL Addendum 2 (6 pages)
- 282300 IP Security Video System Addendum 2 (9 pages)
- 283100 Fire Detection and Alarm Addendum 2 (16 pages)
- 323116 Security Cantilevered Slide Gates Addendum 2 (8 pages)
- 323123 Post And Rail Fence Addendum 2 (4 pages)
- Plans 11" x 17" (14 pages)

Brett Taylor

Brett Taylor, Procurement Coordinator
Contracts and Grants Program

05/09/24

Date

END OF ADDENDUM NO. 2

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SECTION 074646 – FIBER-CEMENT SIDING

PART 3 - GENERAL

3.2 SUMMARY

A. Section Includes:

1. Fiber-cement siding.

B. Related Requirements:

1. Section 074293 – Soffit Panels, for fiber-cement soffits.

3.3 ADMINISTRATIVE REQUIREMENTS

A. Coordination:

1. Coordinate siding installation with flashings and other adjoining construction to ensure proper sequencing.

B. Preinstallation Meetings: Conduct Meeting at Project site.

3.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings:

1. Provide detailed drawings of atypical, non-standard applications of cementitious siding materials which are outside scope of standard details and specifications provided by manufacturer.

C. Samples for Verification:

1. 12 inch long by actual width Sample of siding.
2. 12 inch long by actual width Samples of trim and accessories.

3.5 INFORMATIONAL SUBMITTALS

A. Product Certificates: For each type of fiber-cement siding.

B. Sealant Certification: From fiber-cement manufacturer indicating acceptance of proposed joint sealant.

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- C. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for fiber-cement siding.
- D. Research/Evaluation Reports: For each type of fiber-cement siding required, from ICC-ES.
- E. Sample Warranty: For special warranty.

3.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For each type of product, including related accessories, to include in maintenance manuals.

3.7 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Furnish full lengths of fiber-cement siding, including related accessories, in a quantity equal to 2 percent of amount installed.

3.8 QUALITY ASSURANCE

- A. Installer Qualifications: An entity specializing in performing type of work specified and approved by manufacturer with a minimum of 3 years of documented experience.
- B. Mockups:
 - 1. Build mockup of typical wall area as shown on Drawings.
 - 2. Build mockups for fiber-cement siding and soffit, including related accessories.
 - a. Size: 48 inches long by 60 inches high.
 - b. Include outside corner on one end of mockup and inside corner on other end.
 - 3. Approval of mockups does not constitute approval of deviations from Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 - 4. Subject to compliance with requirements, approved mockups may become part of completed Work if undisturbed at time of Substantial Completion.

3.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store packaged materials in original containers with labels intact until time of use. Store materials on elevated platforms, under cover, and in a dry location.

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3.10 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace products that fail in materials or workmanship within specified warranty period.
 - 1. Failures include the following:
 - a. Structural failures including cracking and deforming.
 - b. Deterioration of materials beyond normal weathering.
 - 2. Warranty Period FC.SIDING-1: 50 years from date of Substantial Completion.
 - 3. Warranty Period FC.SIDING-2: 30 years from date of Substantial Completion.
 - 4. Warranty Period FC.SIDING-2 Trim Boards: 15 years from date of Substantial Completion.
- B. Special Warranty on Panel Finishes: Manufacturer agrees to repair finish or replace fiber-cement panels that show evidence of deterioration of factory-applied finishes within specified warranty period. Deterioration includes the following:
 - 1. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
 - 2. Warranty Period FC.SIDING-1: Minimum 20 years from date of Substantial Completion.

PART 4 - PRODUCTS

4.2 MANUFACTURERS

- A. Source Limitations: Obtain FC.SIDING-2 and soffit panels from single source from single manufacturer.

4.3 PERFORMANCE CRITERIA

- A. Structural Performance: Provide fiber-cement siding systems capable of withstanding effects of the following loads, based on testing according to ASTM E330:
 - 1. Wind Loads and Other Design Loads: As indicated on Drawings.
- B. Seismic Performance: Exterior fiber-cement siding systems, including anchors and connections, shall withstand effects of earthquake motions determined according to ASCE 7.
 - 1. Component Importance Factor: 1.0.
- C. Fire-Resistance Ratings: Comply with ASTM E119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

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4.4 FIBER-CEMENT PRODUCTS, GENERAL

- A. Composition: ASTM C1186 Type A, Grade II fiber-cement siding, soffits, and trim are manufactured from Portland cement, sand, water, cellulose fibers, and manufacturers' proprietary additives.
- B. Noncombustible when tested according to ASTM E136.
- C. Surface Burning Characteristics: ASTM E84; Class A:
 - 1. Flame Spread: 0.
 - 2. Smoke Developed: 25.
- D. Labeling: Provide fiber-cement siding that is tested and labeled according to ASTM C1186 by a qualified testing agency acceptable to authorities having jurisdiction.

4.5 FIBER-CEMENT SIDING (FC.SIDING-1)

- A. Basis-of-Design Product: Subject to compliance with requirements, provide the following:
 - 1. KMEW USA Inc.: CERACLAD Rain Screen Exterior Siding System.
 - 2. Approved substitution.
- B. Panel Size: 10 inch by 10 feet.
- C. Panel Thickness: Not less than 5/8 inch.
- D. Profile: Urban Cedar.
- E. Panel Texture: Wood grain texture.
- F. Factory finished with manufacturer's standard 3 coat finish with anti-efflorescence protection.
 - 1. Prefinished Color: Honey NH4992U.
- G. Fiber-Cement Trim: Fiber-cement corner units from same collection and same material as panels.
 - 1. Thickness: Not less than 5/8 inch.
 - 2. Returns: 3-3/16 inch each side.
 - 3. Vertical Corner:
 - a. Length: 120 inches
 - b. Coverage: 5.9 sq. ft.
 - 4. Horizontal Corner:
 - a. Length: 18 inches
 - b. Coverage: 0.89 sq. ft.

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5. Factory-finished with manufacturer's standard 3 coat finish with anti-efflorescence protection.
 - a. Prefinished Color: Match color of FC.SIDING-1.
 - H. Drainage Furring Channels: ASTM C955; hat-shaped steel furring channels with dimpled face and punched sides to minimize effects of hydrostatic pressure and allow ventilation behind siding system.
 1. Material: 0.0451 inch thick galvanized structural steel, Grade 33, with G90 coating.
 2. Minimum Base-Metal Thickness:
 3. Depth: 3/4 inch.
 4. Width: 4-3/4 inches overall with 3 inch wide face and 3/4 inch wide legs.
 - I. Installation Components: Materials recommended by fiber-cement siding manufacturer for intended use, compatible with rainscreen siding system, and matching color and texture of adjacent siding unless otherwise indicated:
 1. Starter Bars: Galvanized steel.
 2. Caulking Joiner: Aluminum-zinc-magnesium alloy coated steel.
 3. Panel and Corner Clips: Aluminum-zinc-magnesium alloy coated steel.
 4. Cut Edge Sealer: Concrete sealer recommended by fiber-cement siding manufacturer.
 5. Joint Sealant: SLNT-U3 silicone sealant as specified in Section 079200.
 - a. Color: Match color of fiber-cement components.
 6. Touch-up Paint Kit: Provided by fiber-cement siding manufacturer.
- 4.6 FIBER-CEMENT SIDING (FC.SIDING-2)
- A. Basis-of-Design Product: Subject to compliance with requirements, provide the following:
 1. James Hardie Building Products, Inc.: HardiePanel HZ5 Lap Siding Beaded Smooth.
 2. Approved substitution.
 - B. Nominal Thickness: Not less than 5/16 inch.
 - C. Horizontal Pattern: Boards 8-1/4 to 8-1/2 inches wide in beaded-edge style.
 - D. Panel Texture: Cedarmill.
 - E. Factory primed with manufacturer's standard acrylic primer.
 - F. Fiber-Cement Trim: Fiber-cement corner units from same collection and same material as boards.
 1. Thickness: Not less than 5/4 inch.
 2. Panel Texture: Urban Grain.
 3. Returns: 6 inch each side.

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4. Vertical Corner:
 - a. Length: 120 inches
 - b. Coverage: 5.9 sq. ft.
5. Horizontal Corner:
 - a. Length: 18 inches
 - b. Coverage: 0.89 sq. ft.

4.7 ACCESSORIES

- A. Siding Accessories, General: Provide starter strips, edge trim, outside and inside corner caps, and other items as recommended or provided by fiber-cement panel manufacturer for Project configuration.
 1. Provide accessories matching color and texture of adjacent siding unless otherwise indicated.
- B. Closures Components: Premanufactured products complying with the following:
 1. Material: 0.015 inch thick aluminum.
 2. Sizes:
 - a. Corners: As indicated on Drawings.
 - b. Junction Flashing: 6 inches wide for 3 inch coverage on each side of butt joints.
 3. Surface: Match siding texture.
 4. Finish: Manufacturer's standard primer on exposed surfaces and epoxy coating on concealed surfaces.
- C. Flashing: Provide stainless-steel flashing complying with Section 076200 – Sheet Metal Flashing and Trim at window and door heads and where indicated.
- D. Fasteners: Stainless steel for fastening fiber cement.
 1. For fastening to wood, use siding nails or ribbed bugle-head screws of sufficient length to penetrate a minimum of 1 inch into substrate.
- E. Paint: As specified in Section 099000 –Painting and Coating, and acceptable to fiber-cement siding manufacturer.
 1. Provide primer acceptable to fiber-cement panel manufacturer if panels are not shop-primed.
- F. Joint Sealant: SLNT-U3 urethane sealant, as specified in Section 079200 and acceptable to fiber-cement manufacturer, that provides 2 sided adhesion.
 1. Color: Match color of fiber-cement components.

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PART 5 - EXECUTION

5.2 EXAMINATION

- A. Examine substrates for compliance with requirements for installation tolerances and other conditions affecting performance of fiber-cement siding and related accessories.
- B. Verify that weather or air barrier has been installed over substrate completely and correctly, and is ready to receive Work of this Section.
- C. Verify that flashing is installed above door and window trim and casings, above horizontal trim between panels, and where else indicated.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

5.3 PREPARATION

- A. Clean substrates of projections and substances detrimental to application.

5.4 INSTALLATION

- A. Comply with manufacturer's written installation instructions applicable to products and applications indicated unless more stringent requirements apply.
 - 1. Do not install damaged components.
 - 2. Install fasteners no more than 16 inches on center.
 - 3. Clean cut and exposed panel edges and apply cut edge sealer.
 - 4. Install joint sealants to produce a weathertight installation where indicated or required.
- B. FC.SIDING-1:
 - 1. Begin panel installation at left hand inside or outside corner. Continue working left to right and bottom to top.
 - 2. Seat flat edge of panel on vertical starter bar.
 - 3. Install first clip as close to starter bar as possible and no more than 3 inches above starter bar. Install additional clips within 3 inches of panel edges.
 - 4. Install panel clips to ship-lapped edge of panel minimum 16 inches on center to secure panel to wall and to maintain desired cavity for air circulation.
 - 5. Fit panels tightly together on both horizontal and vertical joints ensuring that panel edges are properly seated in clips.
 - 6. Do not directly fasten items to panels. Provide blocking behind panel and fasten objects through panels into blocking and building frame.

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C. FC.SIDING-2:

1. Install minimum 1/4 inch thick starter strip at bottom course of wall. Apply planks horizontally with bottom edge of first plank overlapping starter strip and minimum 1-1/4 inch wide laps at top.
2. Allow minimum vertical clearance between edge of siding and other materials in accordance with manufacturer's installation instructions
3. Install fiber-cement boards with minimum space between butt joints to allow for thermal movement.
4. Align vertical butt joints over center of framing members.
5. Vertical butt joints not installed this way will be unacceptable.
6. Space butt joints occurring in adjacent planks a minimum of 32 inches apart to avoid stair-step pattern of vertical butt joints.
7. Locate vertical butt joints a minimum of 12 inches away from standing trim at door and window openings.
8. Install joint sealants between boards to produce a weathertight installation where indicated or required.

D. Trim Boards:

1. Install materials according to siding manufacturer's written instructions.
2. Ensure flashing is installed around wall openings.
3. Fasten trim into framing, sheathing, or blocking as indicated on Drawings, using manufacturer's recommended fasteners at manufacturer's recommended spacing.
4. Inside Corners: Trim with single board trim both sides of corner.
5. Outside Corners: Attach trim on both sides of corner.
6. Allow 1/8 inch gap between trim and siding.
7. Seal gap with specified joint sealant.
8. Fasten through overlapping boards. Do not nail between lap joints.

E. Roof Edge Flashing:

1. Where vertical surfaces of fiber-cement panels meet roof edge flashing, provide 2 inch clearance between flashing and edge of fiber-cement panels, or as recommended by fiber cement siding manufacturer.

F. Tolerances:

1. Maximum Variation of Siding Courses: Plumb, level, and out of plane within 1/4 inch tolerance in 10 foot.
2. Maximum Offset Joint Alignment: 1/16 inch.

5.5 ADJUSTING

- A. Remove damaged, improperly installed, or otherwise defective materials and replace with new materials complying with specified requirements.

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5.6 CLEANING

- A. Clean finished surfaces according to manufacturer's written instructions and maintain in a clean condition during construction.
- B. Where required by Federal, state, or local jurisdictions, provide acceptable means of containing and disposing of dust and debris created by handling, cutting, and installing of fiber-cement panels.

END OF SECTION

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SECTION 096813 – TILE CARPETING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Modular carpet tile.

1.2 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Conduct meeting at Project site.

1. Review methods and procedures related to carpet tile installation including the following:
 - a. Review delivery, storage, and handling procedures.
 - b. Review ambient conditions and ventilation procedures.
 - c. Review subfloor preparation procedures.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include manufacturer's written data on physical characteristics, durability, and fade resistance.
2. Include manufacturer's written installation recommendations for each type of substrate.

B. Shop Drawings: For carpet tile installation, plans showing the following:

1. Columns, doorways, enclosing walls or partitions, built-in cabinets, and locations where cutouts are required in carpet tiles.
2. Carpet tile type, color, and dye lot.
3. Type of subfloor.
4. Type of installation.
5. Pattern of installation.
6. Pattern type, location, and direction.
7. Pile direction.
8. Type, color, and location of insets and borders.
9. Type, color, and location of edge, transition, and other accessory strips.
10. Transition details to other flooring materials.

C. Samples for Verification: For each of the following products and for each color and texture required. Label each Sample with manufacturer's name, material description, color, pattern, and designation indicated on Drawings and in schedules.

1. Carpet Tile: Full-size Sample.
2. Exposed Edge, Transition, and Other Accessory Stripping: 12 inch long Samples.

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1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Product Test Reports: For carpet tile, for tests performed by a qualified testing agency.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For carpet tiles to include in maintenance manuals. Include the following:
 - 1. Methods for maintaining carpet tile, including cleaning and stain-removal products and procedures and manufacturer's recommended maintenance schedule.
 - 2. Precautions for cleaning materials and methods that could be detrimental to carpet tile.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Carpet Tile: Full-size units equal to 5 percent of amount installed for each type indicated, but not less than 2 complete cartons.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer with a minimum of 3 years of experience, who is certified by the International Certified Floorcovering Installers Association at Commercial II certification level.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Comply with CRI's "CRI Carpet Installation Standard."

1.9 FIELD CONDITIONS

- A. Comply with CRI's "CRI Carpet Installation Standard" for temperature, humidity, and ventilation limitations.
- B. Environmental Limitations: Do not deliver or install carpet tiles until spaces are enclosed and weathertight, wet-Work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at levels planned for building occupants during remainder of construction period.
- C. Do not install carpet tiles over concrete slabs until slabs have cured and are sufficiently dry to bond with adhesive and concrete slabs have pH range recommended by carpet tile manufacturer.
- D. Where items are indicated for installation on top of carpet tiles, install carpet tiles before installing these items.

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1.10 WARRANTY

- A. Special Warranty for Carpet Tiles: Manufacturer agrees to repair or replace components of carpet tile installation that fail in materials or workmanship within specified warranty period.
 - 1. Warranty does not include deterioration or failure of carpet tile due to unusual traffic, failure of substrate, vandalism, or abuse.
 - 2. Warranty Period: Limited lifetime from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 REGULATORY REQUIREMENTS

- A. Accessibility Standard: Comply with applicable provisions in DOJ's "2010 ADA Standards for Accessible Design" and ICC A117.1.

2.2 CARPET TILE

- A. Modular Carpet Tile (CPT1):

- 1. Products: Subject to compliance with requirements, provide products specified in Interior Floor Finish Schedule on Drawings or approved substitution.
- 2. Product Standard: ASTM F1303.

- B. Material: Provide carpet tile that meets the minimum following requirements:

- 1. Construction: Multi-level pattern loop.
- 2. Fiber: EcoSolution Q Nylon or other nylon 6, 6 fiber.
- 3. Dye Method: 100 percent solution dyed.
- 4. Primary Backing: Synthetic.
- 5. Secondary Backing: EcoWorx Tile or other PVC-free backing.
- 6. Finished Pile Thickness: 0.098 inch.
- 7. Total Thickness: 0.244 inch.
- 8. Stitches: 10.0 per inch.
- 9. Gage: 1/12 inch.
- 10. Tufted Weight: 18 oz./cu. yd tile.
- 11. Density: 6,612 oz./cu. yd.
- 12. Size: As indicated on Drawings.
- 13. Applied Treatments:

- a. Applied Soil-Resistance Treatment: Manufacturer's standard material.
- b. Antimicrobial Treatment: Manufacturer's standard material.

- 1) Antimicrobial Activity: Not less than 2-mm halo of inhibition for gram-positive bacteria, not less than 1-mm halo of inhibition for gram-negative bacteria, and no fungal growth, according to AATCC 174.

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C. Performance Criteria:

1. Electrostatic Propensity: Less than 3.5 kV according to AATCC 134.
2. Critical Radiant Flux Classification: Not less than 0.22 W/sq. cm according to NFPA 253.

2.3 ACCESSORIES

- A. Trowelable Leveling and Patching Compounds: Latex-modified, hydraulic-cement-based formulation provided or recommended by carpet tile manufacturer.
- B. Adhesive Tape: Water-resistant type, compatible with flooring, recommended by manufacturer to suit carpet and substrate conditions indicated, complying with the following moisture resistant properties:
1. Composition: Compounded acrylic adhesive, applied to PET polyester backing with PET polyester release liner.
 2. Solids: Greater than 99 percent.
 3. Size: 3 inch by 3 inch.
 4. Suitable for use over new concrete substrates with in-situ moisture measurements of up to 80 percent RH as measured by ASTM F2170 or moisture vapor emission rate (MVER) of up to 3 pounds per ASTM F1869, and a pH of 10.
- C. Metal Edge/Transition Strips: Extruded aluminum with mill finish of profile and width shown, of height required to protect exposed edge of carpet, and of maximum lengths to minimize running joints.
- D. Resilient Transition Strips: Specified in Section 096513 – Resilient Base and Accessories.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting carpet tile performance.
- B. Examine carpet tile for type, color, pattern, and potential defects.
- C. Concrete Slabs: Verify that finishes comply with requirements specified in Section 033000 – Cast-in-Place Concrete and that surfaces are free of cracks, ridges, depressions, scale, and foreign deposits.
1. Moisture Testing: Perform tests so that each test area does not exceed 200 sq. ft., and perform no fewer than 3 tests in each installation area and with test areas evenly spaced in installation areas.
 - a. Anhydrous Calcium Chloride Test: ASTM F1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1,000 sq. ft. in 24 hours.

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- b. Relative Humidity Test: Using in situ probes, ASTM F2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level measurement.
 - c. Perform additional moisture tests recommended in writing by adhesive and carpet tile manufacturers. Proceed with installation only after substrates pass testing.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Comply with the Carpet and Rug Institute's CRI 104 and with carpet tile manufacturer's written installation instructions for preparing substrates indicated to receive carpet tile.
- B. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, depressions, and protrusions in substrates. Fill or level cracks, holes and depressions 1/8 inch wide or wider, and protrusions more than 1/32 inch unless more stringent requirements are required by manufacturer's written instructions.
- C. Concrete Substrates: Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, without using solvents. Use mechanical methods recommended in writing by adhesive and carpet tile manufacturers.
- D. Broom and vacuum clean substrates to be covered immediately before installing carpet tile.

3.3 INSTALLATION OF TILE CARPETING

- A. Comply with Carpet and Rug Institute's CRI 104, Section 10, "Carpet Tile," and with carpet tile manufacturer's written installation instructions.
- B. Installation Method: Manufacturer's recommended self-adhesive tape dots.
- C. Maintain dye-lot integrity. Do not mix dye lots in same area.
- D. Maintain pile-direction patterns recommended in writing by carpet tile manufacturer.
- E. Cut and fit carpet tile to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by carpet tile manufacturer.
- F. Extend carpet tile into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.
- G. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on carpet tile as marked on subfloor. Use nonpermanent, nonstaining marking device.
- H. Install pattern parallel to walls and borders.
- I. Access Flooring: Stagger joints of carpet tiles so carpet tile grid is offset from access flooring panel grid. Do not fill seams of access flooring panels with carpet adhesive; keep seams free of adhesive.

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3.4 CLEANING

- A. Perform the following operations immediately after installing carpet tile:
 - 1. Remove excess adhesive and other surface blemishes using cleaner recommended by carpet tile manufacturer.
 - 2. Remove yarns that protrude from carpet tile surface.
 - 3. Vacuum carpet tile using commercial machine with face-beater element.

3.5 PROTECTION

- A. Protect installed carpet tile to comply with the Carpet and Rug Institute's CRI 104, Section 13.7.
- B. Protect carpet tile against damage from construction operations and placement of equipment and fixtures during remainder of construction period. Use protection methods indicated or recommended in writing by carpet tile manufacturer.

END OF SECTION

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SECTION 282300 - IP SECURITY VIDEO SYSTEM

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Description: Provide an IP based security video system and other relevant components and accessories required to provide a complete operating system as specified herein.
- B. General Requirements: Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 01 sections and Section 260500 apply to Work in this section.

1.2 RELATED SECTIONS

- A. Related Sections
 - 1. 271000 – Telecommunications Cabling

1.3 QUALITY ASSURANCE

- A. The system and its components shall be Underwriters Laboratories, Inc., listed under the appropriate UL testing standard as listed herein for security video applications.
- B. Codes and Standards:
 - 1. National Electrical Manufacturers Association (NEMA):
 - a. NEMA 250 – Enclosures for Electrical Equipment
 - 2. Federal Communications Commission (FCC):
 - a. Title 47 CFR – Part 15; Class A – General
 - 3. International Electrotechnical Commission (IEC):
 - a. IEC 60529 – Ingress Protection
 - 4. Underwriters Laboratories, Inc. (UL):
 - a. UL 60950-22 – Information Technology Equipment – Safety (Outdoors)
 - 5. Provide all wiring in accordance with Article 725 of the National Electrical Code and local ordinances, and other sections of these specifications.
- C. Qualifications:

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1. Contractor shall be a certified reseller/ dealer, pre-qualified by the manufacturer for the purpose of offering the services as specified herein, at the time of bid.
2. Contractors bidding security work shall have a minimum of five years of experience in the construction, testing, and servicing of systems of the type and magnitude specified herein.
3. The contractor shall have completed at least five projects of equal or larger in size to this project within the past five years.
4. Contractor shall have direct access to the tools and test equipment required to complete the work as defined herein.
5. The contractor shall employ certified technicians skilled in the maintenance of the IP security video system and shall be located within 50 miles of the project site.

1.4 SUBMITTALS

- A. Provide submittals in accordance with Division 01 and Section 260500.
- B. Product Data:
 1. Submit with data arranged under basic categories, such as, certifications, personnel training, manufacturer warranty, products, test equipment and calibration, and similar items. Include index with the submittals.
 2. Organize by specification infrastructure component sections described in Part 1 and Part 2 of this section.
 3. Submit Product Data information sheets for coordination with item and model number.
 4. Where more than one product is shown on a page, mark product with arrow or by other means to identify exact product or products being submitted by specific part number.
 5. Submit resumes and certifications of technicians and project manager who will support this project. Certifications shall include:
 - a. Manufacturer's certification to provide warranty
 - b. Approved manufacturer classes satisfactorily completed
- C. Acceptance Test Plan:
 1. An acceptance test plan form shall be prepared/ provided by the contractor.
 2. This form shall include separate sections for each device and a column indicating the result of the testing performed by the contractor (pass/fail), and an empty column for recording findings during the walk-through.
- D. Shop Drawings:
 1. Drawings shall provide details of proposed devices and mounting methods for each different type.
 2. Connections to other equipment/ systems not specified herein.
- E. Record Drawings:
 1. Keep complete set of security drawings in job-site office to show actual installation of

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- cabling and equipment during construction.
 - 2. Use of this set of drawings for recording as-built conditions.
 - 3. Indicate where material, equipment, and system component are installed differently from that shown on the Drawings.
 - 4. Prepare electronic set of Record Drawings, incorporating changes during construction. Submit Record Drawings to the Owner's Representative for review and acceptance.
 - 5. Submit Record Drawings using latest version of AutoCAD software or as approved by the Owner, and in PDF format. Request final architectural background drawing files that incorporate floor plan and program spaces numbering modifications.
 - a. AutoCAD drawings shall be e-transmitted to include backgrounds, title blocks and other associated files.
 - 6. Submit electronic copy of Record Drawings in full-size PDF and AutoCAD format, on CD-ROM.
- F. Project Closeout:
- 1. Submit closeout documentation to the Owner's Representative and Architect under provisions of Division 01, Section 270500 and this section.
 - 2. Provide all project closeout documentation including but not limited to; Acceptance Test documentation, camera views, record drawings, manufacturer warranties and Operation and Maintenance Manuals.

1.5 SYSTEM REQUIREMENTS

- A. Type of System:
- 1. The system shall employ a server based video management system (VMS). The VMS shall have the ability to record at full resolution on all cameras at 30 frames persecond or at their maximum resolution.
 - a. The system shall have the capacity to retain no less than the previous 30 days of camera images and video.
 - b. The system shall provide monitoring locally and from an off-site location with a tablet, web interface and/or client PC.
 - c. The system shall have dynamic camera "maps" with floor plans that illustrate the location of each camera based upon the graphical depiction of the space served.

1.6 OWNER FURNISHED CONTRACTOR INSTALLED (OFCI) EQUIPMENT

- A. Material Handling and Delivery: Coordinate delivery of OFCI equipment. Receive, off load, transport, store, hoist, unpack, dispose of packing, same as for other project equipment arriving at job site. Requirements of the Contract Documents apply to OFCI equipment.
- B. Operation and Maintenance Data: Obtain from the Owner operation and maintenance data for the OFCI equipment and incorporate them into the Operations and Maintenance Manuals.

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1.7 PRE-CONSTRUCTION MEETINGS

- A. The subcontractor shall attend the pre-construction meeting as required by the Contractor or the Owner's Representative.

1.8 MANUFACTURER CERTIFICATION

- A. Contractor shall be a certified install/ dealer, pre-qualified by the manufacturer for the purpose of offering the warranty at the time of bid, as specified herein.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. The manufacturer shall be UBI QUITI per Washington State Parks standards. Substitutes shall not be allowed.

2.2 VIDEO MANAGEMENT SYSTEM (VMS)

- A. VMS Server
 - 1. VMS Server shall be UNVR Pro Model, Contractor furnished, Contractor Installed.
- B. Software
 - 1. Install VMS software on the server as required to provide a complete and operational IP security video system.

2.3 HARDWARE AND ENCLOSURES

- A. Provide all hardware components including but not limited to; 1.5" NPT pipe, mounting accessories, pole attachment accessories and/or brackets (i.e. pendent, goose and/or corner) as required. All hardware components shall be of same manufacturer as the camera and match in color or shall be painted to match camera housing.
- B. All control equipment, relays, modules, circuit boards, and other such devices that are installed exterior to the facility shall be contained within enclosures of non-metal construction. Provide NEMA 4 enclosures for all equipment that is not provided by manufacturer in a suitable enclosure, unless otherwise noted.
- C. Indoor and outdoor cameras shall be vandal resistant with tamper resistance screws and in a dome enclosure. Camera domes shall be of a rugged and scratch resistant material.
- D. Exterior pole mounted cameras shall have heater/blower function.
- E. Pole Mounted Enclosure:

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1. Enclosure shall be a NEMA 3R junction box with pole mounting hardware for pole mounted cameras and equipment. Enclosure shall have 120V power receptacles with intake/ exhaust covers and quick release lockable latches. Junction box shall support multiple cameras located on the same pole.

2.4 CAMERAS

A. Type 1 – 3MP Indoor Dome Camera:

1. The cameras shall be a vandal resistant, wide dynamic range mini-dome with HD resolution at 30fps. The camera shall provide the minimum following features; tamper alarms, video loss/change detections, varifocal, remote focus, record on motion, audio, I/O contacts and dual streaming with H.264 and MJPEG video compression. The camera shall be powered via PoE (802.af) requiring no external power supply.

B. Type 2 – 5MP Indoor Dome Camera:

1. The cameras shall be a 5MP vandal resistant, wide dynamic range mini-dome with HD resolution at 20fps. The camera shall provide the minimum following features; tamper alarms, video loss/change detections, varifocal, remote focus, record on motion, audio, I/O contacts and dual streaming with H.264 and MJPEG video compression. The camera shall be powered via PoE (802.af) requiring no external power supply.

C. Type 3 – 5MP Indoor 360° Panamorph Lens Dome Camera:

1. The camera shall be 5MP 360° Panamorph Camera with ImmerVision Panamorph lens, client side de-warping, PoE, IP66, IK10, built-in-mic, audio in/out, alarm I/O. The camera shall be powered via PoE (802.af) requiring no external power supply.

D. Type 4 – 3MP Outdoor Dome Camera:

1. The 3MP camera shall be a vandal resistant, wide dynamic range mini-dome with IR and IP66 ingress protection. The camera shall provide the minimum following features; tamper alarms, video loss/change detections, varifocal, remote focus, record on motion and multiple streaming with H.264 and MPEG-4 video compression. The camera shall be powered via PoE (802.af) requiring no external power supply with a temperature range of -22°F - 131°F.

2.5 IP DEVICE CONNECTIVITY

A. Modular Patch Cords, Category 6:

1. Patch cords shall be UL□ listed, constructed from Category 6 4-pair 24 AWG and meet FCC Part 65 plug and termination.
 - a. Provide non-plenum patch cable material where located in a concealed j-box or non-plenum ceiling spaces.
 - b. Provide low smoke zero halogen patch cable material where located above

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plenum rated ceiling spaces.

2. Provide Category 6 patch cords for each IP camera and PoE injector for the connection at the device end.
- B. Multimode Optical Fiber Patch Cords:
1. Optical fiber patch cords shall be SC-SC, 50/125 micron, constructed from OFNR rated dual 1.6mm fiber cordage and assembled with metal ferrule connectors.
 2. Provide (2) optical fiber patch cords for each IP camera supported via optical fiber for the connection at the camera side and at the telecom room side.
- C. Media Converters and PoE Mid-Span Injectors:
1. Camera Side
 - a. Equipment shall be mounted in the pole mounted NEMA 3R enclosure.
 - b. Media convertor shall be hardened for high temperature applications to convert 1000BASE-T to 1000BASE-SX (MM SC).
 - c. PoE mid-span injector shall be provided at each pole mounted camera location. The injector shall provide 48VDC at 24W PoE or 56VDC at 60W PoE+.
 2. Building Side
 - a. Rack mount power chassis shall accept up to (6) individual media converters and have optional redundant AC power supply. Chassis shall come with (4) blank faceplates, order additional as required to fill blank slots.
 - b. Media convertor shall be chassis based to convert 1000BASE-T to 1000BASE-SX (MM SC).
 - c. Chassis based media converters shall be provided for each camera served.

2.6 CABLING

- A. Category 6 and optical fiber cabling supporting IP cameras shall be provided under Section 271000. All other cabling and connections required shall be provided under this section.

PART 3 - EXECUTION

3.1 IP DEVICE MATRIX

- A. Contractor shall request the IP Device Matrix from the Owner in writing a minimum of three weeks in advance of starting the installation of IP devices.
- B. Complete the owner furnished IP Address matrix, in Microsoft Excel format, indicating the devices; make, model, MAC address, cable port number, room name and room number. Coordinate the specific function identifications and classifications with the Owner and Owner's Representative prior to the start of the installation.

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3.2 INSTALLATION

- A. Provide all labor, tools, supplies, software, hardware, materials, and equipment required for the design, installation, configuration/ programming and testing of a complete and operational building closed circuit television system.
- B. Install all equipment in accordance with manufacturer's instructions, approved Shop Drawings and as indicated on the Contract Documents.
- C. Cabling shall be installed in conduit, cable tray or using open cabling methods when installed above accessible ceilings.
- D. Where subject to mechanical damage, wiring shall be enclosed in metal conduits or surface metallic raceway.
- E. Cabling shall not be enclosed in conduit or raceways containing AC power.
- F. All devices shall be securely mounted. Provide necessary backing in walls or ceilings.
- G. Properly ground the system per NEC requirements to the building safety grounding system to prevent electrostatic charges and other transient electrical surges from damaging the cameras.
- H. Coordinate field of view requirements with owner prior to and after installation of cameras to achieve an acceptable system.
- I. Neatly dress and tie all wiring. Do not obstruct access to power supplies, fans, network interface cards or other components.

3.3 PROGRAMMING

- A. Programming of the cameras shall include, but not limited to:
 - 1. Current firmware shall be uploaded to the camera prior to installation.
 - 2. Exterior camera shall mask out areas of excessive unchanging movement (i.e. trees, streets and freeways) to avoid recording non-applicable items.
 - 3. Cameras located behind staff work areas shall mask out PC monitors and their direct working space.
 - 4. Cameras shall record on motion; motion sensitivity shall be coordinated with the owner.
 - 5. Cameras shall send automatic tamper alerts to notify the owner of tamper, loss video, loss connection or other issues.
- B. Video management software and other software specified herein shall be installed and configured on each server per the manufacturer's installation guidelines.
 - 1. System shall be configured for monitoring locally and from an off-site location with a tablet, web interface and/or client PC.
 - 2. The system shall be configured to record 15 frames per second at full resolution, and to retain a minimum of 30 days of archived video. Assume 8 hours per day of recording activity for each camera.

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- a. The system shall be configured to automatically delete the archived video on day 31 regardless of available storage capacity.
 3. Where multiple recording servers are present within the system the cameras shall be load balanced across all servers.
 4. System shall be configured with users, user groups and user privileges.
 5. Other programming requirements shall be coordinated with the owner and shall be provided at no additional cost to owner.
 6. System shall be configured with dynamic camera “maps” that will illustrate the location of each camera based upon a graphical depiction of the space served.
- C. At the completion of the installation, provide an updated IP device matrix, in Microsoft Excel format, indicating complete camera information and the horizontal station patch panel/port.
- 3.4 PRE-TESTING
- A. After Work is completed, and prior to requesting the acceptance test, Contractor shall conduct a final inspection, and an operational pre-test of all equipment and system features. Contractor shall correct any deficiencies discovered as the result of the inspection and operational pre-test.
 - B. Submit written notification to the Owner’s Representative and the A/E that systems have been tested, are operating properly, and are ready for Acceptance at least 21 days prior to the requested test date.
- 3.5 FINAL ACCEPTANCE
- A. Acceptance test shall be scheduled during a period when the building is unoccupied and a complete system test can be accomplished.
 - B. Contractor shall provide the services of no fewer than two (2) skilled technicians to perform the acceptance test. Technicians performing the acceptance test shall have been involved in the programming and installation of this project and shall be thoroughly familiar with all aspects of the Work. Technicians shall be equipped with portable two-way radios that will be used during the test.
 - C. Contractor shall provide all ladders, tools, test equipment, and other facilities needed to accomplish the Acceptance test.
 - D. During acceptance test, Contractor shall demonstrate all equipment, system features and camera views to the Owner. Contractor shall fully cooperate with the Owner and provide assistance with the inspection and test. Contractor shall remove and reinstall covers, open and restore wiring connections, operate equipment, and perform other reasonable work as requested by the Owner.
 - E. Any portions of the Work found to be deficient or not in compliance with the Contract Documents will be rejected. Owner will record any such deficiencies observed during the Acceptance test. A copy of said list will be provided to Contractor and all deficiencies shall promptly be corrected.

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3.6 WARRANTY AND SERVICE

- A. Contractor shall provide parts and labor guarantee on all Work. Unless otherwise specified herein, Contractor's guarantee shall be for a period of one (1) year from Date of Acceptance, except where any specific guarantees from a supplier or equipment manufacturer extends for a longer period of time.
- B. Contractor's guarantee shall cover all costs associated with troubleshooting, repair, and replacement of defective Work, including costs of labor, transportation, lodging, materials, and equipment.

3.7 TRAINING

- A. The Owner shall receive 4 hours of instruction in (2) 2-hour segments covering all aspects of operating the security video system.
- B. The Owner shall also receive assistance in configuring the system to the Owner's satisfaction and the system is complete and functional.

END OF SECTION 282300

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SECTION 283100 - FIRE DETECTION AND ALARM

PART 1 - GENERAL

1.1 SCOPE

- A. Bidding documents including Division 1 General Conditions, Published Addenda and related work in other Divisions form an integral part of these Specifications and shall be binding on the Division 26 Contractor for all work performed under Division 26, Electrical.
- B. This specification document provides the requirements for the installation, programming and configuration of a complete Honeywell Silent Knight #6808 digital protocol analog addressable fire alarm system. This system shall include, but not be limited to, system cabinet, power supply, built in Signaling Line Circuit (SLC), 80 character LCD annunciator, two programmable notification circuits, built in dual line, IP and cellular Digital Communicator, associated peripheral devices, batteries, wiring, conduit and other relevant components and accessories required to furnish a complete and operational Life Safety System.

1.2 WORK INCLUDED

- A. General Requirements
 - 1. The contractor shall furnish and install a complete 24 VDC, electrically supervised, analog addressable fire alarm system as specified herein and indicated on the drawings. The system shall include but not be limited to all control panels, power supplies, initiating devices, audible and visual notification appliances, alarm devices, and all accessories required to provide a complete operating fire alarm system.
- B. Listings
 - 1. All fire alarm system equipment shall be listed for it's intended purpose and be compatibility listed to assure the integrity of the complete system.

1.3 STANDARDS

- A. The fire alarm equipment and installation shall comply with the current provisions of the following standards and shall be listed for it's intended purpose and be compatibility listed to insure integrity of the complete system.
 - 1. National Electric Code, Article 760
 - 2. National Fire Protection Association Standards:
 - NFPA 70 National Electrical Code
 - NFPA 72 National Fire Alarm Code
 - NFPA 101 Life Safety Code

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3. Local and State Building Codes
BOCA, National Building Code, Mechanical Code, Fire Prevention Code
4. Local Authorities Having Jurisdiction
5. Underwriters Laboratories Inc.
6. All equipment shall be approved by Underwriters Laboratories, Inc. for its intended purpose, listed as power limited by Underwriters Laboratories, Inc., for the following standards as applicable:
UL 864 UOJZ Control units for Fire Protective Signaling Systems
Local Signaling Unit
Central Station Signaling Protected Premises Unit
Remote Signaling Protected Premises Unit.
UL 2075 CO Detectors Connected to FACP
UL 864 Releasing Device Control Unit (Water Release Only)
UL 268 Smoke Detectors for Fire Protective Signaling systems.
UL 268A Smoke Detectors for duct applications
UL 217 Smoke Detectors for Single Stations
UL 521 Heat Detectors for Fire Protective Signaling systems.
UL 228 Door Holders for Fire Protective Signaling systems.
UL 464 Audible Signaling appliances
UL 1638 Visual Signaling appliances
UL 38 Manually Activated Signaling Boxes
UL 346 Waterflow indicators for Fire Protective Signaling systems.
UL 1481 Power Supplies for Fire Protective Signaling systems.
7. Americans with Disabilities Act (ADA).
8. All visual Notification appliances and manual pull stations shall comply with the requirements of the Americans with Disabilities Act.

1.4 GENERAL REQUIREMENTS

A. Manufacturers/Distributors Services:

1. The following supervision shall be provided by a factory trained service technician from the distributor of the fire alarm equipment. The technician shall be trained and shall have a minimum of two (2) years of service experience in the fire alarm industry. The technicians name shall appear on equipment submittals and a copy of his manufactures trained shall be sent to the project engineer. The technician shall be responsible for the following items:
 - a. Approved Venders:
 1. E-Squared Systems, Lakewood, WA (253) 284-3707
 - b. A pre installation visit to the job site to review equipment submittals and to verify the method by which the system is to be wired.
 - c. During the installation the certified technician shall be on site or make periodic visits to verify installation and wiring of the system. He shall also supervise the completion of conduit rough, wires pulled into conduit and wiring rough, and ready for trim.
 - d. Upon completion of wiring, final checkout and certification of the system shall be made under the supervision of this technician.

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- e. At the time of the formal checkout, technician shall give operational instructions to the owner and or his representative on the system.

B. Submittals

1. The contractor shall submit a single electronic PDF copy of documentation within thirty (30) calendar days after award of the purchase order. Indicated in the document will be the type, size, rating, style, catalog number, manufacturers names, photos, and /or catalog data sheets for all items proposed to meet these specifications. The proposed equipment shall be subject to the approval of the Architect/Engineer and no equipment shall be ordered or installed on the premises without that approval.
2. Supplier qualifications shall be submitted indicating years in business, service policies, warranty definitions, NICET certification, and completion of factory training program and a list of similar installations.
3. Contractor qualifications shall be supplied indicating years in business and prior experience with installations that include the type of equipment that is to be supplied.

C. Contract close-out Submittals

1. Deliver an electronic PDF of the following to the owner's representative within Thirty (30) days of system acceptance. The closeout submittals shall include:
 - a. Installation and Programming manuals for the installed Life Safety System.
 - b. Point to point diagrams of the entire Life Safety System as installed. This shall include all connected Smoke Detectors and addressable field modules.
 - c. All drawings must reflect device address as verified in the presence of the engineer and/or end user.

D. Warranty

1. Warranty all materials, installation and workmanship for a one (1) year period, unless otherwise specified. A copy of the manufacturer warranty shall be provided with the close out documentation.

E. Products

1. This Life Safety System Specification must be conformed to in its entirety to ensure that the installed and programmed Life Safety System will accommodate all of the requirements and operations required by the building owner. Any specified item or operational feature not specifically addressed prior to the bid date will be required to be met without exception.
2. Submission of product purported to be equal to those specified herein will be considered as possible substitutes only when all of the following requirements have been met:
 - a. The fire alarm system has been designed around Silent Knight. Any substitutions must be presented to owner. If substitution, contractor shall provide written approval to Engineer signed by owner with substitution request.

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- b. Any deviation from the equipment, operations, methods, design or other criteria specified herein must be submitted in detail to the contractor prior to the scheduled submission of bids.

3. General Equipment and Materials Requirements

- a. All equipment furnished for this project shall be new and unused. All components shall be designed for uninterrupted duty. All equipment, materials, accessories, devices and other facilities covered by this specification or noted on the contract drawings and installation specification shall be best suited for the intended use and shall be provided by a single manufacturer. If any of the equipment provided under this specification is provided by different manufacturers, then that equipment shall be "Listed" as to its compatibility by Underwriters Laboratories (UL), if such compatibility is required by UL standards.

F. Satisfying the Entire Intent of these Specifications

- 1. It is the contractor's responsibility to meet the entire intent of these specifications.
- 2. Deviations from the specified items shall be at the risk of the contractor until the date of final acceptance by the architect, engineer, and owner's representative.
- 3. All costs for removal, relocation, or replacement of a substituted item shall be at the risk of the electrical contractor.

PART 2 - PRODUCTS

2.1 GENERAL

A. Control Panel

- 1. The fire alarm control panel (FACP) shall be the Silent Knight #6808 analog addressable control panel. The FACP must have a 6 amp power supply and be capable of expansion to a maximum of 51 total amps via bus connected expander modules that supervise low battery, loss off AC and loss of communication.
- 2. The FACP must have drift compensation sensitivity capabilities on detectors and be capable of supporting 99 detectors and 99 analog addressable points. The communication protocol on the SLC loop must be digital.
- 3. The FACP must support a minimum of four programmable notification circuits. The panel must have a built in 80 character LCD annunciator with the capability of having an additional eight supervised remote annunciators connected in the field.
- 4. The FACP must have a built in UL approved IP digital communicator with cellular module for communication. The communicator must allow local and remote up/downloading of system operating options, event history, and detector sensitivity data.
- 5. The FACP must automatically test the smoke detectors in compliance with NFPA standards to ensure that they are within listed sensitivity parameters and be listed with Underwriters Laboratories for this purpose.

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6. The FACP must compensate for the accumulation of contaminants that affect detector sensitivity. The FACP must have maintenance alert feature (differentiated from trouble condition), detector sensitivity selection, auto-programming mode (Jumpstart) and the ability to upgrade the core operating software on site through USB or ethernet cable.
7. The FACP shall have a Jumpstart feature that can automatically enroll all properly connected accessories into a functional system within 60 seconds of powering up the panel. Panels that do not have these capabilities will not be accepted.
8. The main communication bus (SBUS RS485) shall be capable of class A or class B configuration with a total Bus length of 6,000 feet.

B. System Wiring

1. The Signaling Line Circuit (SLC) and Data Communication Bus (S-BUS) shall be wired with standard NEC 760 compliant wiring, no twisted, shielded or mid capacitance wiring is required for standard installations. All FACP screw terminals shall be capable of accepting 14-18 AWG wire. All system wiring shall be in accordance with the requirements of NFPA 70, the National Electrical Code (NEC) and also comply with article 760 of the NEC.

C. Signaling Line Circuits

1. Each SLC shall be capable of a wiring distance of 12,500 feet from the SLC driver module and be capable of supporting 99 detectors and 99 modules. The communication protocol to SLC devices must be digital. Any SLC loop device, which goes into alarm, must interrupt the polling cycle for priority response from the FACP. The FACP must respond consistently to a device that goes into alarm on an SLC in under 3 seconds. The SLC shall be capable of functioning in a class A or class B configuration.

D. SLC loop devices

1. Devices supported must include photoelectric, ionization smoke detectors, heat detectors, contact monitoring modules and relay output modules. There is to be no limit to the number of any particular device type up to the maximum of 99 detectors and 99 modules, that can be connected to the SLC.

E. Addressable detector functions

1. The products of combustion detectors must communicate analog values using a digital protocol to the control panel for the following functions:
 - a. Automatic compliance with NFPA 72 standards for detector sensitivity testing
 - b. Drift compensation to assure detector is operating correctly
 - c. Maintenance alert when a detector nears the trouble condition
 - d. Trouble alert when a detector is out of tolerance.

F. Programmable FlexPuts

1. The FACP shall support four programmable notification circuits that are capable of

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being programmed as supervised reverse polarity notification circuits or supervised auxiliary power circuits that can be programmed as continuous, reset able or door holder power. The circuits shall also be programmable as input circuits in class A or B configurations to support dry contact or compatible two wire smoke detectors.

G. Addressable Notification Module

1. The contractor shall furnish and install where indicated on the plans, addressable notification modules. The modules shall be U.L. listed compatible with Silent Knight's fire alarm control panel. The notification module must provide one class A (Style Z) or class B (Style Y) notification output with one auxiliary power input. The notification module must be suitable for mounting in a standard 4 square electrical box and must include a plastic cover plate. The notification module must provide an LED that is visible from the outside of the cover plate. The notification module must be fully programmable for such applications as required by the installation. The IDP-control shall reside on the SLC loop and can be placed up to 12,500ft. from the FACP.

H. Annunciators

1. The main control must have a built in annunciator with an 80-character LCD display and feature LED's for General alarm, Supervisory, System trouble, System Silence and Power. When in the normal condition the LCD shall display time and date based on a 200 year clock which is capable of automatic daylight savings time adjustments. All controls and programming keys are silicone mechanical type with tactile and audible feedback. Keys have a travel of .040 in. No membrane style buttons will be permissible. The annunciator must be able to silence and reset alarms through the use of a keypad entered code, or by using a fire fighters key. The annunciators must have twenty levels of user codes that will allow the limitation of operating system programming to authorized individuals.

I. Remote Annunciators

1. The fire system shall be capable of supporting up to three remote annunciators. LCD Remote annunciator shall have the same control and display layout matching the built in annunciator. Remote annunciators shall be available in two colors, red and light gray. Remote annunciators shall have the same functionality and operation as the built in annunciator. All annunciators must have 80-character LCD displays and must feature five LED's for general alarm, supervisory, system trouble, system silence, and system power. All controls and programming keys are silicone mechanical type with tactical and audible feedback. Keys shall have a travel of .040 inches. No membrane style buttons will be permitted.
2. The annunciator must be able to silence and reset alarms through the use of a code entered on the annunciator keypad or by using a firefighter key. The annunciator must have twenty levels of user codes that will limit the operating system programming to authorized individuals. The control panel must allow all annunciators to accommodate multiple users input simultaneously. Remote annunciators shall be capable of operating at a distance of 6000 feet from the main control panel on unshielded non-twisted cable.

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- J. The fire system shall be able to support up to eight I/O modules that shall be used to drive remote LED graphic style displays and accommodate up to eight dry contact type switch inputs. The I/O modules shall each drive up to 40 LEDs without requiring external power connections. The I/O module inputs shall be supervised and be suitable for alarm and trouble circuits as well as reset and silence switches. The system shall also support up to 40 LED drivers that reside on the two-wire SLC loop. These driver boards shall contain 80 LED outputs that are powered by an external power source.
- K. Serial/Parallel interface
1. The fire system shall be capable of supporting up to two serial / parallel interfaces that are capable of driving standard computer style printers. The interface shall be programmable as to what information is sent to it and shall include the ability to print out Detector Status by point, Event History by point and System Programming.
- L. Distributed Power Module
1. The contractor shall supply a power module #5496 and 5895XL compatible with the Model # 6808 fire alarm control panel. The power module must have 6 amps of output power, six flexput circuits rated at 3amps each, and two form C relay circuits rated at 2.5 amps at 24 volts DC. The six flexput circuits shall have the same functionality as the flexput circuits on the main panel. The Distributed Power Supply shall be capable of being connected via an RS-485 system bus (SBUS) at a maximum distance of 6000ft. from the main control panel. The power module shall contain an additional RS-485 bus that is completely compatible with all Model #6808 add on modules. The power module will also act as a bus repeater so that additional RS-485 (modules) devices can be connected at a maximum distance of 6000ft. from the power module.
 2. The power module's RS-485 bus shall be electrically isolated providing ground loop isolation and transient protection.
- M. Digital Communicator
1. The IP digital communicator must be an integral part of the control panel and be capable of reporting all zones or points of alarm, supervisory, and trouble as well as all system status information such as loss of AC, low battery, ground fault, loss of supervision to any remote devices with individual and distinct messages to a central station or remote station. The communicator must also be capable of up/downloading of all system programming options, Event history and Sensitivity compliance information to a PC on site through a USB or ethernet cable. It shall transmit the information by one or more of the following means of communication, internet, cellular or phone line.
- N. Dry Contacts
1. The FACP will have three form "C" dry contacts, one will be dedicated to trouble conditions, the other two will be programmable for alarm, trouble, sprinkler supervisory, notification, pre-alarm, waterflow, manual pull, aux. 1 or aux. 2. The trouble contact shall be normal in an electrically energized state so that any total power loss (AC and Backup) will cause a trouble condition. In the event that the Microprocessor on the FACP fails the trouble contacts shall also indicate a trouble

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condition.

O. Ground Fault Detection

1. A ground fault detection circuit shall be used to detect positive and negative grounds on all field wiring. The ground fault detector shall operate the general trouble devices as specified but shall not cause an alarm to be sounded. Ground faults will not interfere with normal operation, such as alarm, or other trouble conditions.

P. Over Current Protection

1. All low voltage circuits will be protected by microprocessor controlled power limiting or have a self-restoring poly switches for the following: smoke detector power, main power supply, indicating appliance circuits, battery standby power and auxiliary output.

Q. Test Functions

1. A "Lamp Test" mode shall be a standard feature of the fire alarm control panel and shall test all LED's and the LCD display on the main panel and remote annunciators.
2. A "Walk Test" mode shall be a standard feature of the fire alarm control panel. The walk test feature shall function so that each alarm input tested will operate the associated notification appliance for two seconds. The FACP will then automatically perform a reset and confirm normal device operation. The event memory shall contain the information on the point tested. the zone tripped, the zone restore and the individual points return to normal.
3. A "Fire Drill" mode shall allow the manual testing of the fire alarm system notification circuits. The "Fire Drill" shall be capable of being controlled at the main annunciator, remote annunciators and via a remote contact input.
4. A "Bypass Mode" shall allow for any point or nac circuit to be bypassed without effecting the operation of the total fire system.

R. Remote Input Capabilities

1. The control panel shall have provisions for supervised switch inputs for the purpose of Alarm reset and Alarm and trouble restore.

S. Notification Appliance Mapping Structure

1. All notification circuits and modules shall be programmable via a mapping structure that allows for a maximum of 125 output groups. Each of these groups shall have the ability to be triggered by any of the panels 125 Zones. A zone may trigger from groups individually or may contain a global trigger for manual pull stations, fire drills and two different system alarms. Additionally, each Zone will individually control the cadence pattern of each of the Groups that it is "Mapped" to so that sounders can indicate a variety of conditions. The Zone shall be capable of issuing a different cadence pattern for each of the Groups under its control. The mapping structure must also allow a group to be designated to "ignore cadence" for use with strobes and other continuous input devices. Zones shall have eight different output categories; Detector alarm, Trouble, Supervisory, Pre-alarm, Waterflow, Manual pull, Zone auxiliary one and Zone Auxiliary two. Each of the categories shall have the ability to

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control from 1 to 8 output groups with a cadence pattern. The patterns are; March code, ANSI 3.41, Single Stroke Bell Temporal, Zone 1 coded, Zone 2 coded, Zone 3 coded, Zone 4 coded, Zone 5 coded, Zone 6 coded, Zone 7 coded, Zone 8 coded, Custom output pattern 1, Custom output pattern 2, Custom output pattern 3, Custom output pattern 4, and Constant. This mapping/cadence pattern shall be supported by all system power supplies and Notification Expander Modules.

T. On board programmer

1. The FACP shall have an on board programmer which will allow for all system functions and options to be programmed via the on board annunciator keypad. Any panel that does not have this capability will not be accepted.

U. Downloading Software

1. The fire alarm control panel must support up/downloading of system programming from a PC under Windows 7 or newer. The FACP must also be able to download the detector sensitivity test results and a 1000 event system event buffer to the PC. Communication shall take place over a direct connection to the PC and/or via the same telephone lines as the built in digital communicator and shall not require an external modem to be connected to the panel. The downloading software shall contain a code that will block unauthorized persons from accessing the panel via direct connection or ethernet.

V. Facility Management Software

1. The FACP must support a facility management software capable of providing off site access to FACP data that is necessary to manage fire system operation. A software package capable of uploading the detector sensitivity test results and the 1000 event system event buffer to the PC shall be required as part of the bid package. Communication shall take place over a direct connection to the PC and/or via the same communication protocol as the built in digital communicator. The facility management package must be separate from the downloader package and must not be capable of affecting programmed system options.

W. Service reminder

1. The FACP shall be capable of automatically generating textual service reminder and the main and remote annunciator LCD's to inform the user of required testing or service. The service reminder shall not interfere with the normal operation of the FACP.

X. English language descriptions

1. The FACP shall provide the ability to have a text description of each system device, input zone and output group on the system. The use of individual lights to provide descriptions will not be acceptable.

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2.2 SYSTEM OPERATION

A. Alarm

1. When a device indicates any alarm condition the control panel must respond within 3 seconds. All programmed audio and visual devices will activate at this time. The General Alarm or Supervisory Alarm LED on the annunciator(s) should light and the LCD should prompt the user as to the number of current events. The alarm information must be stored in event memory for later review. Event memory must be available at the main and all remote annunciators.
2. When the alarmed device is restored to normal, the control panel shall be required to be manually reset to clear the alarm condition, except that the alarms may be silenced as programmed.
3. An alarm shall be silenced by pressing silence at the main panel or a code or Firefighter key at the main or remote annunciators. When silenced, this shall not prevent the resounding of subsequent events if another event should occur (subsequent alarm feature). When alarms are silenced the silenced LED on the control panel, and on any remote annunciators shall remain lit, until the alarmed device is returned to normal

B. Troubles

1. When a device indicates a trouble condition, the control panel System Trouble LED should light and the LCD should prompt the user as to the number of current events. The trouble information must be stored in event memory for later review. Event memory must be available at the main and all remote annunciators.
2. When the device in trouble is restored to normal, the control panel shall be automatically reset, The trouble restore information must be stored in event memory for later review. Event memory must be available at the main and all remote annunciators. A trouble shall be silenced by a code or Firefighter key at the main or remote annunciators. When silenced, this shall not prevent the resounding of subsequent events if another event should occur.

C. Supervision methods

1. Each SLC loop shall be electrically supervised for opens and ground faults in the circuit wiring, and shall be so arranged that a fault condition on any loop will not cause an alarm to sound. Additionally, every addressable device connected to the SLC will be supervised and individually identified if in a fault condition. The occurrence of any fault will light a trouble LED and sound the system trouble sounder but will not interfere with the proper operation of any circuit which does not have a fault condition.
2. Each indicating appliance circuit shall be electrically supervised for opens, grounds and short circuit faults, on the circuit wiring, and shall be so arranged that a fault condition on any indicating appliance circuit or group of circuits will not cause an alarm to sound. The occurrence of any fault will light the trouble LED and sound the system trouble sounder but will not interfere with the proper operation of any circuit which does not have a fault condition.

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2.3 CONTROL UNIT

A. System Cabinet

1. Mounting

- a. The system cabinets shall be red and can be either surface or flush mounted. The cabinet door shall be easily removable to facilitate installation and service.
- b. Audible System Trouble Sounder
- c. An audible system trouble sounder shall be an integral part of the control unit. Provisions shall also be provided for an optional supervised remote trouble signal.

B. Power Supply and Charger:

1. The entire system shall operate on 24 VDC, filtered switch mode power supply with the rated current available of 6 Amps. The FACP must have a battery charging circuit capable of complying with the following requirements:
2. Sixty (60) hours of battery standby with five (5) minutes of alarm signaling at the end of this sixty (60) hour period (as required per NFPA 72 remote station signaling requirements) using rechargeable batteries with automatic charger to maintain standby gel-cell batteries in a fully charged condition.
3. Twenty-four (24) hours of battery standby with five (5) minutes of alarm signaling at the end of this twenty-four (24) hour period (as required per NFPA 72 central station signaling requirements) using rechargeable batteries with automatic charger to maintain gel-cell batteries in a fully charged condition.
4. The power supply shall comply with U.L. Standard 864 for power limiting.
5. The FACP will indicate a trouble condition if there is a loss of AC power or if the batteries are missing or of insufficient capacity to support proper system operation in the event of AC failure. A "Battery Test" will be performed automatically every minute to check the integrity of the batteries. The test must disconnect the batteries from the charging circuit and place a load on the battery to verify the battery condition.
6. In the event that it is necessary to provide additional power one or more of the model 5496 or 5895XL Distributed Power Modules shall be used to accomplish this purpose.

C. Connections and Circuits

1. Connections to the light and power service shall be on a dedicated branch circuit in accordance with the National Fire Alarm Code NFPA 72, National Electrical Code (NEC) NFPA 70, and the local authority having jurisdiction (AHJ).
2. The circuit and connections shall be mechanically protected. A circuit disconnecting means shall be accessible only to authorized personnel and shall be clearly marked "FIRE ALARM CIRCUIT CONTROL".

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2.4 THE FACP SHALL SUPPORT THE FOLLOWING DEVICES ON THE RS-485 DATA BUS:

SK-NIC	Interface Network Card
SK-NIC-KIT	Installation Access Kit
SK-FML	Splitter Fiber Module, Multi-Mode
SK-FSL	Fiber Module, Single Mode
5824	Printer Interface Module
6860	LCD Remote Annunciator
5865-3	LED Remote Annunciator
5865-4	LED Remote Annunciator with reset and silence switches
5880	LED I/O module
5895XL	Intelligent Distributed Power Module
5496	Remote Power Supply 6.0 Amp
5883	Relay Interface Board

2.5 The FACP shall support the operation of 99 detectors and 99 addressable module total devices per SLC loop without regard to device type. The following devices shall be supported:

SK-Photo	Addressable Photoelectric Smoke detector
SK-Photo-T	Addressable Photoelectric Smoke detector with Thermal
SK-FIRE-CO	Combination Photoelectric and CO Detector
SK-Heat	Addressable Heat Sensor
SK-Heat-ROR	Addressable Heat with Rate of Rise
SK-Heat-Ht	Addressable Heat High temp 190°
SK-Acclimate	Addressable Multi Criteria Smoke detector with thermal
SK-6AB	6" detector base
SK-Duct	Addressable Duct Detector Housing
SK-Pduct-R	Addressable Duct Detector with Relay
SK-Relay	Addressable Relay Module
SK-Relay-6	Addressable Multi Relay Module
SK-Monitor	Addressable Input Module (Class A or B)
SK-Minimon	Mini Input Module
SK-Monitor-2	Addressable Dual Input Module
SK-Monitor-10	Addressable Multi Input Module (10)
SK-Control	Addressable Notification Module
SK-Control-6	Addressable Notification Multi Module (6)
SK-Zone	Two Wire Smoke Detector Module
SK-Zone-6	6 Multi Smoke Detector Module
SK-Iso	Isolation Module
SK-Beam	Addressable Beam Detector
SK-Beam-T	Addressable Beam Detector with Test feature
B224RB	Detector Relay Base
B200SR	Detector Sounder Base
RT S151KEY	Remote Test Switch For Photoelectric Duct Detector
SK-Pull-SA	Addressable Single Action Pull Station
SK-Pull-DA	Addressable Dual Action Pull Station

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The FACP shall support these other Silent Knight devices via addressable input, addressable Notification, or Addressable Output Modules.

PS-SATK	Single Action Manual Pull Station – Key Reset
PS-DATK	Dual action Manual Pull Station – Key Reset

2.6 FURNISH AND INSTALL THE FOLLOWING DEVICES

A. Manual Fire Alarm Stations

1. Manual Fire Alarm Stations shall be non-coded, break glass, Single or double action type, with a key operated test-reset lock in order that they may be tested, and so designed that after actual Emergency Operation, they cannot be restored to normal except by use of a key. The reset key shall be so designed that it will reset Manual station and open FACP without use of another key.
2. An operated station shall automatically condition itself so as to be visually detected, as operated, at a minimum distance of fifty feet, front or side. Manual Stations shall be constructed of die cast metal with clearly visible operating instructions on the front of the stations in raised letters.
3. Stations shall be suitable for surface mounting on matching backbox, or semi-flush mounting on a standard single-gang box and shall be installed within the limits defined by the Americans with Disabilities Act (ADA) dependent on Manual Station accessibility or per local requirements. Manual Stations shall be installed in conjunction with an Addressable Input Module IDP Minimon Input Module IDP Minimon. Manual Stations shall be Silent Knight Model PS-DATK or PS-SATK and Underwriters Laboratories listed.

B. Remote Power Supplies

1. The Remote Power Supplies for Notification appliances shall be the Silent Knight 5496 and/or 5895XL. The Power Supply shall hang on the main S-Bus and be programmed through the 6808 control. The 5496 or 5895XL will support 5amps of 24 volt DC power, with 6 Flexput circuits, rated at 3amps each. The power supply will also regenerate the S-Bus for an additional 6000’.
2. The remote power supply model 5499 or 5495 may also be used on the system. These power supplies are activated by the SK-Control module and support 6amps of 24VDC power, with 4 notification circuits, rated at 3amps each. These power boosters may also be activated from another notification circuit from either the fire alarm control, a distributed power supply 5895XL.

2.7 NOTIFICATION DEVICES

- A. The visible and audible/visible signal shall be compatible with 6808, 5495, 5496, 5499 or 5895XL and be listed by Underwriters Laboratories Inc. per UL 1971 and/or 1638 for the ST and also UL464 for the HS.
- B. The notification appliance (combination audible/visible units only) shall produce a peak sound output of 90dba or greater as measured in an anechoic chamber. The signaling appliance shall also have the capability to silence the audible signal while leaving the visible signal energized with the use of a single pair of wires. Additionally, the user shall be

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able to select either continuous or temporal tone output with the temporal signal having the ability to be synchronized.

- C. The visible signaling appliance shall maintain a minimum flash rate of 1Hz or greater regardless of power input voltage. The appliance shall also be capable of meeting the candela requirements of the blueprints presented by the Engineer and ADA. The appliance shall have an operation current of 57ma or less at 24VDC for the 15/75Cd.
- D. The appliance shall be polarized to allow for electrical supervision of the system wiring. The unit shall be provided with terminals with barriers for input/output wiring and be able to mount to a single gang or double gang box or double workbox with the use of an adapter plate. The unit shall have an input voltage range of 19-30 volts with either direct current or full wave rectified power.

2.8 SMOKE DETECTORS

- A. Smoke detectors shall be Silent Knight model SK-Photo ceiling mounted, Analog/Addressable photoelectric smoke detectors. The combination detector head and twist lock base shall be U.L. listed compatible with the Silent Knight 6808 fire alarm control panel.
- B. The base shall permit direct interchange with Silent Knight's SK-ACCLIMATE and SK-Heat detectors. The base shall be the appropriate twist lock base B210LP.
- C. The smoke detector shall have a flashing status LED for visual supervision. When the detector is actuated, the flashing LED will latch on steady at full brilliance. The detector may be reset by actuating the control panel's reset switch. The sensitivity of the detector shall be capable of being selected and measured by the control panel without the need for external test equipment.
- D. The vandal security-locking feature shall be used in those areas as indicated on the drawing. The locking feature shall be field selectable when required. It shall be possible to perform a sensitivity test of the detector without the need of generating smoke. The test method shall simulate the effects of products of combustion in the chamber to ensure testing of the detector circuits.
- E. Detectors shall have completely closed back to restrict entry of dust and air turbulence and have a 30 mesh insect screen. Electronics of the unit shall be shielded to protect against false alarms from E.M.I. and R.F.I.

2.9 HEAT DETECTORS

- A. Furnish and install analog/addressable heat detectors, Silent Knight model SK-Heat. The combination heat detector and twist lock base shall be U.L. listed compatible with the Silent Knight 6808 fire alarm control panel.
- B. The base shall permit direct interchange with the Silent Knight SK-Photo and SK-ACCLIMATE detectors. The base shall be appropriate twist lock base B210LP.

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- C. The heat detector shall have a flashing status LED for visual supervision. When the detector is actuated, the flashing LED will latch on steady at full brilliance. The detector may be reset by actuating the control panel's reset switch. The vandal security-locking feature shall be used in those areas as indicated on the drawings. Electronics of the unit shall be shielded to protect against false alarms from E.M.I. and R.F.I.

2.10 DUCT DETECTORS

- A. Duct Detector shall be Silent Knight Model DNR Duct Detector Housing with the SK-Photo.

PART 3 - EXECUTION

3.1 INSTALLER'S RESPONSIBILITIES

- A. The installer shall coordinate the installation of the fire alarm equipment. All conductors and wiring shall be installed according to the manufacturer's recommendations.
- B. It shall be the installer's responsibility to coordinate with the supplier, regarding the correct wiring procedures before installing any conduits or conductors.

3.2 INSTALLATION OF SYSTEM COMPONENTS

- A. System components shall be installed in accordance with the latest revisions of the appropriate NFPA pamphlets, the requirements contained herein, National Electrical Code, local and state regulations, the requirements of the fire department and other applicable authorities having jurisdiction (AHJ).
- B. All wire used on the fire alarm system shall be U.L. Listed as fire alarm protection signaling circuit cable per National Electrical Code, Articles 760.

3.3 WARRANTY

- A. The contractor shall warrant all equipment and wiring free from inherent mechanical and electrical defects for one year (365 days) from the date of final acceptance.

3.4 FINAL TEST

- A. Before the installation shall be considered completed and acceptable by the awarding authority, a test of the system shall be performed as follows:
- B. The contractor's job foreman, a representative of the owner, and the fire department shall operate every building fire alarm device to ensure proper operation and correct annunciation at the control panel.
- C. At least one half of all tests shall be performed on battery standby power.

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- D. Where application of heat would destroy any detector, it may be manually activated.
- E. The communication loops and the indicating appliance circuits shall be opened in at least two (2) locations per circuit to check for the presence of correct supervision circuitry.
- F. When the testing has been completed to the satisfaction of both the contractor's job foreman and owner, a notarized letter cosigned by each attesting to the satisfactory completion of said testing shall be forwarded to the owner and the fire department.
- G. The contractor shall leave the fire alarm system in proper working order, and, without additional expense to the owner, shall replace any defective materials or equipment provided by him under this contract within one year (365 days) from the date of final acceptance by the awarding authority.
- H. Prior to final test the fire department must be notified in accordance with local requirements.

3.5 RECORD DRAWINGS, TESTING, AND MAINTENANCE INSTRUCTIONS

- A. Record Drawings
 - 1. A complete set of reproducible "Record" drawings showing installed wiring, color coding, and wire tag notations for exact locations of all installed equipment, specific interconnections between all equipment, and internal wiring of the equipment shall be delivered to the owner upon completion of system.
- B. Operating and Instruction Manuals
 - 1. Operating and instruction manuals shall be submitted prior to testing of the system. Electronic PDF copy of operating and instruction manuals shall be delivered to the owner upon completion. User operating instructions shall be provided prominently displayed on a separate sheet located next to the control unit in accordance with U.L. Standard 864.

END OF SECTION

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SECTION 323116 - SECURITY CANTILEVERED SLIDE GATES

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The work in this section shall include furnishing all labor, materials, equipment, and appliances necessary to complete construction of all Security Cantilevered Slide Gates and Slide Gate Operators (also known as Hydraulic Gate Operators) required for this project in strict accordance with this specification section and drawings.
- B. References used below, and in other instances in this Section, are generally accepted industry standards. The edition of the criteria cited shall be the most recently published edition, including amendments, at the time of bid.

1.2 REFERENCES

- A. Underwriters Laboratory Gate Operator Requirements (UL 325).
 - 1. Operators shall be built to UL325 standards and be listed by a testing laboratory. Complete all electrical work according to local codes and National Electrical code. All fieldwork shall be performed in a neat and professional manner, completed to journeyman standards.
 - 2. Current safety standards require the use of multiple external sensors to be capable of reversing the gate in either direction upon sensing an obstruction. Also see 2.02 D.
 - 3. Vehicle gates should never be used by pedestrians. Separate pedestrian gates must always be provided when foot traffic is present.
 - 4. Current safety standards require gate operators to be designed and labeled for specific usage classes. Hydraulic Operator 222 E ST gate operators are to be used on Classes I, II, III and IV installations.
- B. ASTM F 2200 - Standard Specification for Automated Vehicular Gate Construction.
- C. ASTM F 1184 - Standard Specification for Industrial and Commercial Horizontal Slide Gates, Type II, Class 2.
- D. American Welding Society AWS D1.2 Structural Welding Code.

1.3 SUBMITTAL

- A. Product Data:
 - 1. Provide manufacturer's catalog cuts with printed specifications and installation instructions.
 - 2. Deliver two (2) copies of operation and maintenance data covering the installed products, including name, address and telephone number of the nearest fully equipped service center.

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3. Each operator shall bear a label indicating that the operator mechanism has been tested for full power and pressure of all hydraulic components, full stress tests of all mechanical components and electrical tests of all overload devices.
- B. Shop drawings:
1. Supply shop drawings showing the relationship of operating systems with gate components, including details of all major components.
 2. Include complete details of gate construction, gate height and post spacing dimensions.
- C. Certification of Performance Criteria:
1. Manufacturer of gate system shall provide certification stating the gate system includes the following material components that provide superior performance and longevity. Alternate designs built to minimum standards that do not include these additional structural features shall not be accepted.
 - a. Gate track system shall be keyed to interlock into gate frame member (providing 200% additional strength when compared to weld only keyless systems). When interlocked with and welded to the "keyed" frame top member, gate track forms a composite structure.
 - b. Gate shall have a minimum counterbalance length of 50% opening width which provides a 36% increase in lateral resistance (when compared to ASTM minimum of 40% counterbalance). If gate is ever to be automated, counterbalance section shall be filled with fabric or other specified material.
 - c. To provide superior structural integrity, intermediate vertical members shall be used - with spacing between verticals to be less than 50% of the gate frame height.
 - d. Entire gate frame (including counterbalance section) shall include 2 adjustable stainless or galvanized steel cables (minimum 3/16") per bay to allow complete gate frame adjustment (maintaining strongest structural square and level orientation).
 - e. Gate truck assemblies shall be tested for continuous duty and shall have precision ground and hardened components. Bearings shall be pre-lubricated and contain shock resistant outer races and captured seals.
 - f. Gate truck assemblies shall be supported by a minimum 5/8" plated steel bolt with self aligning capability, rated to support a 2,000 # reaction load.
 - g. Hanger brackets shall be hot dipped galvanized steel with a minimum 3/8" thickness that is also gusseted for additional strength.
 - h. Gate top track and supporting hangar bracket assemblies shall be certified by a licensed professional engineer to withstand a 2,000 lb. vertical reaction load without exceeding allowable stresses.
 - i. Gate is to be designed to meet specified ASCE-7 wind load requirements with the gate in the closed and latched condition only. Typical gate design is expected to operate satisfactorily in winds up to 30 MPH. Depending on gate panel infill, winds higher than 30 MPH may cause gate operational problems (if automated, operator entrapment may trigger; gate panel may not engage receiver). For sites with higher operational, non-typical, or specified wind loadings, manufacturer should be advised of the site conditions and a specifically engineered design will be offered.
- D. Certifications:
1. The Structural Cantilever Slide Gate must be cycle-tested and certified per section 2.04 B.

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2. The aluminum welders and welding process for gate manufacture must be certified per section 2.04 C.
3. Operator Manufacturer: A company specializing in the manufacture of hydraulic gate operators of the type specified, with a minimum of ten years' experience.
4. Manufacturer shall supply gate design performance certification as per section 1.03 C.

PART 2 - PRODUCTS

2.1 SLIDE GATE OPERATOR (HYDRAULIC GATE OPERATOR)

- A. Slide Gate Operator (Hydraulic Gate Operator) shall be SlideDriver 40 (222 E ST) with Smart Touch Controller as manufactured by HySecurity (Phone: 800-321-9947) or approved equal.
- B. Operation shall be by means of a metal rail passing between a pair of reinforced composite wheels with polyurethane treads. Operator motors shall be hydraulic, geroller type, and system shall not include belts, gears, pulleys, roller chains or sprockets to transfer power from operator to gate panel. The operator shall generate a minimum horizontal pull of 300 lb (136 kg) without the drive wheels slipping and without distortion of supporting arms. Operator shall be capable of handling gates weighing up to 4,000 lb (1,814 kg). Gate panel velocity shall not be less than 1 ft/s (304 mm/s) and shall be stopped gradually to prevent shock loads to the gate and operator assembly. The "soft-stop" feature of the gate operator shall be controlled by two adjustable hydraulic brake valves (one for each direction).
- C. Standard mechanical components shall include as a minimum:
 1. Supporting arms: Cast aluminum channel. Arms shall incorporate a fully bushed, 1 1/2" (38 mm) bronze bearing surface, acting on arm pivot pins. (item 2 below)
 2. Arm pivot pins: 3/4" (19 mm) diameter, stainless steel, with integral tabs for ease of removal.
 3. Tension spring: 2 1/2" (63 mm) heavy duty, 800 lb (363 kg) capacity.
 4. Tension adjustment: Finger tightened nut, not requiring the use of tools.
 5. Drive release: Must instantly release tension on both drive wheels and disengage them from contact with drive rail in a single motion, for manual operation.
 6. Limit switches: Fully adjustable, toggle types, with plug connection to control panel.
 7. Chassis: 1/4" (6 mm) steel base plate, and 12 Ga. (3 mm) sides and back welded and ground smooth.
 8. Cover: 16 Ga. (1 mm) zinc plated steel with textured TGIC polyester powder coat finish. All joints welded, filled and ground smooth. Finished corners square and true with no visible joints.
 9. Finish: Zinc plated steel with textured TGIC polyester powder coat finish, proven to withstand 1,000 hour salt spray test.
 10. Drive wheels: Two 6" diam (152 mm) AdvanceDrive wheels. High-strength composite hub with polyurethane over mold.
 11. Drive rail: Shall be extruded 6061 T6, not less than 1/8" (3 mm) thick. Drive rail shall incorporate alignment pins for ease of replacement or splicing. Pins shall enable a perfect butt splice.
 12. Hydraulic hose: Shall be 1/4" (6 mm) synthetic, rated to 3,000 psi (20.6 MPa).
 13. Hydraulic valves: Shall be individually replaceable cartridge type, in an integrated hydraulic manifold.

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14. Hose fittings: At manifold shall be quick-disconnect type, others shall be swivel type.
15. Hydraulic fluid: High performance type with a viscosity index greater than 375 and temperature range -40° F to 158° F (-40° C to 70° C).
16. A zero to 2,000 psi (13.7 MPa) pressure gauge, mounted on the manifold for diagnostics, shall be a standard component.
17. The hydraulic fluid reservoir shall be formed from a single piece of metal, non-welded, and shall be powder painted on the inside and the outside, to prevent fluid contamination.

D. Minimum standard electrical components:

1. Pump motor: 1 hp, 3450 RPM, 56C, TEFC. Standard voltages available in single or three phase.
2. All components shall have overload protection.
3. Electrical enclosure: Type 1, metal, with hinged lid gasketed for protection from intrusion of foreign objects.
4. Controls: Smart Touch Controller Board containing:
 - a. inherent entrapment sensor;
 - b. built in audible “warn before operate” system;
 - c. built in timer to close;
 - d. 32 character OLED display for reporting of functions and codes;
 - e. multiple programmable output relay options;
 - f. anti-tailgate mode;
 - g. built-in power surge/lightning strike protection;
 - h. menu configuration, event logging and system diagnostics easily accessible with a PC and HySecurity’s free Smart Touch Analyze and Retrieve Tool;
 - i. RS-232 port for connection to laptop or other computer peripheral and RS-485 connection for network interface.
 - j. Dual gate communication connection for bi-parting, sally port, or sequenced gates.
 - k. Electromechanical and solid state relays.
 - l. Radio option outputs.
 - m. 21 inputs for site specific configurations.
5. Transformer: 75 VA, non-jumpered taps, for all common voltages.
6. Control circuit: 24VDC.
7. Power: 208 VAC single phase

E. Obstruction Sensing Systems:

1. The inherent motor current sensors are part of the gate operator system and may not be removed or bypassed.
2. Required external sensors: See 1.02 B2. EMX IRM-MON Photo Eyes and ASO Edge Sensor, or approved equals, to be installed such that the gate will reverse in either direction upon sensing an obstruction. All safety devices conform to the UL 325 approved safety devices for HySecurity operators.

F. Additional control devices:

1. Radio control: Inti Transmitters (Model: INTI2/A) and OXI/A Receiver or approved equal. Provide one (1) OXI/A Receiver per slide gate ophydraulic gate operator and (3) Inti

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Transmitters per hydraulic gate operator. Intii transmitters shall be color-coded by gate. Submit product cutsheet to Owner for color selection during shop drawing process.

2. Fire Box with Knox Keyswitch: Security Brand 15-013 Fire box with Knox keyswitch or approved equal, emergency vehicle open device to be installed as dictated by local code.
3. Key operated cable manual release (secure side of gate).
4. Detection Loops: HY5B automatic loop detector assembly or approved equal.
5. Smart Keypad and Card Reader: Security Brand 27-230 Edge E3 Smart Keypad / Card Reader.
6. Gate Access Controller: NEMA 4 Exterior Three Button Surface Mount Control Station or approved equal.

2.2 FACTORY TESTING

- A. Fully assemble and test, at the factory, each gate operator to assure smooth operation, sequencing, and electrical connection integrity. Apply physical loads to the operator to simulate field conditions. Tests shall simulate physical and electrical loads equal to the fully rated capacity of the operator components.
- B. Check all operator mechanical connections for tightness and alignment. Check all welds for completeness and continuity. Check welded corners and edges to assure they are square and straight.
- C. Inspect operator painted finish for completeness and gloss. Touch up imperfections prior to shipment.
- D. Check all hydraulic hoses and electrical wires to assure that chafing cannot occur during shipping or operation.

2.3 SECURITY CANTILEVER SLIDE GATE MANUFACTURERS

- A. The cantilever sliding gate shall be manufactured by Tymetal Corp., 678 Wilbur Avenue, Greenwich, NY 12834 (Phone: 800-328-4283), or approved equal.
- B. Cantilever Slide Gate manufacturer shall submit test results upon request stating that the gate panel has been tested in an operated system for 200,000 cycles.
- C. Gate manufacturer shall provide independent certification as to the use of a documented Welding Procedure Specification and Procedure Qualification Record to insure conformance to the AWS D1.2 welding code. Upon request, Individual Certificates of Welder Qualification documenting successful completion of the requirements of the AWS D1.2 code shall also be provided.

2.4 SECURITY CANTILEVER SLIDE GATE

- A. Security Cantilever Slide Gate System dimensions shall be as shown on the detail drawings.
- B. Structural Gate Frame:

**NISQUALLY STATE PARK
NEW FULL SERVICE PARK – PHASE 2**

1. The gate frame shall be fabricated from 6063-T6 aluminum alloy extrusions. The top member shall be a 3" x 5" aluminum structural channel/tube extrusion weighing not less than 3.0 lb/lf (4.4kg/m). To maintain structural integrity this frame member shall be "keyed" to interlock with the "keyed" track member. If fabricated as a single horizontal piece, the bottom member shall be a 2" x 5" aluminum structural tube weighing not less than 2.0 lb/lf. If fabricated in two horizontal pieces, the bottom member shall be a 5" aluminum structural channel weighing not less than 2.65 lb/lf, and the two horizontal pieces or sections shall be spliced in the field (the gate frame shall be fabricated in one or multiple sections depending on size requirements or project constraints).
 2. Vertical Members:
 - a. The vertical members at the ends of the opening portion of the frame shall be "P" shaped in cross section with a nominal base dimension of no less than 2" x 2" (51mm x 51mm) and weighing not less than 1.6 lb/lf (2.3kg/m). The intermediate vertical members shall alternate between 2" x 2" (51mm x 51mm) and 1" x 2" (25mm x 51mm) in cross section weighing not less than 1.1 lb/lf (1.6kg/m) and 0.82 lb/lf (1.2kg/m) respectively.
 - b. Intermediate 1" x 2" (25mm x 51mm) vertical members weighing not less than .82 lb/lf shall alternate between 2" x 2" major members.
- C. Splicing:
1. A ¼" x 5" x 24" galvanized steel splice plate shall be used to secure the two bottom channel members together utilizing eight (8) plated carriage bolts with lock nuts. The top members will be spliced together using a ¼" x 2" x 24" aluminum splice plate secured with six (6) drive rivets on one side and welded to the top member on the other side. The track is overlapped onto the opposing section in an alternating fashion, interlocking with the top primary member.
- D. Gate Track:
1. The gate shall have a separate semi-enclosed "keyed" track, extruded from 6005A-T61 or 6105 T5 aluminum alloy, weighing not less than 2.9 lb/lf. Track members are to be located on each side of the top member. When interlocked and welded to the "keyed" top member, it forms a composite structure with the top of the gate frame. Welds are to be placed alternately along the top and side of the track at 9" centers with welds being a minimum of 2" long.
- E. All welds on the gate frame shall conform to Welding Procedure Specification and Procedure Qualification Record to insure conformance to the AWS D1.2 Structural Welding Code. All individual welders shall be certified to AWS D1.2 welding code. See 1.02 D.
- F. Gate Mounting:
1. The gate frame is to be supported from the track by four (4) swivel type, self-aligning, 4 wheeled, sealed lubricant, ball-bearing truck assemblies.
 2. The bottom of each support post shall have a bracket equipped with a pair of 3" (76mm) UHMW guide wheels. Wheel cover protectors shall be included with bottom guides to comply with UL325.
 3. Gap protectors shall be provided and installed, compliant with ASTM F 2200.

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- G. Diagonal Bracing:
 - 1. Diagonal "X" bracing of 3/16" or ¼" diameter stainless or galvanized steel cable shall be installed throughout the entire gate frame.
- H. Gate Panels:
 - 1. Gate Panels shall be provided by the Owner and installed by the Contractor.
- I. Posts:
 - 1. Double sets of support posts shall be minimum 4" O.D. (102mm) round SS40 or 4" x 4" x 3/16" wall square steel tubing, grade 500. Gate posts shall be galvanized or coated and supported in concrete footings as specified by the design team.
- J. Finish:
 - 1. Gate to be mill finish aluminum.
- K. Gate Lock:
 - 1. Gate system shall be furnished with a secure gate catcher. The catcher shall prevent the gate panel from being pried open while the gate is in the closed and locked position.

PART 3 - EXECUTION

3.1 SITE INSPECTION

- A. Final grades and installation conditions shall be examined. Installation shall not begin until all unsatisfactory conditions are corrected.
- B. Locate concrete mounting pad in accordance with approved shop drawings.
- C. Make sure that gate is level and operating smoothly under manual conditions before installation of gate operators. Do not proceed until gate panel is aligned and operates without binding.

3.2 INSTALLATION

- A. Equipment in this section shall be installed in strict accordance with the manufacturer's printed instructions, current at the time of installation (unless otherwise shown on the contract drawings).
- B. Coordinate locations of operators with contract drawings, other trades and shop drawings.
- C. Installer shall insure that the electric service to the operator is at least 20 AMPS. Operator wattage is 1500.
- D. The gate and installation shall conform to:
 - 1. ASTM F 1184 standards for aluminum cantilever slide gates, Type II, Class 2.

**NISQUALLY STATE PARK
NEW FULL SERVICE PARK – PHASE 2**

2. ASTM F 2200 standard specification for automated vehicular gate construction.
 3. UL325 standards.
- E. The installing contractor shall be responsible to ensure that appropriate external primary entrapment safety devices be installed for the specific site conditions to protect against all potential entrapment zones. Proper operation of these safety devices shall be verified and training as to the operation and maintenance of these devices for the users and owners shall be documented.
- F. Safety Loops installed in asphalt are to be installed before/during the installation of the asphalt paving. Saw cutting of the asphalt paving for the installation of the safety loops is not permitted.

3.3 SYSTEM VALIDATION

- A. The complete system shall be adjusted to assure it is performing properly. Test gate operator through a minimum of ten full cycles and adjust to ensure operation without binding, scraping or uneven motion. Test limit switches for proper "at rest" gate position.
- B. Gate lock shall be aligned properly to lock and unlock without binding. Test gate lock through a minimum of ten full cycles and verify secure locking.
- C. All anchor bolts shall be fully concealed in the finished installation.
- D. Test and Explain Safety Features:
1. Each system feature and device is a separate component of the gate system.
 2. Read and follow all instructions for each component.
 3. Ensure that all instructions for mechanical components, safety devices and the gate operator are available for everyone who will be using the gate system.
 4. The warning signs shipped with the gate operator must be installed in a prominent position on both sides of the gate.

3.4 OWNER TRAINING AND DOCUMENTATION

- A. Train Owner's personnel on how to safely shut of electrical power, release, and manually operate the gate. Additionally, demonstrate the general maintenance of the gate operator and accessories and provide one copy of "Programming and Operations Manual" for the Owner's use. Manuals will identify parts of the equipment for future procurement. Direct maintenance personnel to the technical support sections on HySecurity's website at www.hysecurity.com (or technical support website of approved equal manufacturer, if selected).

END OF SECTION

**NISQUALLY STATE PARK
NEW FULL SERVICE PARK – PHASE 2**

SECTION 323123 – POST AND RAIL FENCE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Scope of work. This Section includes post and rail (also known as buck and rail) fence at the Nisqually/Ohop Trail.

1.2 RELATED WORK

A. Coordinate related work specified in other parts of the Project Specifications, including, but not limited to the following:

1. 061000 Rough Carpentry

1.3 REFERENCE STANDARDS

A. Reference standards cited in this specification refer to the current reference standard published at the time of the latest revision date logged at the end of this specification unless a date is specifically cited.

1. American Society for Testing and Materials (ASTM)
2. State Environmental Policy Act (SEPA)

1.4 SUBMITTALS

A. Submit under provisions of Section 01 30 00 - Administrative Requirements.

B. Shop Plans: Layout of fences with dimensions, details, and finishes of components, and accessories.

C. Product Data:

1. Manufacturer's data sheets on each product to be used.
2. Preparation instructions and recommendations.
3. Storage and handling requirements and recommendations.
4. Typical installation methods.

D. Verification Samples: Two representative units of each type, size, pattern, and color.

E. Shop Drawings: Include details of materials, construction, and finish. Include relationship with adjacent construction.

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1.5 QUALITY ASSURANCE

- A. Manufacturer: Company operating in the United States having U.S. manufacturing facility/facilities specializing in manufacturing products specified in this section with a minimum of five years documented experience.
- B. Installer Qualifications: Company specializing in performing work of this section with a minimum of five years documented experience with projects of similar scope and complexity.
- C. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.
- D. Tolerances: Current published edition of ASTM specifications tolerances apply. ASTM specification tolerances supersede any conflicting tolerance.
- E. Mock-Up: Construct a mock-up with actual materials in sufficient time for Engineer's review and to not delay construction progress. Locate mock-up as acceptable to Engineer and provide temporary foundations and support.
 - 1. Intent of mock-up is to demonstrate quality of workmanship and visual appearance.
 - 2. If mock-up is not acceptable, rebuild mock-up until satisfactory results are achieved.
 - 3. Retain mock-up during construction as a standard for comparison with completed work.
 - 4. Do not alter or remove mock-up until work is completed or removal is authorized.
- F. DELIVERY, STORAGE, AND HANDLING
 - 1. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
 - 2. Protect from damage due to weather, excessive temperature, and construction operations.
- G. PROJECT CONDITIONS
 - 1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
- H. WARRANTY
 - 1. Manufacturer's standard limited warranty unless indicated otherwise.

**NISQUALLY STATE PARK
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PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Acceptable manufacturer: Parma Post & Pole, Inc. which is located at 26920 Highway 95, Parma, Idaho 83660 (1/2 mile east of Parma) Phone: 208.722.6837 Website: www.parmapostandpole.com; or approved equal.
- B. Requests for substitutions will be considered in accordance with provisions of section 016000 Product Requirements.

2.2 POST AND RAIL FENCE

- A. The posts and rails are to be peeled and treated lodgepole pines, size as indicated in drawings.
- B. Posts shall be pre-cut to the specified length in the drawings, and pre-notched.

2.3 FASTENERS

- A. 70D 7” galvanized nails shall be used to nail the rails onto the fence.
- B. 70D 7” galvanized nail shall be used to nail posts for A-frames together.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly constructed and prepared.
- B. If substrate preparation is the responsibility of another installer, notify Engineer in writing of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best results for the substrate under the project conditions.

3.3 POST AND RAIL INSTALLATION

- A. Install in accordance with manufacturer’s instructions, approved submittals, and in proper relationship with adjacent construction.

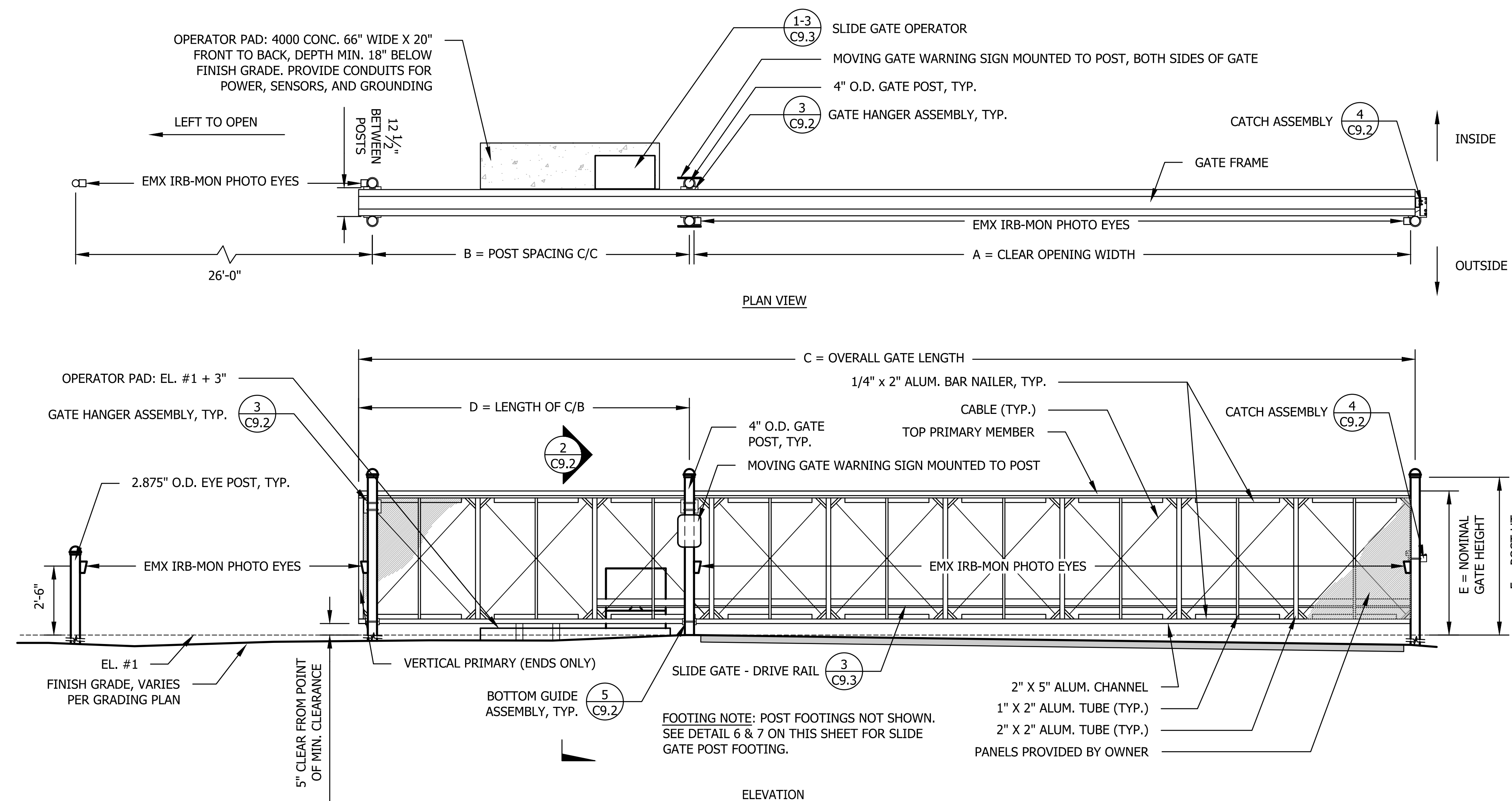
**NISQUALLY STATE PARK
NEW FULL SERVICE PARK – PHASE 2**

- B. A-Frame: A-frame shall be composed of 2 posts that are notched at the top intersection point. The posts shall be laid at a 60-degree angle one post on top of the other and lock the notches to fit snugly together. Drive a single 7” galvanized nail through the center of the intersection point.
- C. A-Frame Spacing: A-frames shall be evenly spaced in the line of fence on a maximum of 11-foot center unless otherwise noted.
- D. Posts shall be buried in 3 inches of wood chips.
- E. Rail: The top rail and bottom rail shall overhang the A-frame by +/-6 inches. Nail the rails into the posts using 70D 7” galvanized nails.
- F. Cross Rail: The cross rail shall be installed at a diagonal every 6 fence sections and shall connect one A-frame to the adjacent A-frame. Nail the cross rail with 70D 7” galvanized nails.
- G. Take precautions to prevent any marring and gouging of wood members during construction. Repair all damaged surfaces after completing construction.
- H. Post and rail fence shall not come undone by any force of manpower.

3.4 CLEANING

- A. Clean up debris and unused or excess material and remove from the site. Completely remove all concrete, mud, dirt and other substances from posts, fabric, and fittings.
- B. All excess concrete shall be disposed of off-site.
- C. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

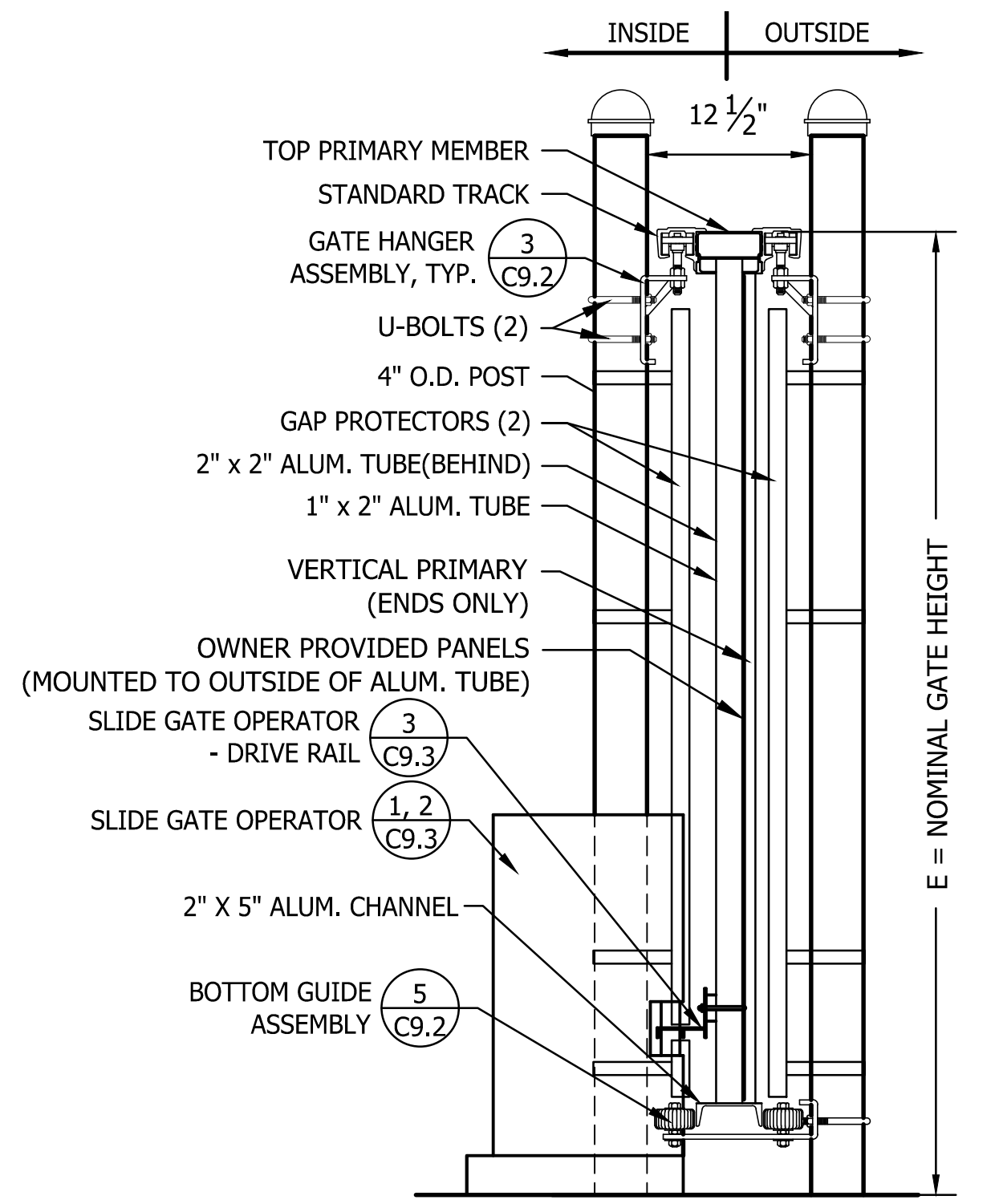


CRITICAL DIMENSION NOTE:
 NOMINAL GATE HEIGHT AND POST HEIGHT ARE MEASURED FROM EL. #1, THE HIGHEST POINT OF FINISH GRADE ALONG THE OPERATING PATH OF THE GATE. THE VERTICAL DISTANCE FROM EL. #1 TO FINISH GRADE AT EACH POST LOCATION SHALL BE ADDED TO THE NOMINAL POST HEIGHT TO DETERMINE THE OVERALL HEIGHT OF EACH POST. GATE AND POSTS SHALL BE INSTALLED PLUMB AND LEVEL.

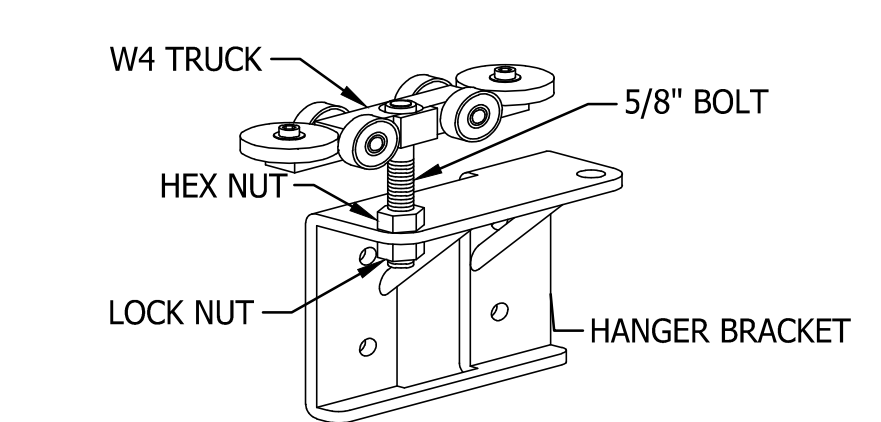
CANTILEVER SLIDE GATE NOTES:

- ALL FITTINGS PROVIDED FOR 4" O.D. POSTS.
- GATE ELEVATION IS VIEWED FROM THE OUTSIDE OF THE SECURE AREA LOOKING IN.
- FINISH GRADE VARIES. ADJUST HEIGHT OF POSTS AND SENSORS IN FIELD. INSTALL GATE AND POSTS PLUMB AND LEVEL, WITH 5" CLEARANCE MINIMUM ALONG THE ENTIRE OPERATING LENGTH OF THE GATE.

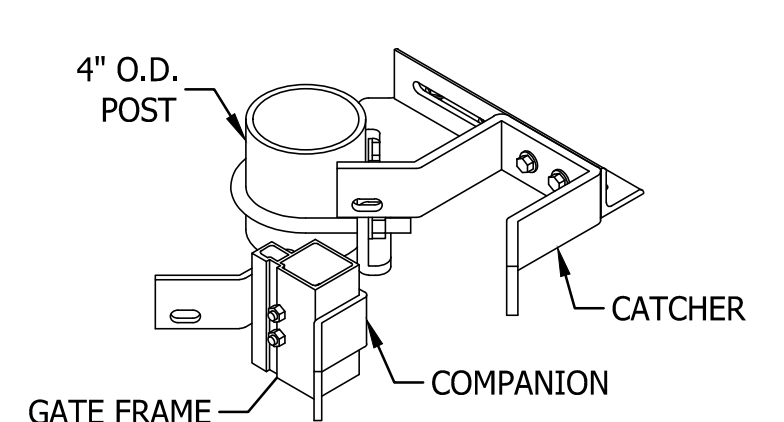
1
C9.2
4' SECURITY CANTILEVERED SLIDE GATE
 NOT TO SCALE



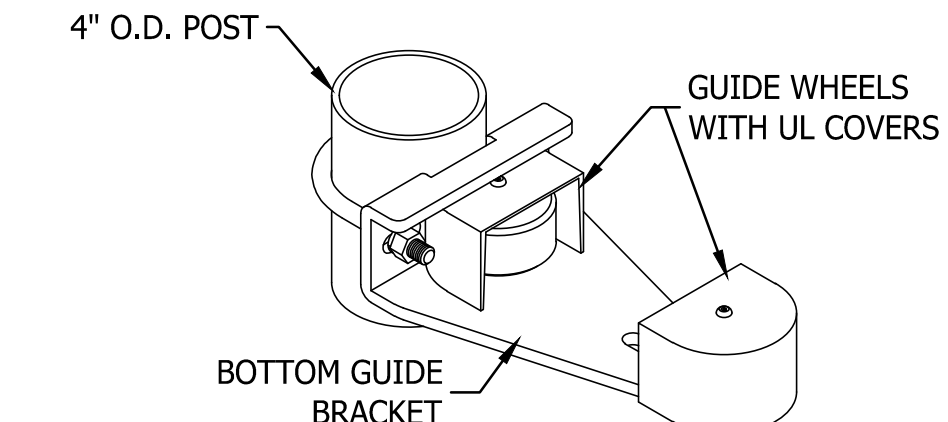
2
C9.2
ASSEMBLY SECTION
 NOT TO SCALE



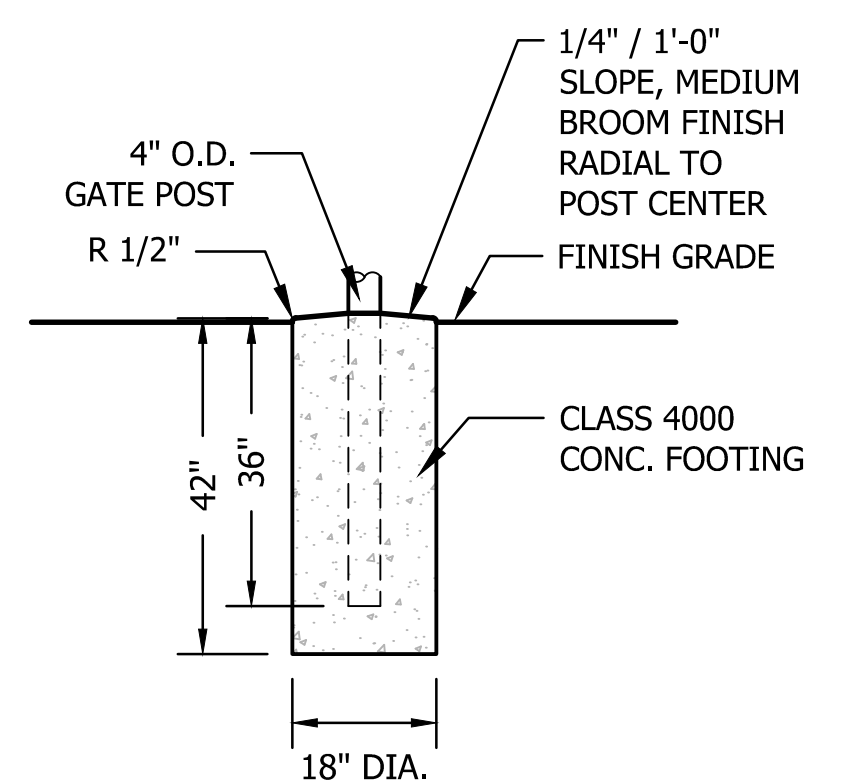
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C9.2
GATE HANGER ASSEMBLY
 NOT TO SCALE



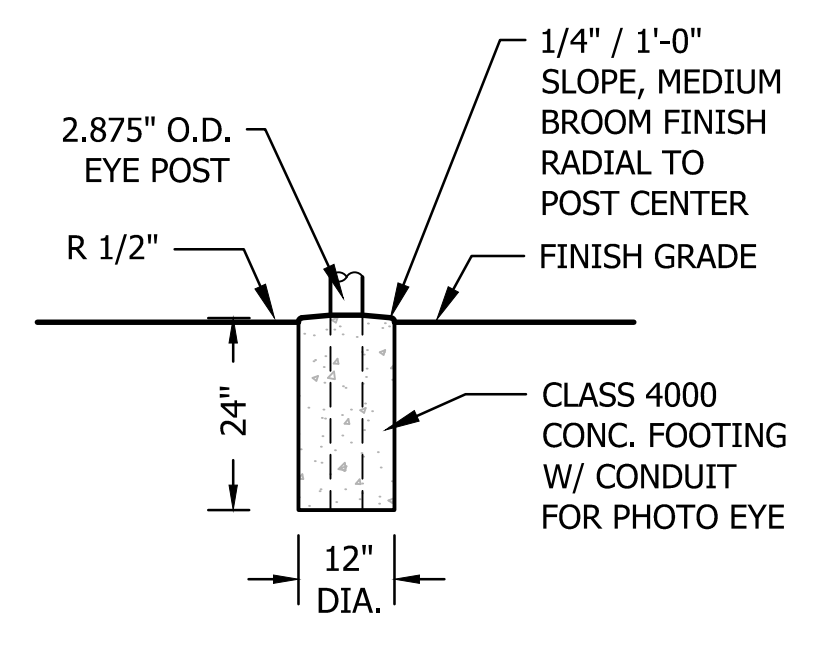
4
C9.2
CATCH ASSEMBLY
 NOT TO SCALE



5
C9.2
BOTTOM GUIDE ASSEMBLY
 NOT TO SCALE



6
C9.2
GATE POST FOOTING
 SCALE: 1/2" = 1'-0"



7
C9.2
EYE POST FOOTING
 SCALE: 1/2" = 1'-0"

CAD NO. _____

5/8/2024 DATE

INT. APP. _____

ADDENDUM #2:
 -REMOVED UPS AC BATTERY BACKUP

NO. _____

ACTION	BY	DATE
DESIGNED	BD	1/8/2024
DRAWN	AD,JH	1/8/2024
CHECKED (FIELD)	BD	
CHECKED (HDQTS.)		



REGISTERED STAMP

WASHINGTON
 STATE
 PARKS
 AND
 RECREATION
 COMMISSION

**NISQUALLY
 STATE PARK**

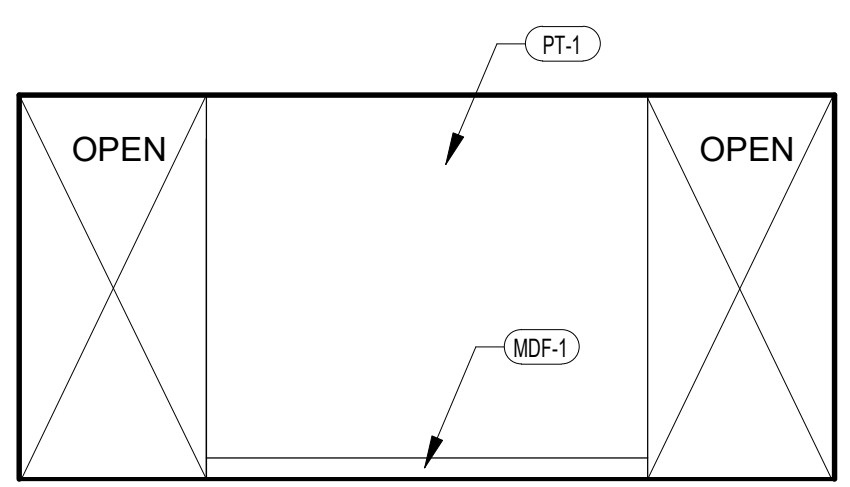
**NEW FULL SERVICE
 PARK - PHASE 2**

**FENCING & GATE
 DETAILS ADMIN
 BUILDING
 A-C9.2**

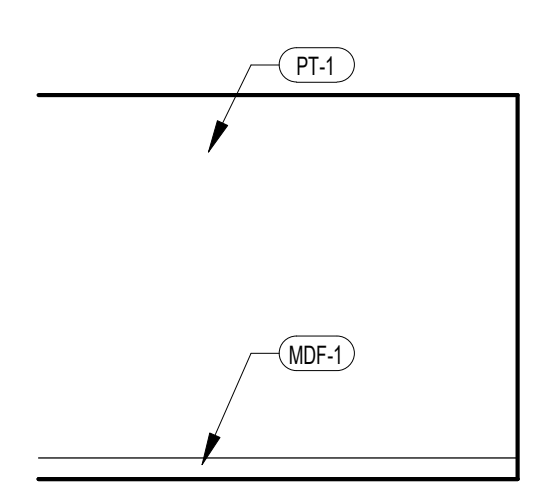
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AS SHOWN

PARKS FILE#

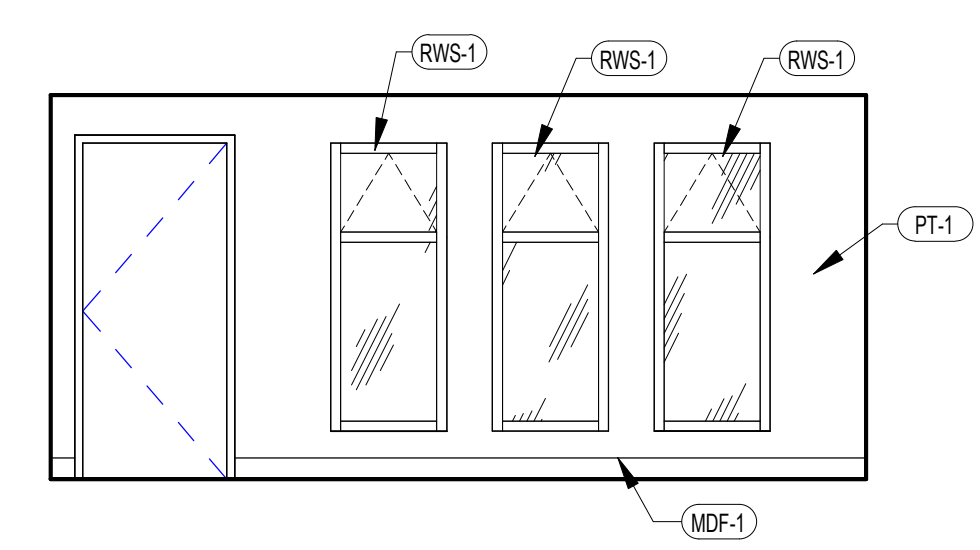
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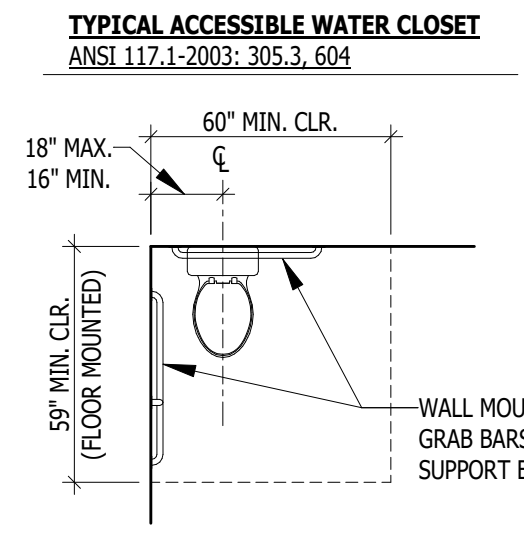
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1/4" = 1'-0"



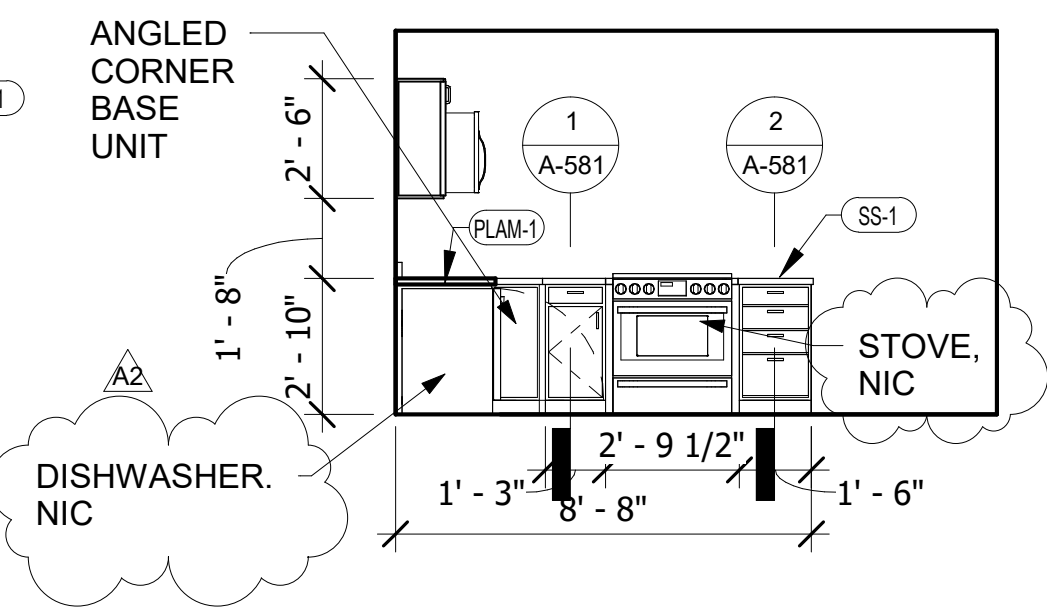
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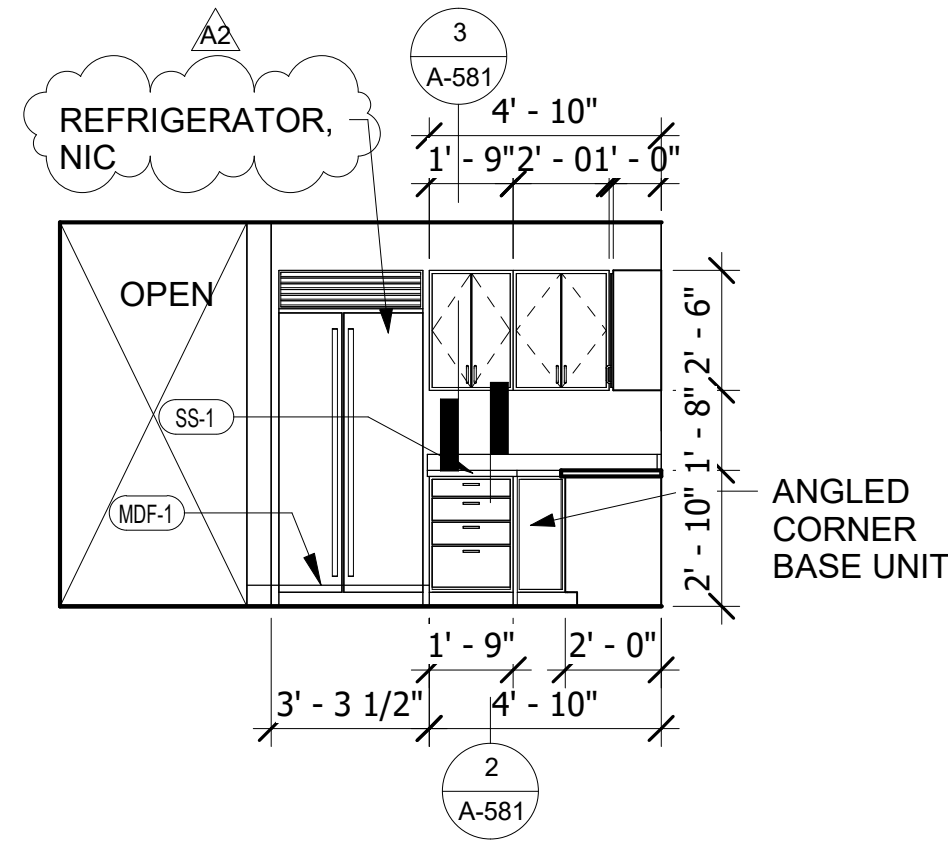
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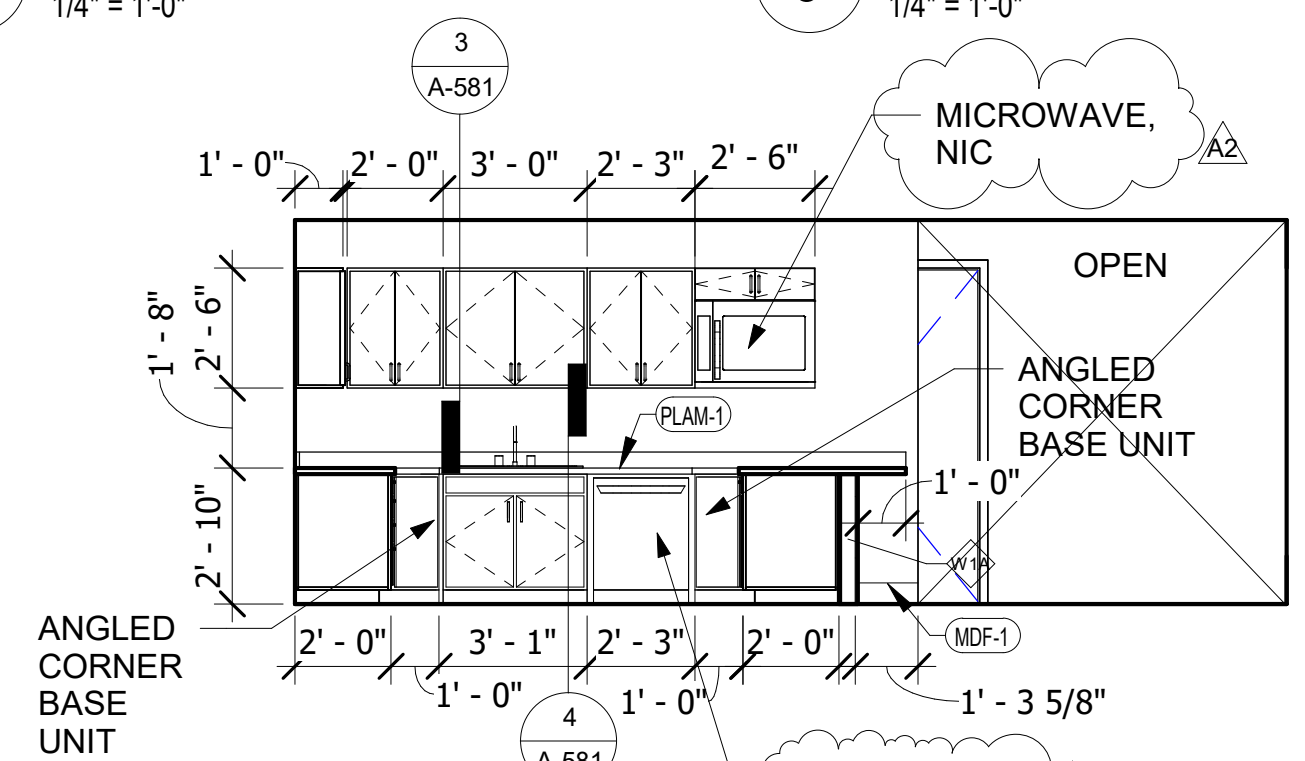
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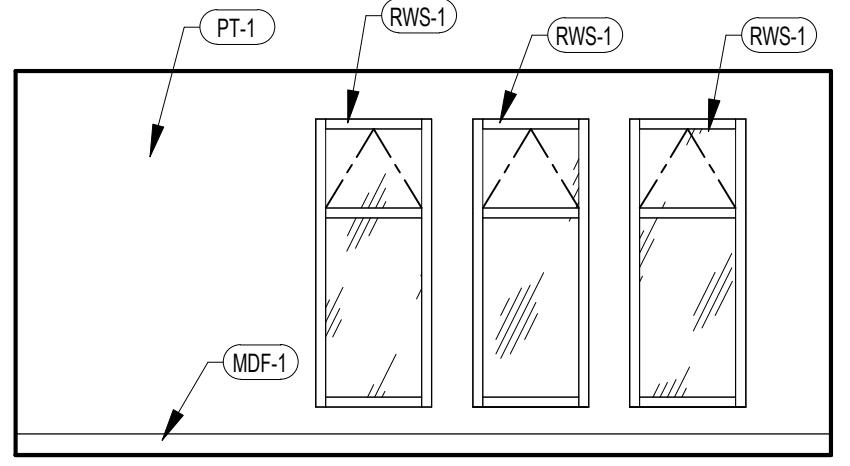
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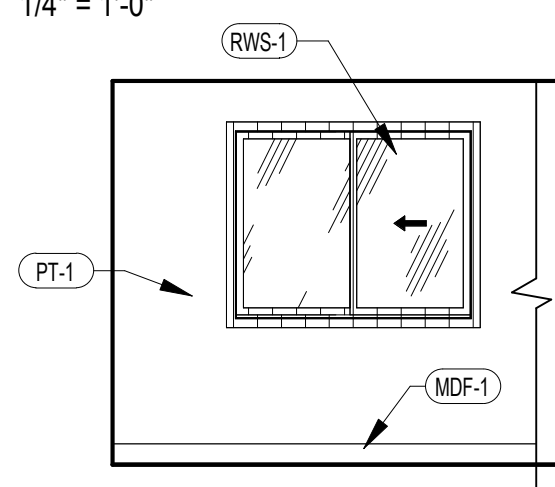
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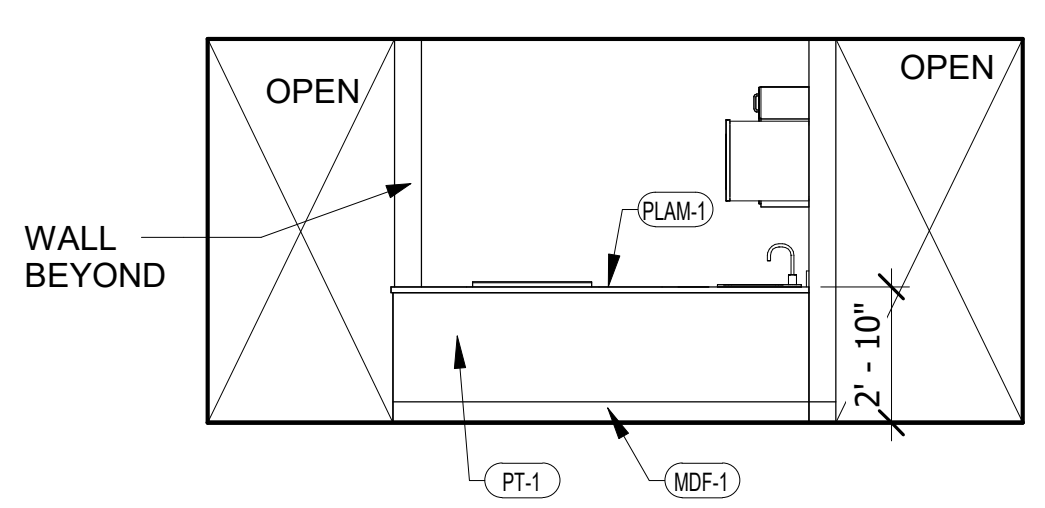
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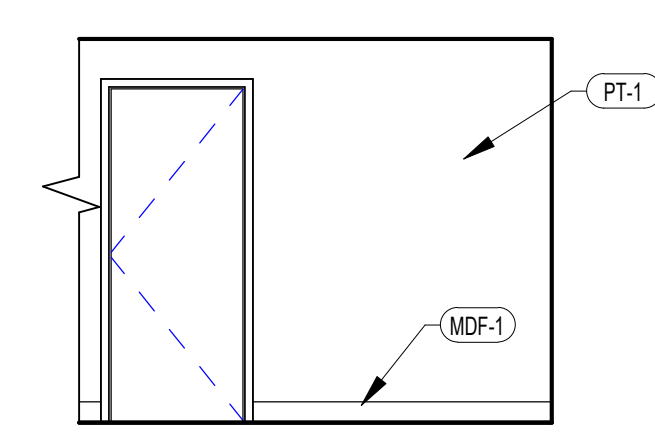
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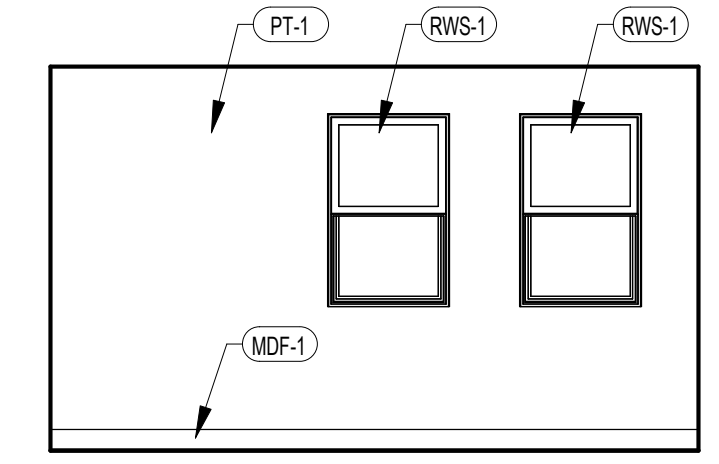
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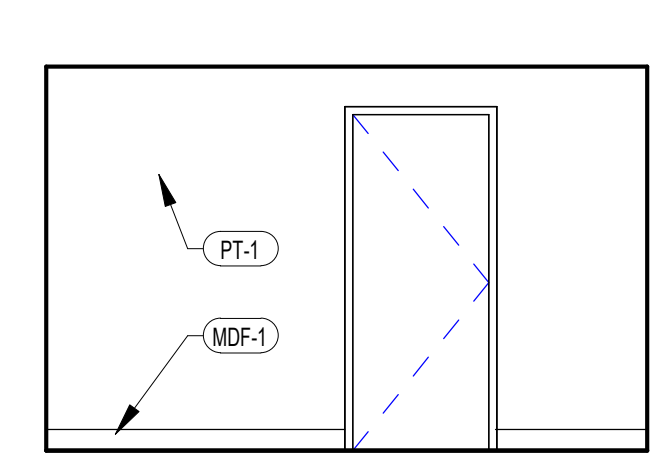
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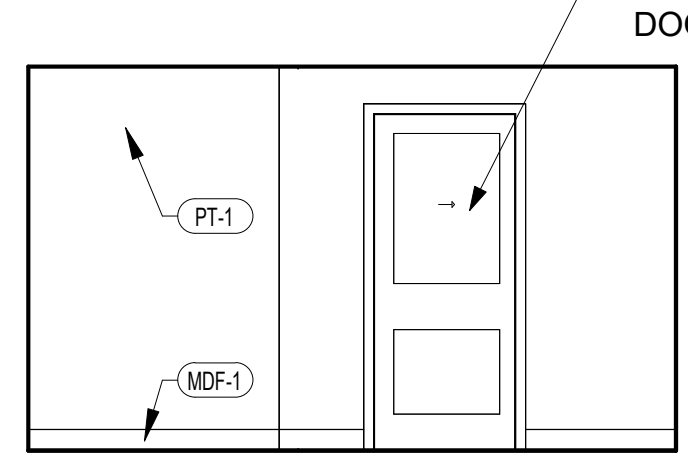
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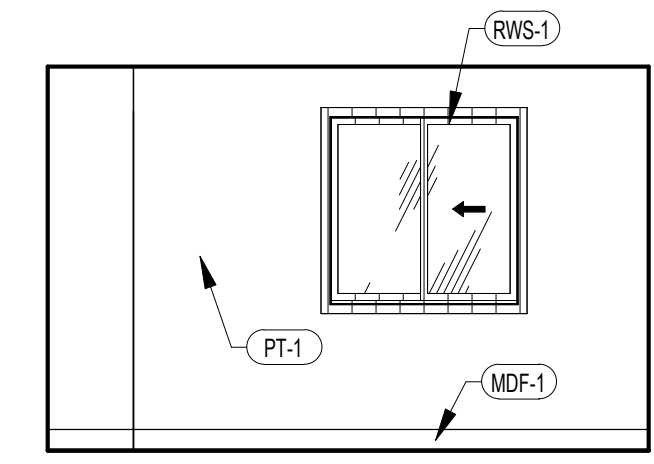
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1/4" = 1'-0"



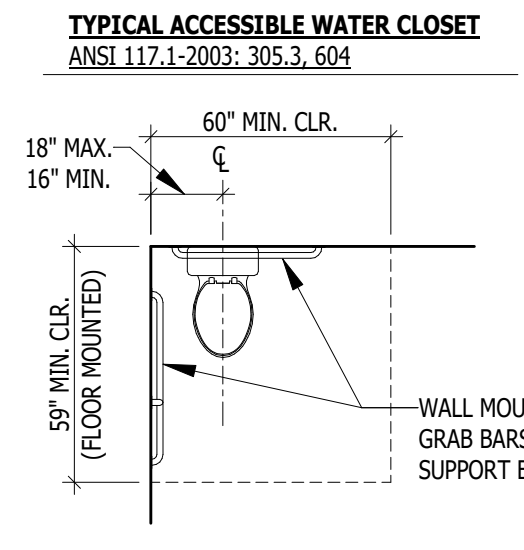
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1/4" = 1'-0"



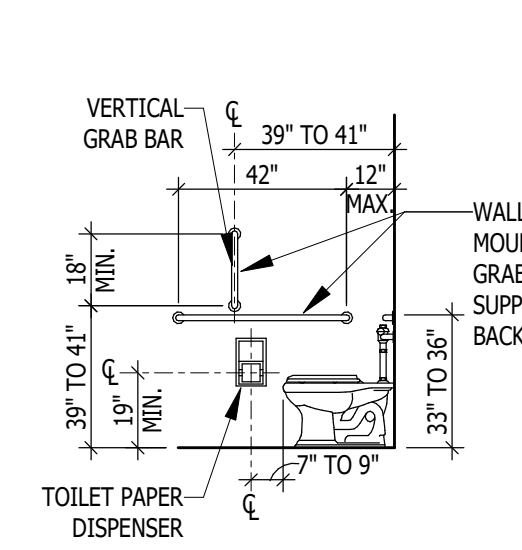
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1/4" = 1'-0"



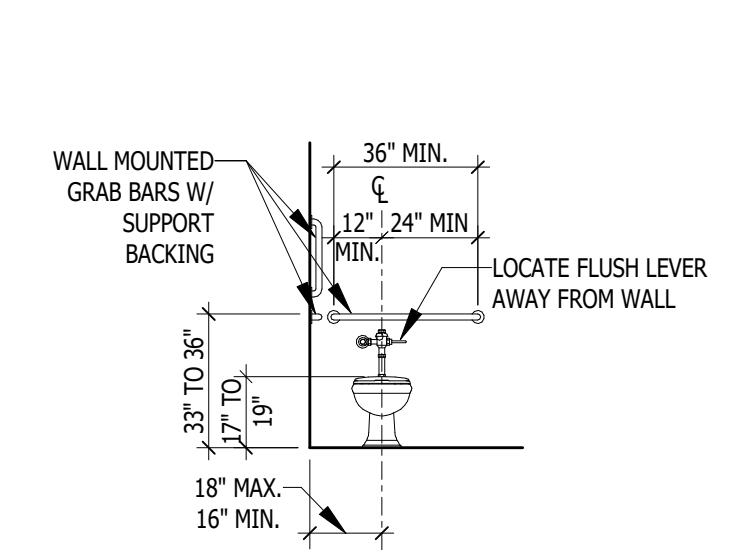
15 BEDROOM 105 - WEST
1/4" = 1'-0"



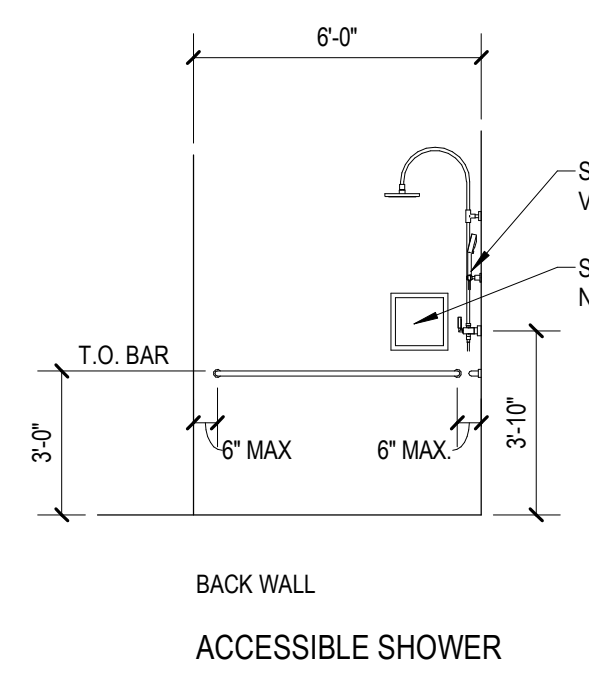
PLAN - WATER CLOSET



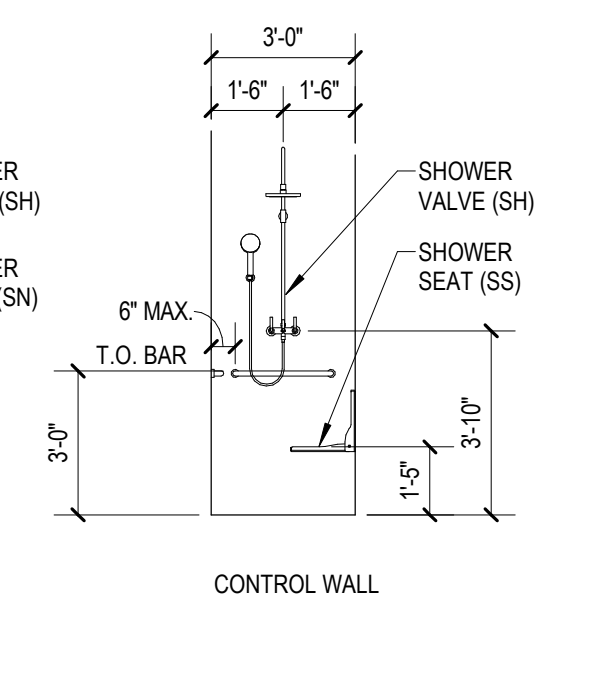
SIDE



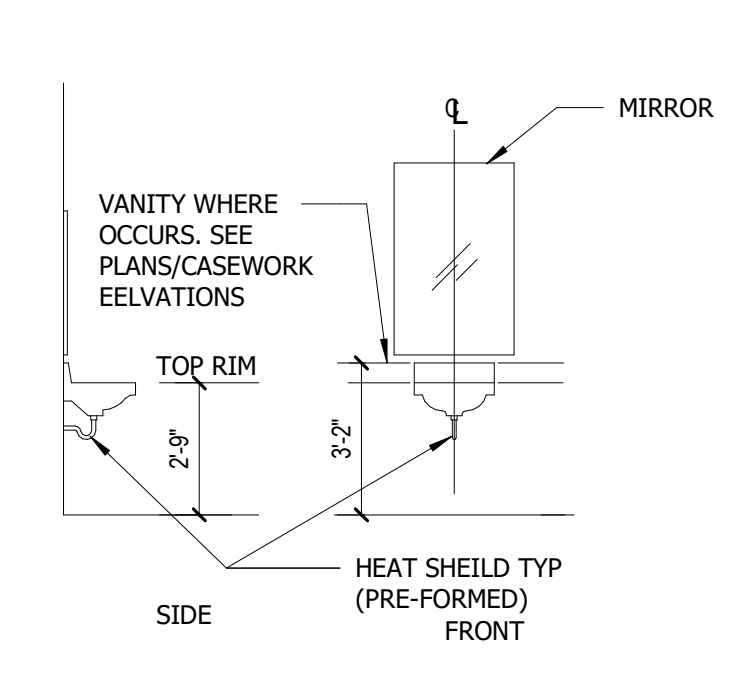
FRONT



ACCESSIBLE SHOWER



CONTROL WALL

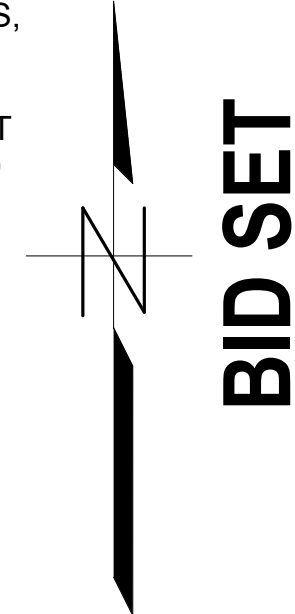


FREESTANDING LAVATORY

A TYPICAL MOUNTING HEIGHTS - UNLESS NOTED OTHERWISE
1/4" = 1'-0"

INTERIOR ELEVATION GENERAL NOTES

- PRE-FABRICATED MODULAR CASEWORK LOCATIONS AND DIMENSIONS TO BE FIELD VERIFIED PRIOR TO INSTALLATION.
- ALL BASE CABINETS = 24" DEPTH TO FACE OF BOX (UNO)
- ALL UPPER CABINETS = 14" DEPTH TO FACE OF BOX (UNO).
- ALL COUNTERTOPS = 25 1/4" DEPTH FROM FINISH FACE OF WALL (UNO).
- ALL FULL HT. CABINETS = 24" DEEP TO FACE OF BOX (UNO).
- ALL OUTSIDE CORNERS OF COUNTERTOPS TO HAVE A 2" RADIUS (UNO).
- PROVIDE FINISHED ENDS AT ALL EXPOSED CASEWORK SURFACES.
- ALIGN FACE OF UPPER CABINET WITH EDGE OF COUNTER BELOW AT EDGE CONDITION.
- REFER TO NEW FLOOR PLAN AND EQUIPMENT LEGEND. PROVIDE BACKING AS REQUIRED AND COORDINATE FINAL LOCATION WITH OWNER PRIOR TO COVER.
- ALL BACKSPASHES TO BE FINISHED SAME AS COUNTERTOP (UNO).
- DIMENSIONS FOR MOUNTING HEIGHTS ARE TO CENTER OF BOX AND TYPICAL (UNO).
- ALL CONDITIONS ILLUSTRATED BELOW ARE TYPICAL, (UNO).
- ALL SHELVES AND DIVIDERS ARE ADJUSTABLE, UNLESS NOTED OTHERWISE.
- WHITE MELAMINE AT ALL INTERIOR CASEWORK BOXES, SHELVING AND DRAWERS, UNO.
- FIELD VERIFY DIMENSIONS OF ALL CASEWORK PRIOR TO FABRICATION. CONTACT ARCHITECT IF ANY DISCREPANCIES ARE FOUND BETWEEN DRAWINGS AND FIELD CONDITIONS
- ALL EXPOSED PLUMBING TO BE INSULATED
- REFER TO NEW FLOOR PLAN FOR ALL EMERGENCY POWER DESIGNATIONS
- REFER TO NEW FLOOR PLAN AND EQUIPMENT SCHEDULE FOR SPECIFIC REQUIREMENTS, SYSTEMS AND FINISHES. NOT ALL EQUIPMENT IS SHOWN IN ELEVATIONS.



CAD NO.

ISSUED DATE
ADDENDUM #2 05/08/2024

ACTION BY DATE
DESIGNED - 1-08-2024
DRAWN - 1-08-2024
CHECKED (FIELD) -
CHECKED (HDQTS.) HQ

10347 REGISTERED ARCHITECT
JAMES HILL
STATE OF WASHINGTON
REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

NISQUALLY STATE PARK

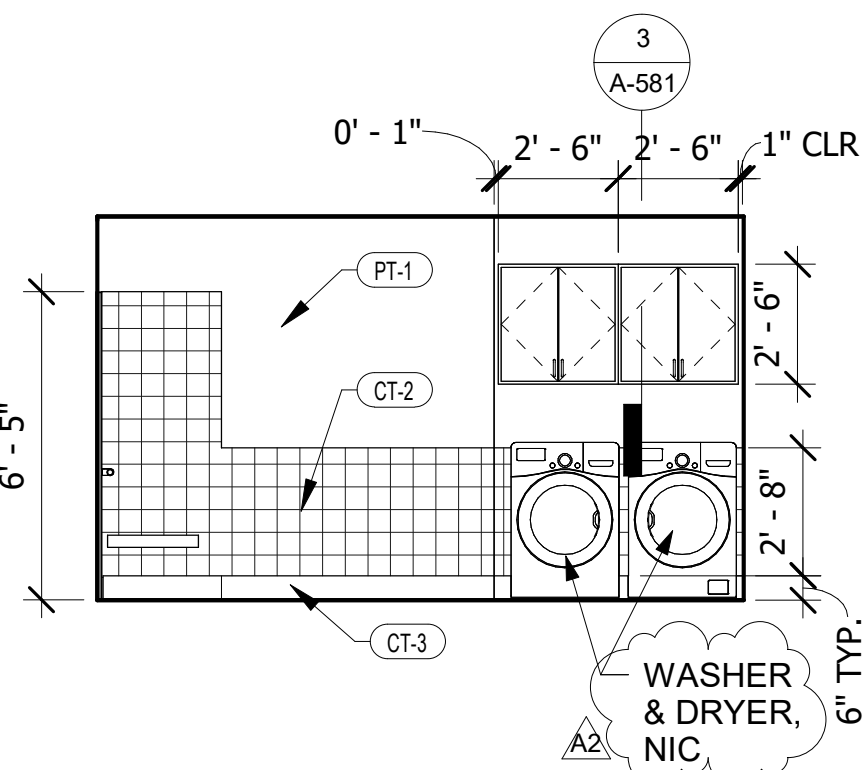
NEW FULL SERVICE PARK - PHASE 2

INTERIOR ELEVATIONS A-251

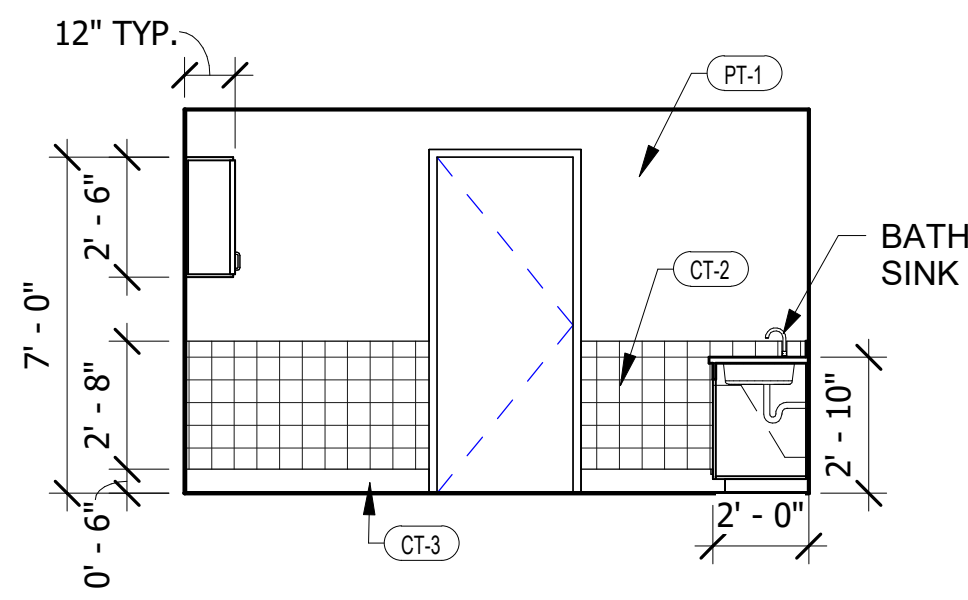
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PARKS FILE#

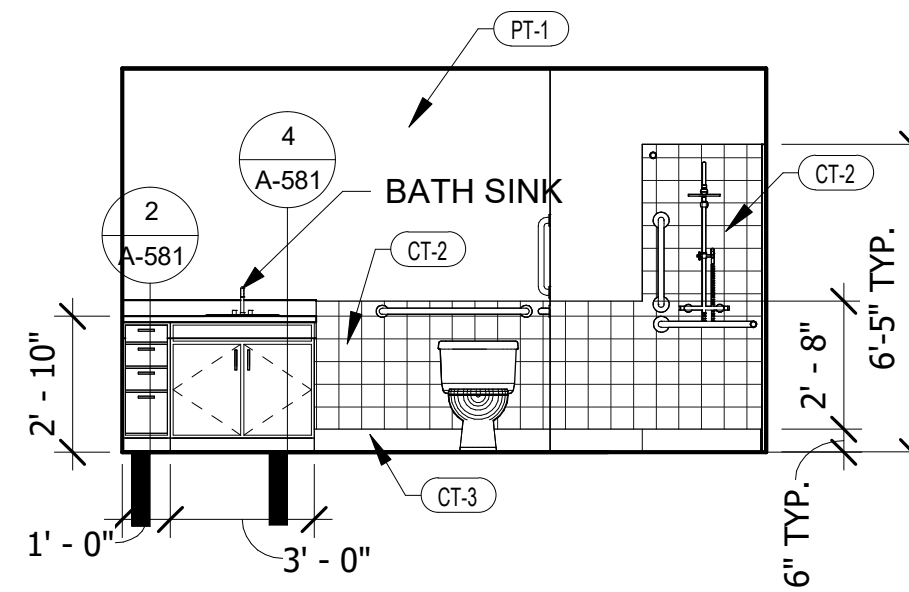




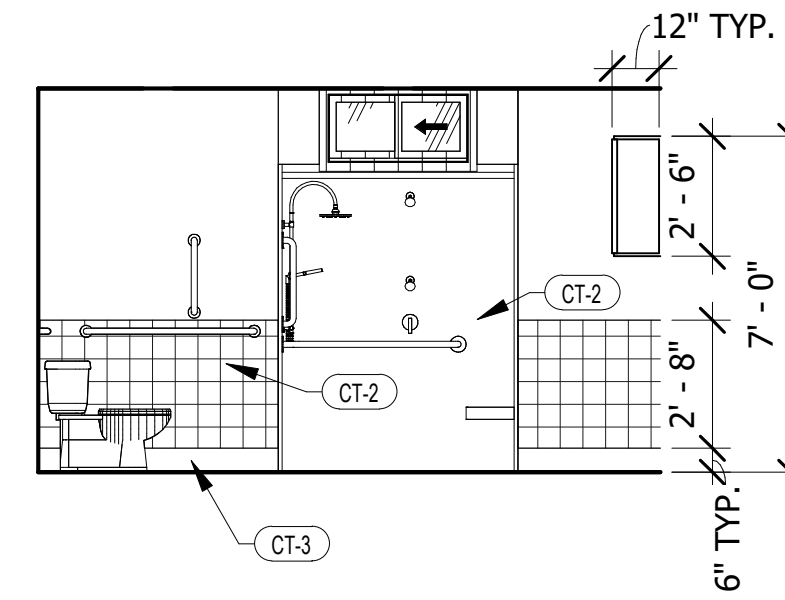
1 BATH 106 - NORTH
1/4" = 1'-0"



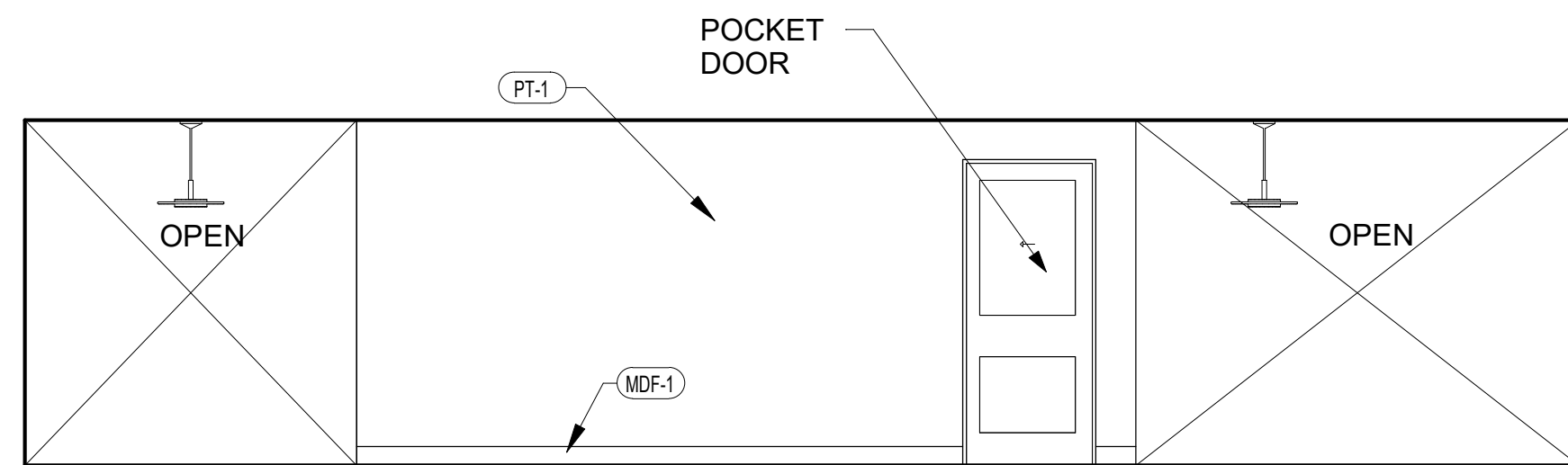
2 BATH 106 - EAST
1/4" = 1'-0"



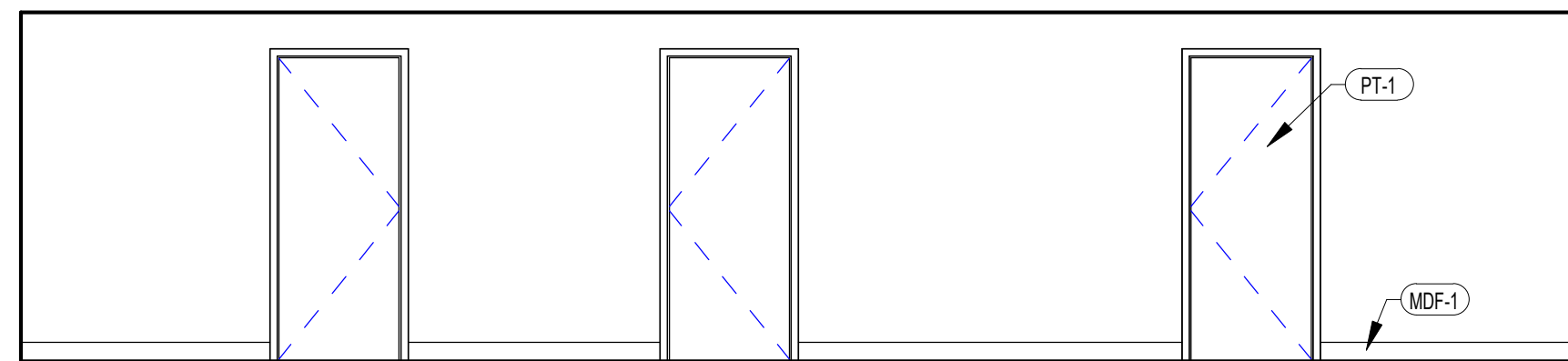
3 BATH 105 - SOUTH
1/4" = 1'-0"



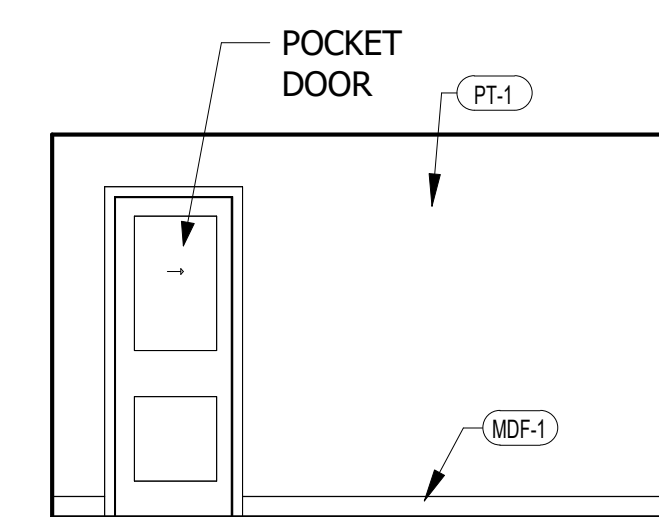
4 BATH 106 - WEST
1/4" = 1'-0"



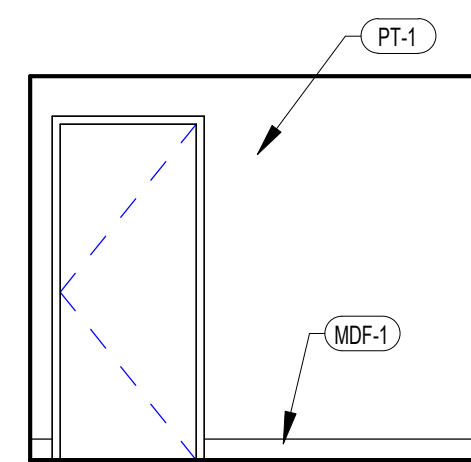
5 HALL 107 - EAST
1/4" = 1'-0"



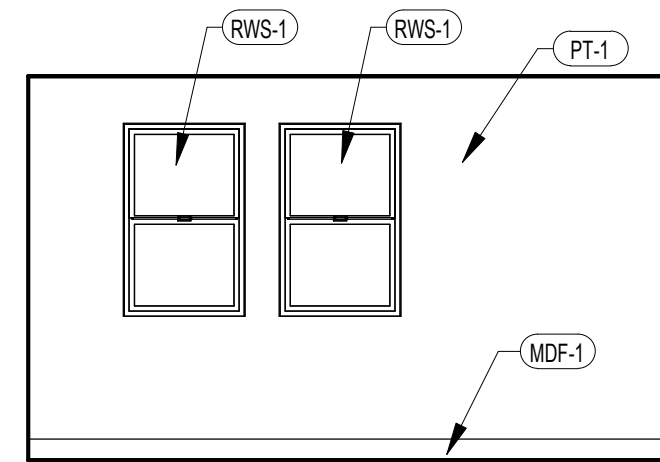
6 HALL 107 - WEST
1/4" = 1'-0"



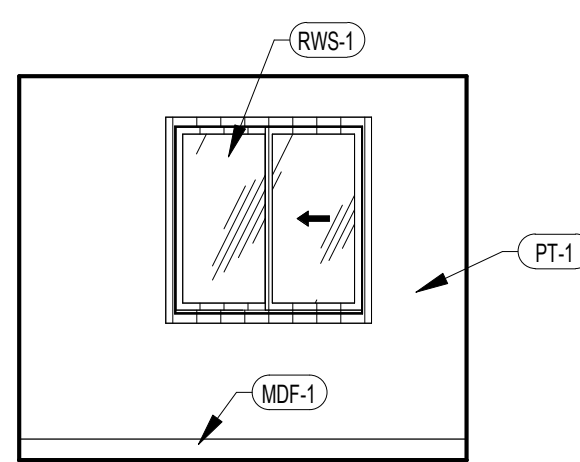
7 BEDROOM 108 - NORTH
1/4" = 1'-0"



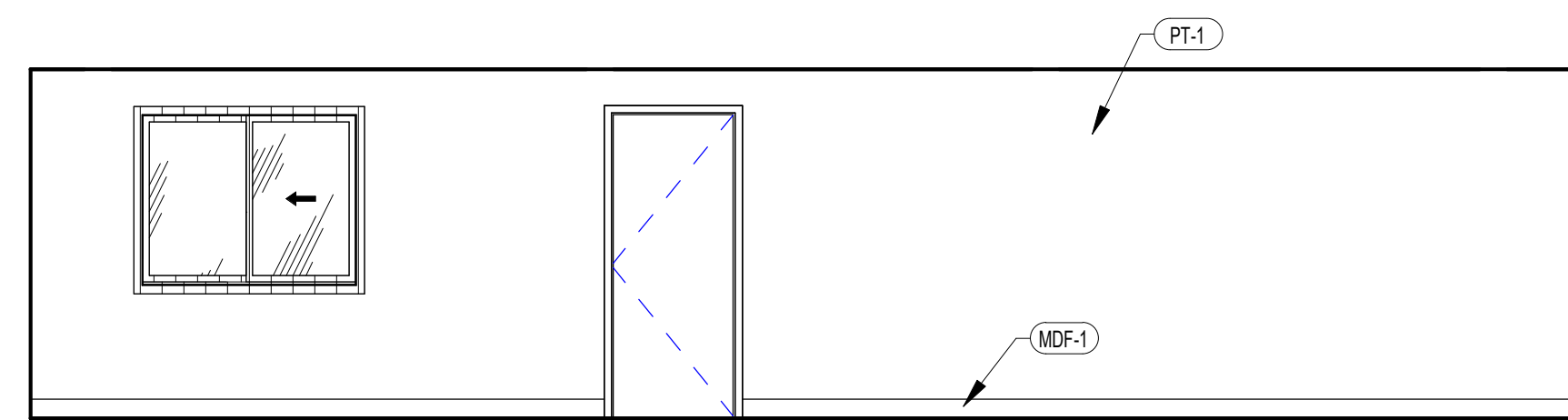
8 BEDROOM 108 - EAST
1/4" = 1'-0"



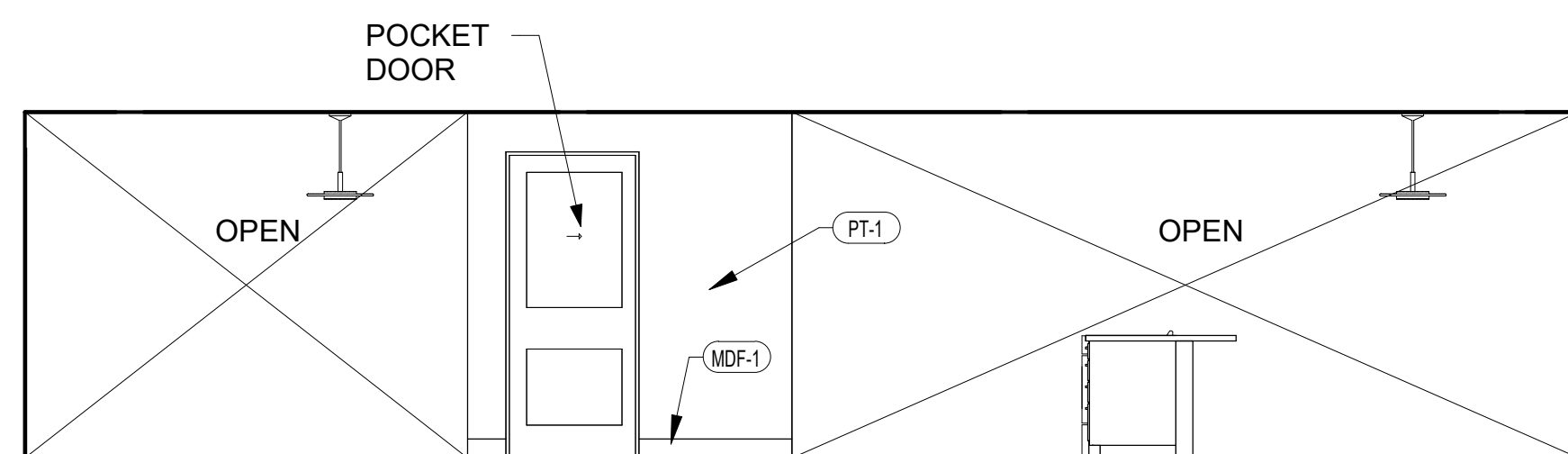
9 BEDROOM 108 - SOUTH
1/4" = 1'-0"



10 BEDROOM 108 - WEST
1/4" = 1'-0"



11 HALL 109 - EAST
1/4" = 1'-0"



12 HALL 109 - WEST
1/4" = 1'-0"

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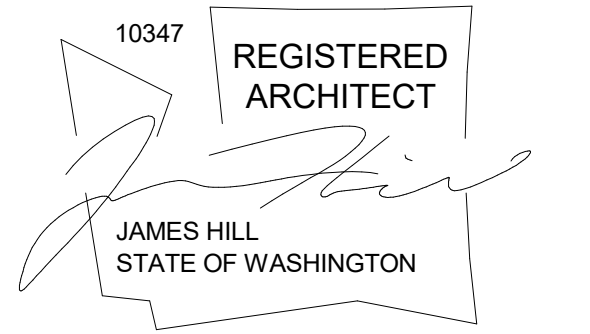
ACTION BY DATE

DESIGNED - 1-08-2024

DRAWN - 1-08-2024

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WASHINGTON STATE PARKS AND RECREATION COMMISSION



NISQUALLY STATE PARK

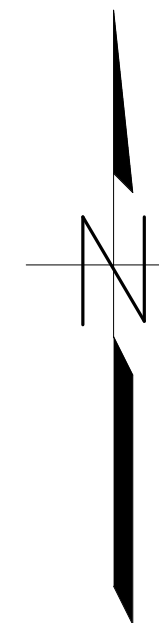
NEW FULL SERVICE PARK - PHASE 2

INTERIOR ELEVATIONS A-252

SCALE

AS SHOWN

PARKS FILE#



BID SET



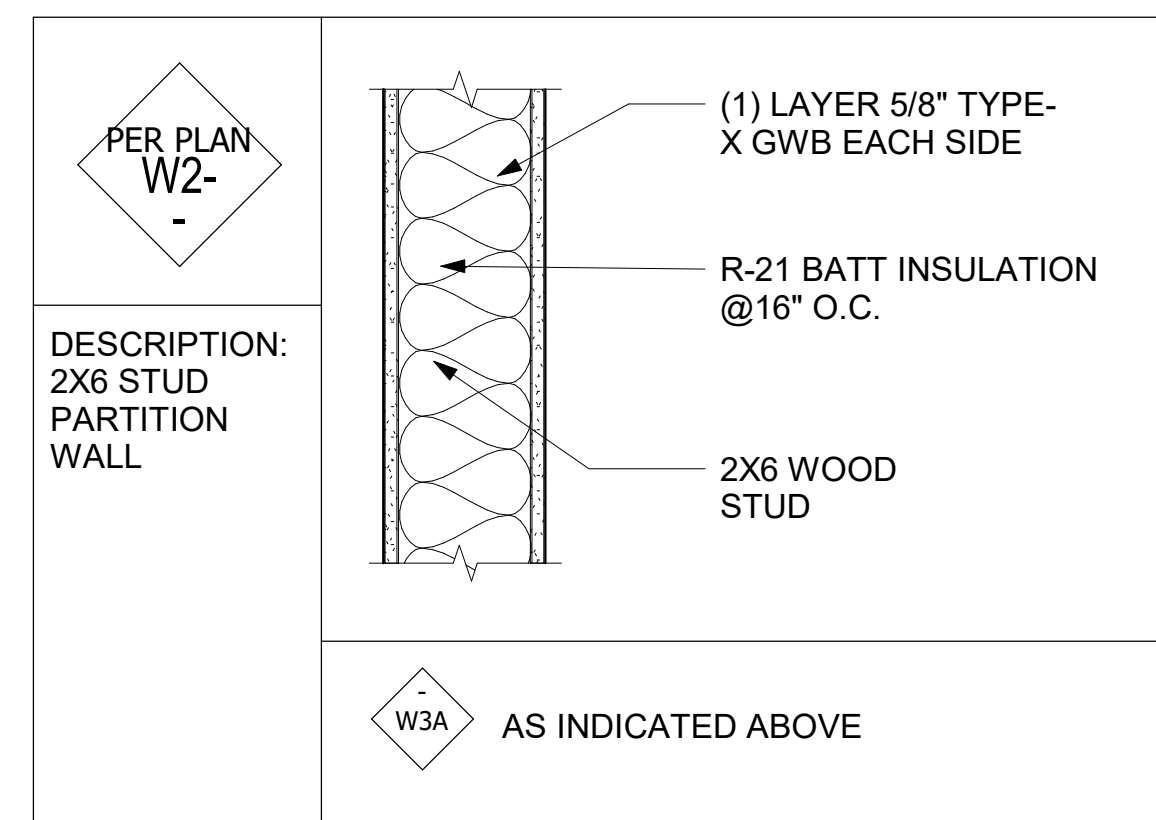
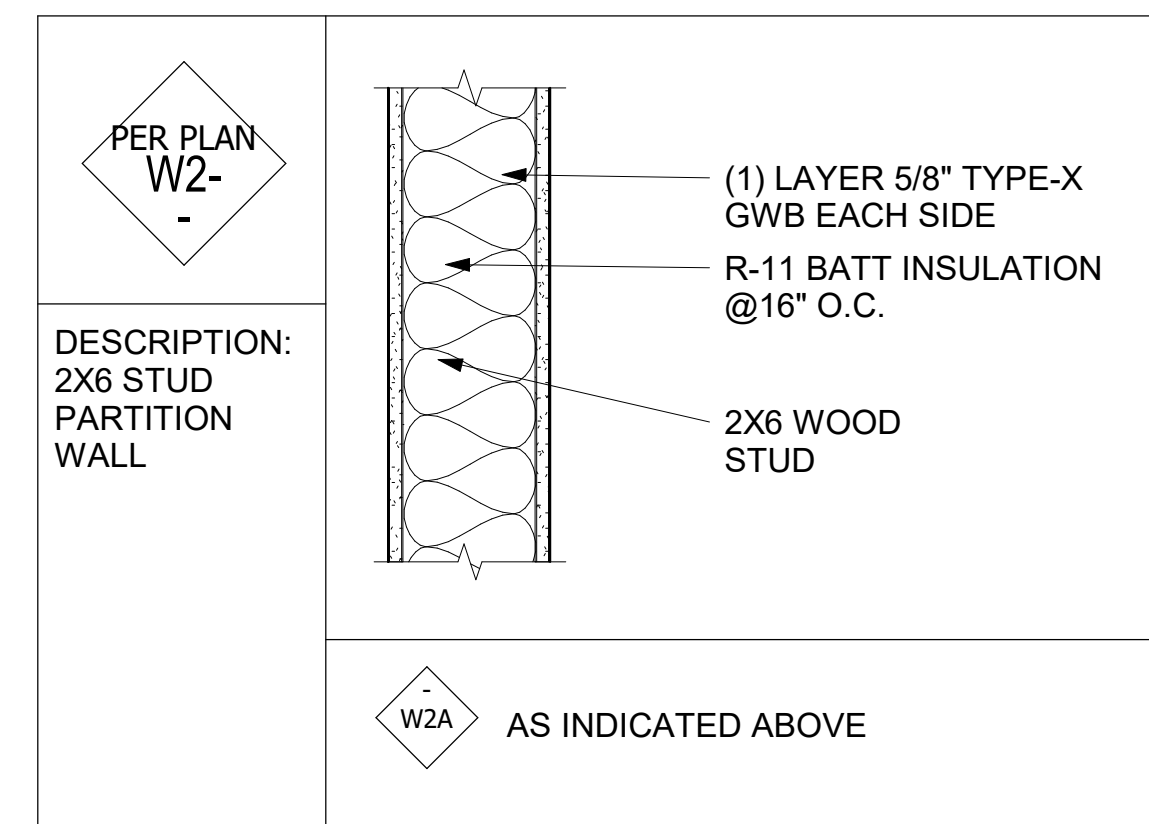
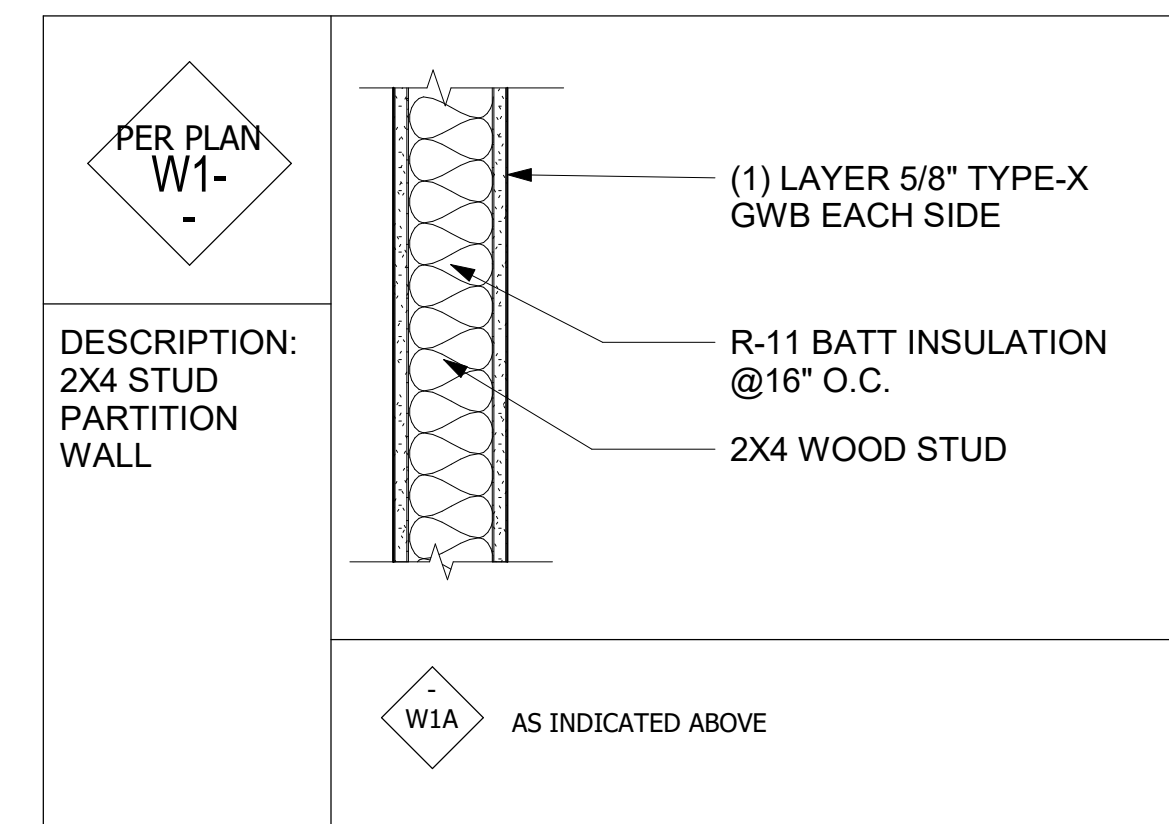
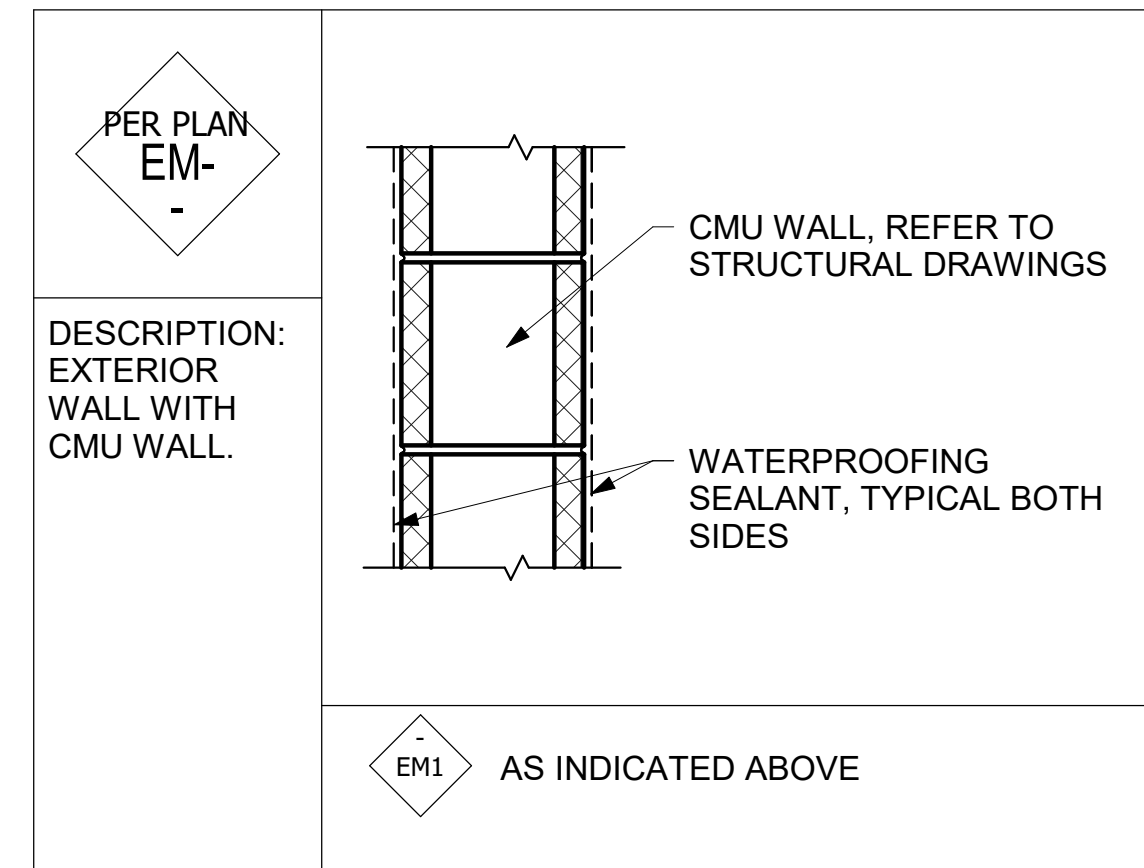
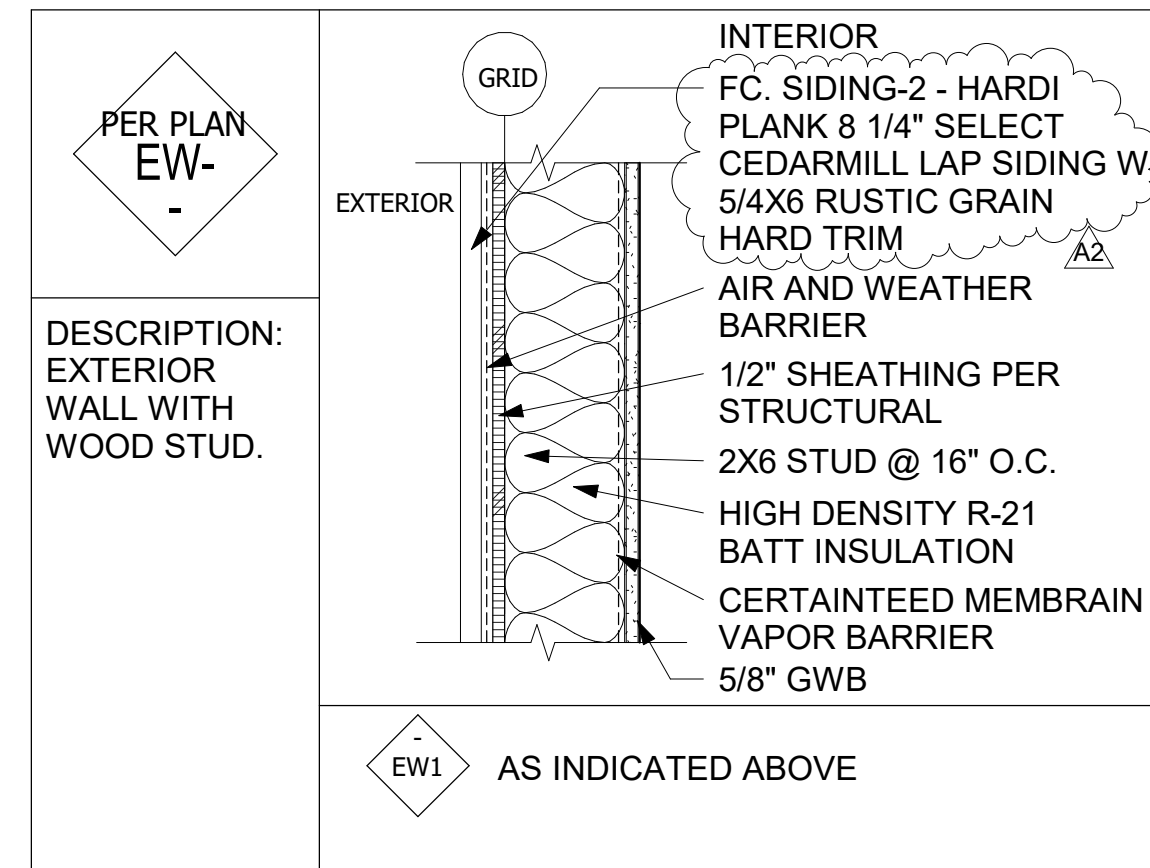
SHEET 75 OF 253

ASSEMBLY TYPES

E = EXTERIOR
R = ROOF
F = FLOOR

W = INTERIOR WOOD STUD
EW = EXTERIOR WOOD STUD
S = INTERIOR METAL STUD
EC = EXTERIOR CONCRETE
M = MASONRY
X = MISCELLANEOUS INTERIOR WALL MATERIAL

1 EXTERIOR WALL TYPES 1 1/2" = 1'-0"



2 INTERIOR WALL TYPES 1 1/2" = 1'-0"

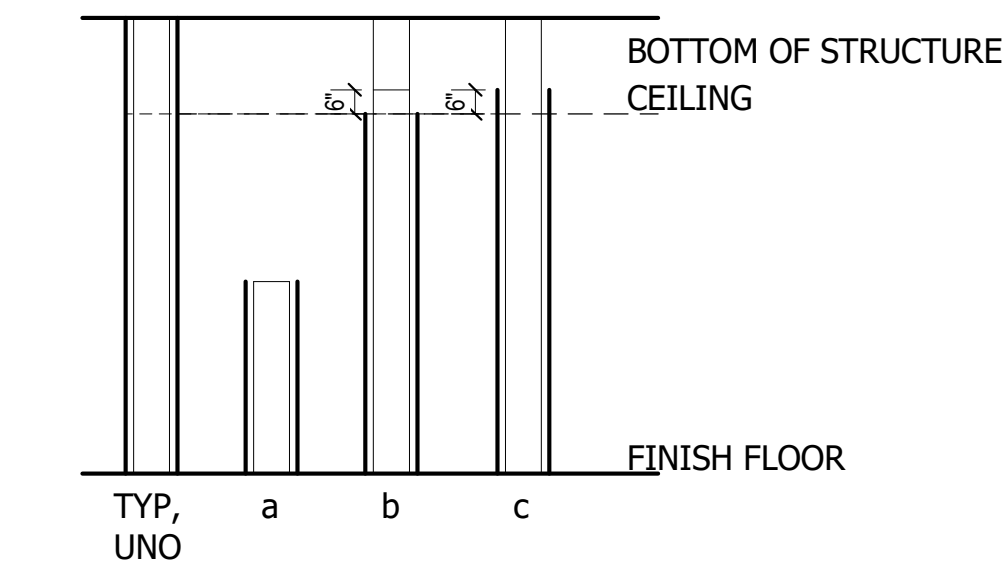
WALL TYPES NOTES

- SUBSTITUTE BACKER BOARD FOR GWB AT TILE.
- REFER TO FINISH SCHEDULE FOR WALL FINISH.
- ALL ASSEMBLY TYPES ARE DRAWN IN SECTION UNLESS A UNIQUE CONDITION REQUIRES AN ADDITIONAL PLAN VIEW OF THE ASSEMBLY.
- IN AN ASSYMMETRICAL WALL CONDITION, THE EXTRA LAYERS WILL OCUR ON THE SIDE OF THE WALL THE TAG IS LOCATED ON.
- PROVIDE BACKING IN WALLS FOR CASEWORK, MESSAGE BOARDS, TOILET ACCESSORIES, OFOI FURNISHINGS AND ALL OTHER WALL SUPPORTED ITEMS. REFER TO INTERIOR ELEVATIONS AND PLANS FOR LOCATIONS.
- PROVIDE BACKING AT ELECTRICAL AND COMMUNICATIONS ROOMS AS REQUIRED PER THE ELECTRICAL REQUIREMENTS.
- TOP AND BOTTOM RUNNERS: ALIGN AND ANCHOR TO BUILDING STRUCTURAL MEMBERS AT EACH END AND AT 24" O.C.
- WHERE METAL STUD DEFLECTION TRACKS ARE USED, PROVIDE AT TOP OF FULL WALL HEIGHT PARTITIONS TO ALLOW STRUCTURE TO DEFLECT WITHOUT IMPOSING LOADS ON WALL.
- AT CEILING AND SOFFIT FRAMING:
 - INSTILL FRAMING AT 16" O.C. AND CONNECT ENDS OF STUD TO HORIZONTAL RUNNER AND SECURELY ATTACH TO BUILDING STRUCTURE OR WALL FRAMING.
 - MID-SPAN SUPPORTS: FOR METAL WALL FRAMING: ANCHOR TO STRUCTURE ABOVE.
 - PARTITION CORNERS: MINIMUM OF (3) STUDS.
- AT AIR BARRIER WALLS PROVIDE:
 - SEALANT BETWEEN RUNNERS AND SUBSTRATE.
 - SEALANT BETWEEN WALL AND ADJACENT VERTICAL SURFACES.
 - SEAL AIR BARRIER MEMBRANE TO ADJACENT SURFACE, FULL PERIMETER OF WALL.
 - SEALANT AROUND ALL OPENINGS AT ELECTRICAL DEVICES, DUCTS, AND PIPING AND STRUCTURE PENETRATING WALL SURFACES.
- REFER TO GENERAL SHEETS (G-301) FOR AIR BARRIER LOCATIONS.
- AT STC RATED WALLS, PROVIDE:
 - ACOUSTIC SEALANT BETWEEN RUNNERS AND SUBSTRATE.
 - ACOUSTIC SEALANT BETWEEN STUDS AND ADJACENT VERTICAL SURFACES.
 - ACOUSTIC SEALANT AROUND ALL OPENINGS AT ELECTRICAL DEVICES, DUCTS AND PIPING AND STRUCTURE PENETRATING SURFACES.

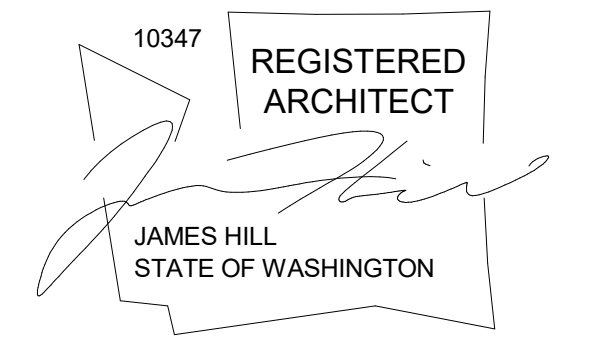
TOP OF WALL CONDITION

NOTE: ALL WALLS AND GWB EXTEND TO STRUCTURE, UNLESS NOTED OTHERWISE. REFER TO PARTITION HEIGHTS BELOW FOR WALLS THAT DO NOT EXTEND TO STRUCTURE. REFER ALSO TO STRUCTURAL SHEETS FOR LOCATIONS OF SHEAR WALL AND REQUIRED SHEATHING.

- PARTIAL HEIGHT PARTITION
- PARTITION - EXTEND GWB TO 6" ABOVE UPPERMOST CEILING ON BOTH SIDES OF WALL AND BRACE STUDS TO STRUCTURE ABOVE AS REQUIRED
- FULL HEIGHT WALL - STUDS EXTEND TO STRUCTURE, EXTEND GWB TO 6" ABOVE UPPERMOST CEILING ON BOTH SIDES OF WALL.



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DRAWN	-	1-08-2024
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CHECKED (HDQTS.)	HQ	



WASHINGTON
STATE
PARKS
AND
RECREATION
COMMISSION

NISQUALLY
STATE PARK

NEW FULL SERVICE
PARK - PHASE 2

WALL TYPES
A-501

SCALE
AS SHOWN

PARKS FILE#

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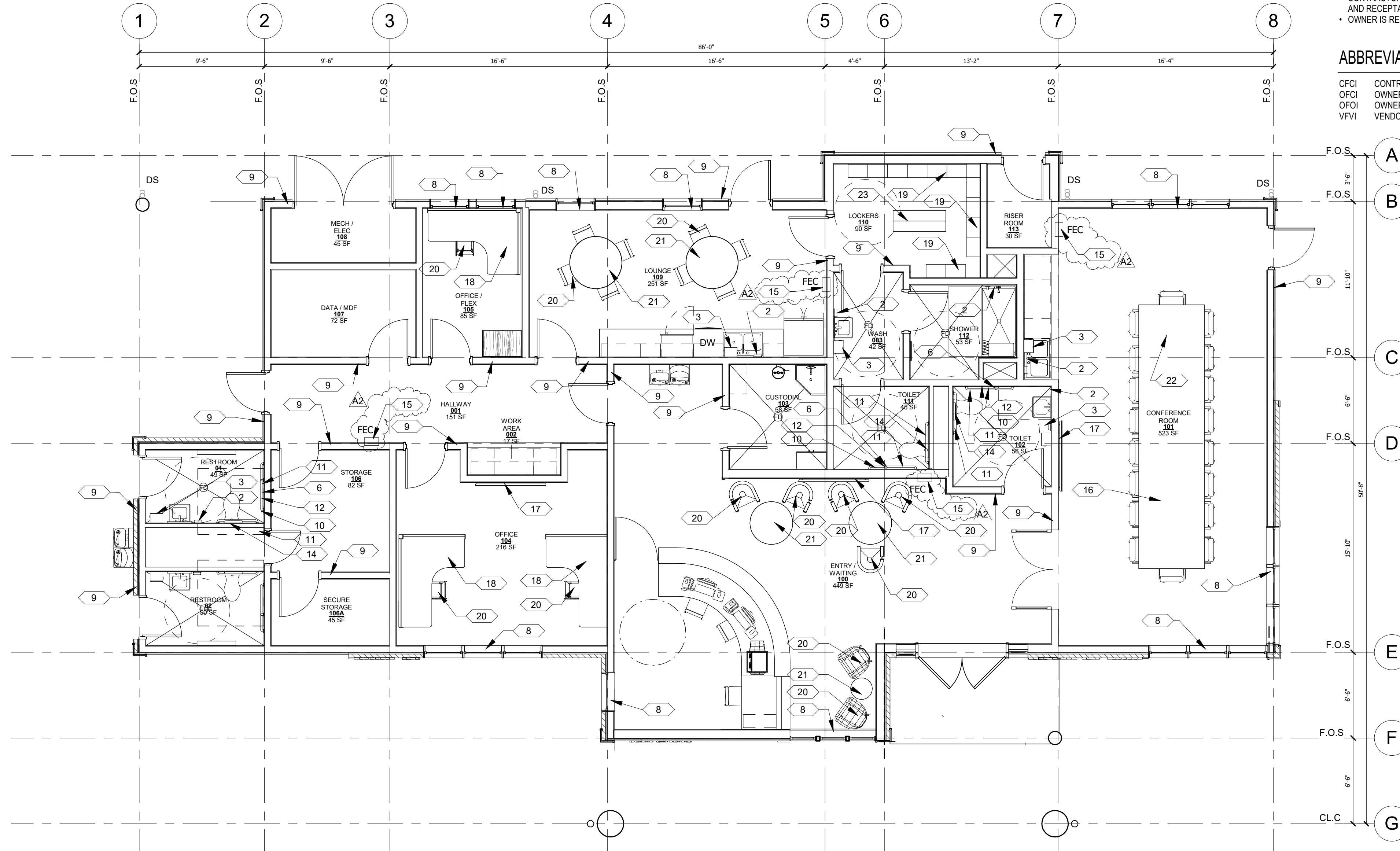


EQUIPMENT SCHEDULE				
MARK	DESCRIPTION	FOIO/FOIC	SYSTEM REQUIREMENTS	COMMENTS
1	PRINTER/ COPIER/ SCANNER- FLOOR MOUNTED	OFOI	POWER / DATA	NEW
2	SOAP DISPENSER - WALL MOUNTED	CFCI	BACKING	NEW
3	PAPER TOWEL DISPENSER - WALL MOUNTED	CFCI	BACKING	NEW
4	HAND SANITIZER - WALL MOUNTED	CFCI	BACKING	NEW
5	COAT HOOK - WALL MOUNTED	CFCI	BACKING	NEW
6	VERTICAL GRAB BAR - WALL MOUNTED	CFCI	BACKING	NEW
7	WALL MOUNTED SHELVES - WALL MOUNTED	CFCI	BACKING	NEW
8	ROLLER WINDOW SHADES - WALL MOUNTED	CFCI	BACKING	NEW
9	ROOM SIGN - WALL MOUNTED	OFOI	BACKING	NEW
10	TOILET PAPER DISPENSER - WALL MOUNTED	OFOI	BACKING	NEW
11	HORIZONTAL GRAB BAR - WALL MOUNTED	CFCI	BACKING	NEW
12	SANITARY NAPKIN HOLDER - WALL MOUNTED	CFCI	BACKING	NEW
13	STAINLESS STEEL SHELF - WALL MOUNTED	CFCI	BACKING	NEW
14	TOILET SEAT COVER DISPENSER - WALL MOUNTED	CFCI	BACKING	NEW
15	FIRE EXTINGUISHER AND CABINET - WALL MOUNTED	CFCI	BACKING	NEW
16	CONFERENCE TABLE & CHAIRS - FLOOR MOUNTED	OFOI	-	NEW
17	FLAT SCREEN TV - WALL MOUNTED	CFCI	BACKING	NEW
18	DESK - FLOOR MOUNTED	OFOI	-	NEW
19	LOCKER - FLOOR MOUNTED	CFCI	-	NEW
20	CHAIR - FLOOR MOUNTED	OFOI	-	NEW
21	TABLE - FLOOR MOUNTED	OFOI	-	NEW
22	WIFI- REFER TO ELECTRICAL	CFCI	DATA/ POWER	NEW
23	LOCKER ROOM BENCH - FLOOR MOUNTED	CFCI	-	NEW

- PROVIDE EQUIPMENT WALL BACKING AS REQUIRED BY MANUFACTURER OR OWNER STANDARDS
- COORDINATE MOUNTING LAYOUTS AND DIAGRAMS WITH OWNER PROVIDED CUT SHEETS
- CONTRACTOR IS RESPONSIBLE FOR CONDUIT AND BACK BOX INSTALLATION OF DATA AND COMMUNICATION PORTS AND RECEPTACLES
- OWNER IS RESPONSIBLE FOR CABLES AND CONNECTIONS FOR DATA AND COMMUNICATION SYSTEMS

ABBREVIATIONS:

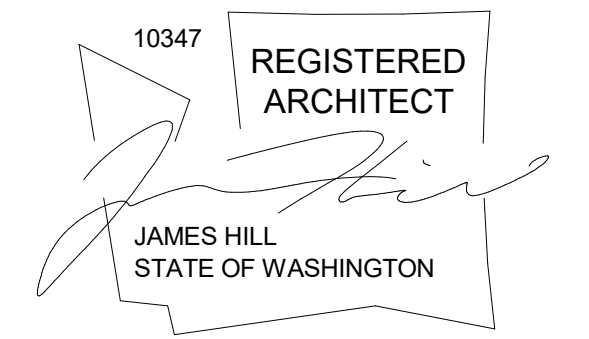
- CFCI CONTRACTOR FURNISHED / CONTRACTOR INSTALLED
- OFCI OWNER FURNISHED / CONTRACTOR INSTALLED
- OFOI OWNER FURNISHED / OWNER INSTALLED
- VFVI VENDOR FURNISHED / VENDOR INSTALLED



1 LEVEL 1- NEW EQUIPMENT FLOOR PLAN
3/16" = 1'-0"



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REGISTERED STAMP
WASHINGTON STATE PARKS AND RECREATION COMMISSION

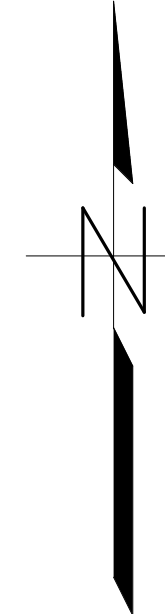
NISQUALLY STATE PARK
NEW FULL SERVICE PARK - PHASE 2

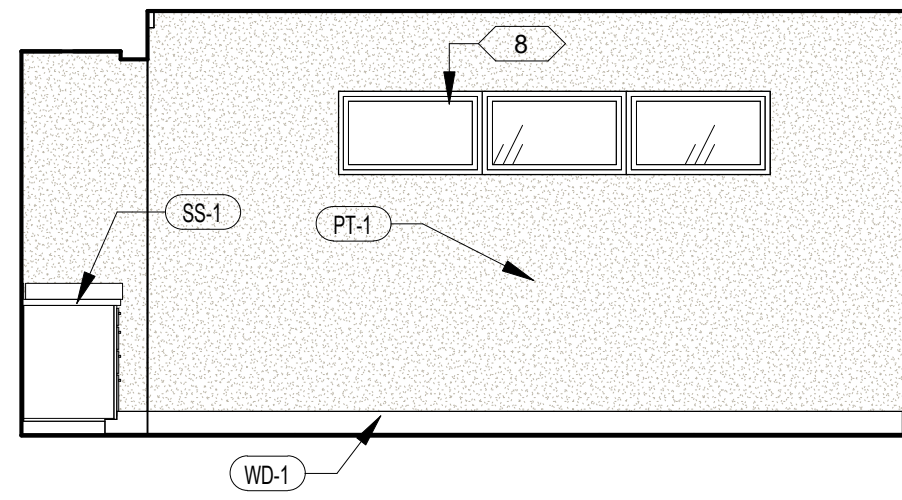
LEVEL 1 - NEW EQUIPMENT PLAN A-141

SCALE
AS SHOWN

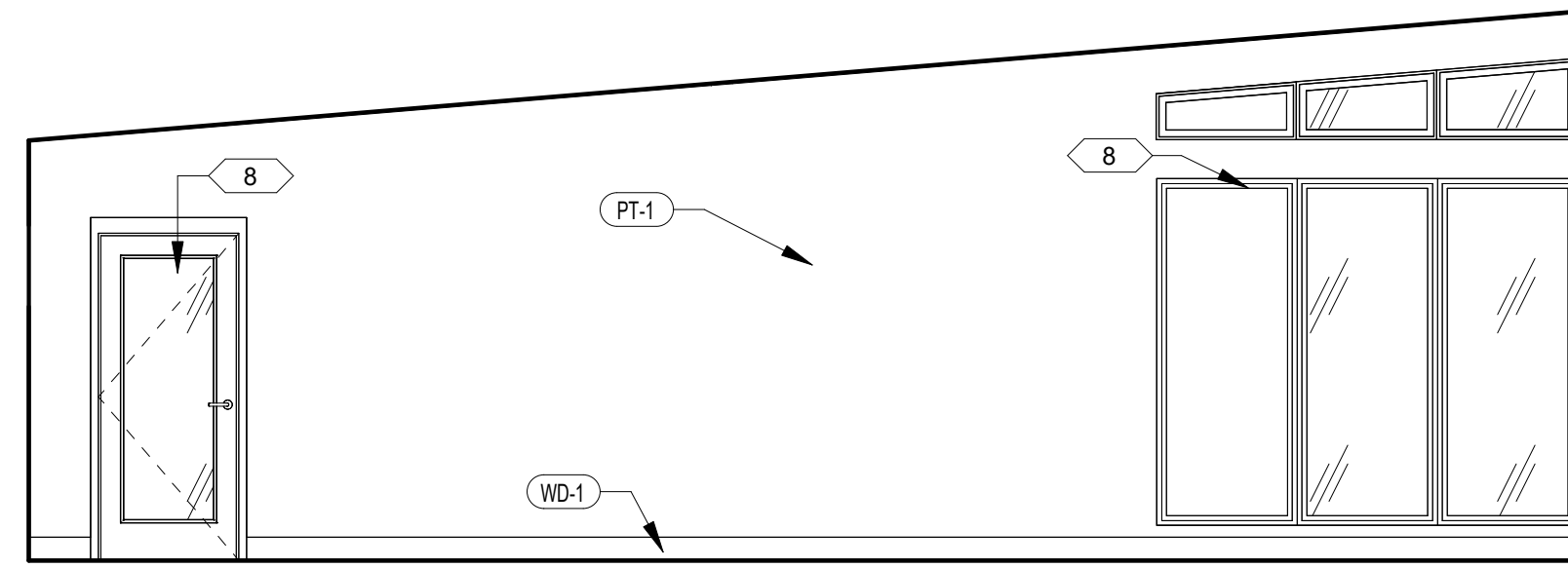
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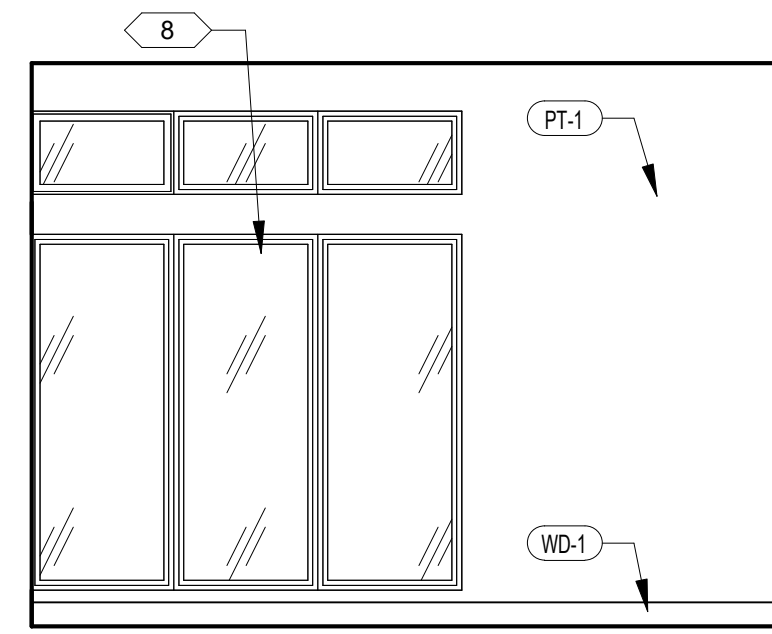




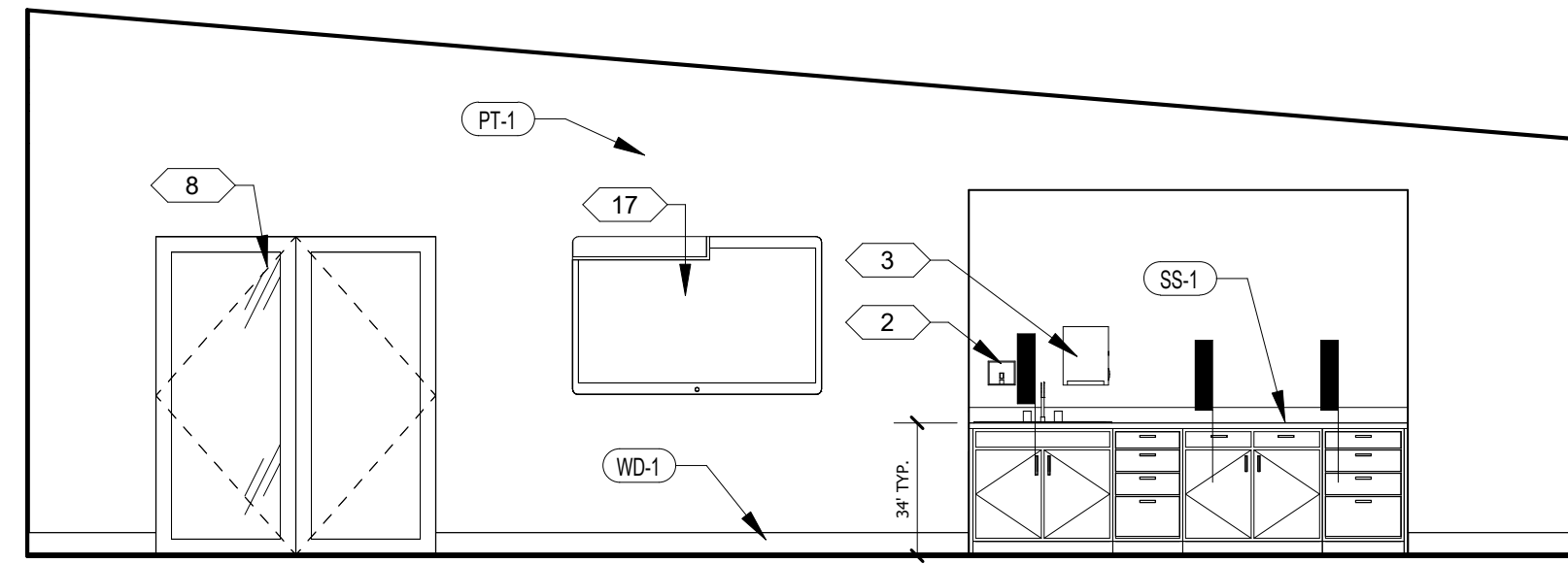
1 CONFERENCE ROOM 101 - NORTH
1/4" = 1'-0"



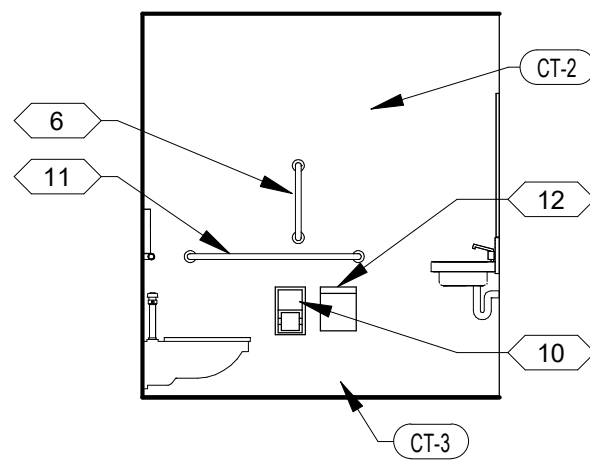
2 CONFERENCE ROOM 101 - EAST
1/4" = 1'-0"



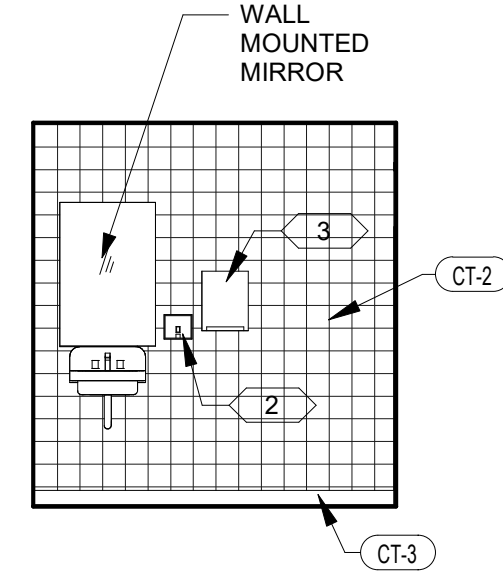
3 CONFERENCE ROOM 101 - SOUTH
1/4" = 1'-0"



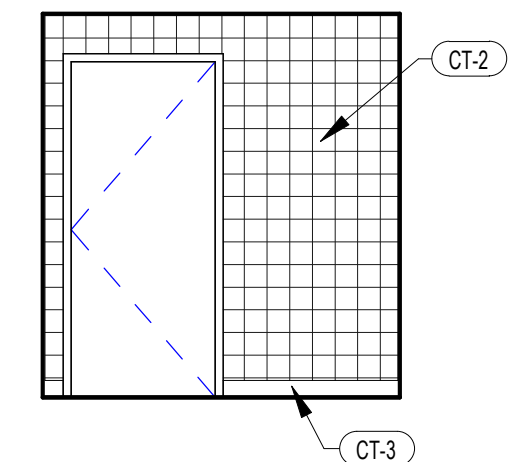
4 CONFERENCE ROOM 101 - WEST
1/4" = 1'-0"



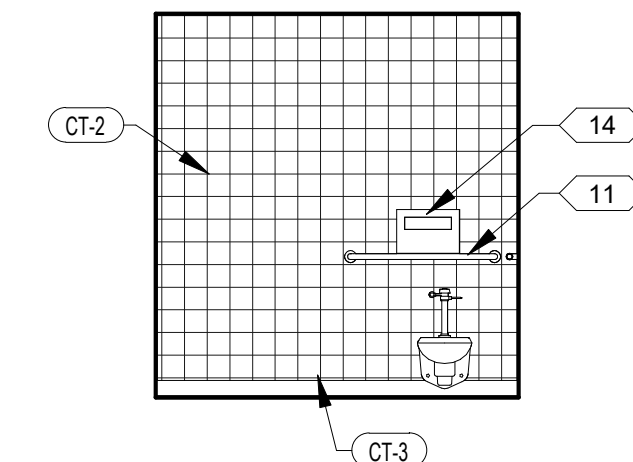
5 TOILET 102 - NORTH
1/4" = 1'-0"



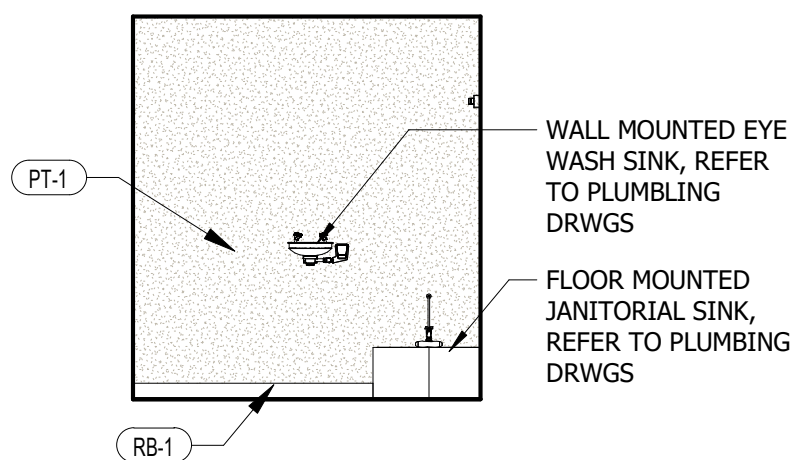
6 TOILET 102 - EAST
1/4" = 1'-0"



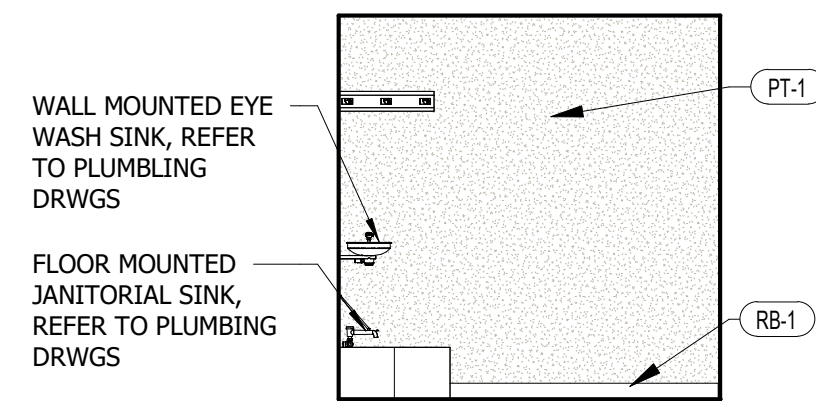
7 TOILET 102 - SOUTH
1/4" = 1'-0"



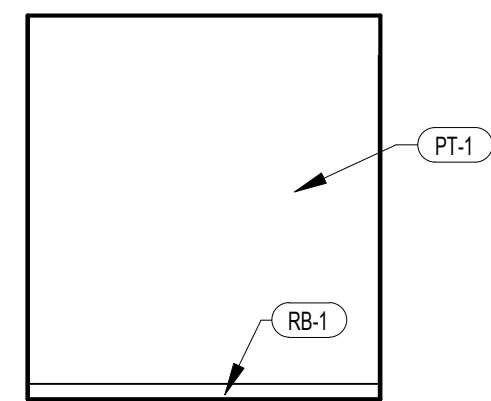
8 TOILET 102 - WEST
1/4" = 1'-0"



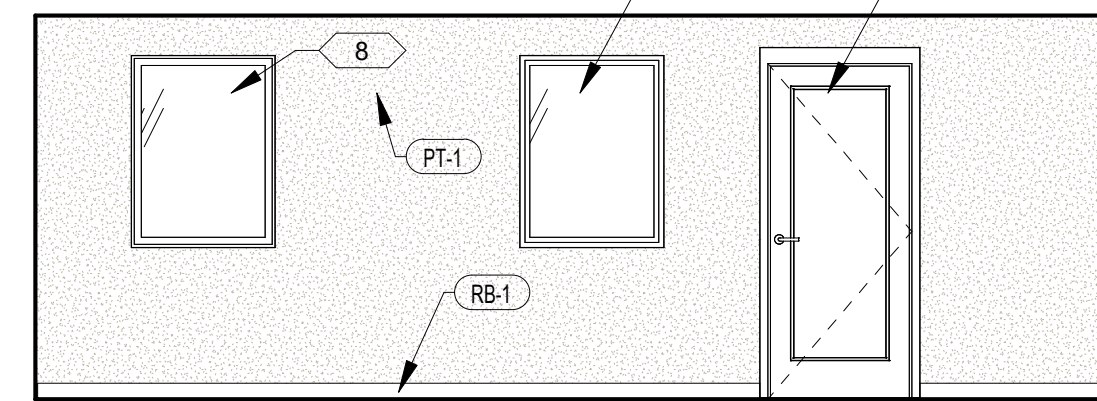
9 CUSTODIAL 103 - NORTH
1/4" = 1'-0"



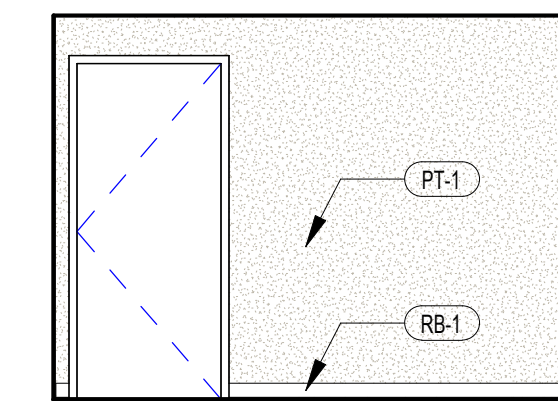
10 CUSTODIAL 103 - EAST
1/4" = 1'-0"



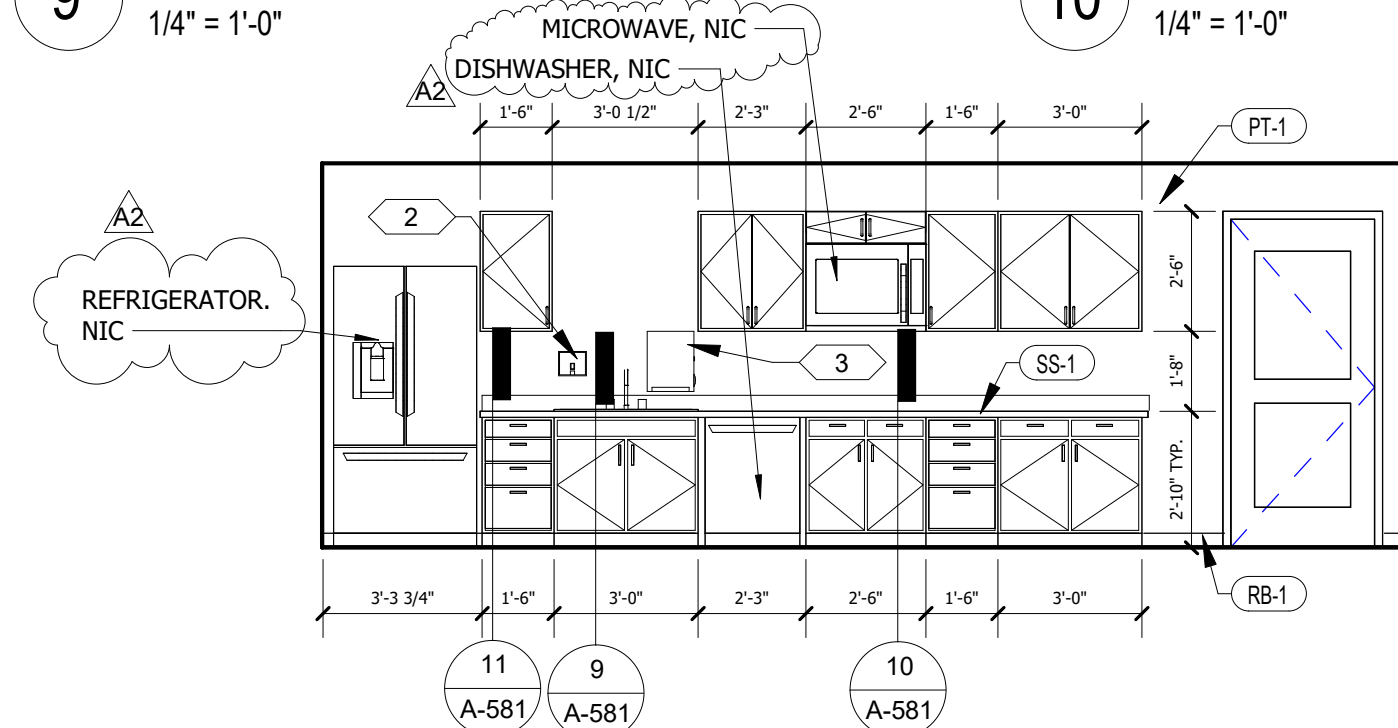
11 CUSTODIAL 103 - SOUTH
1/4" = 1'-0"



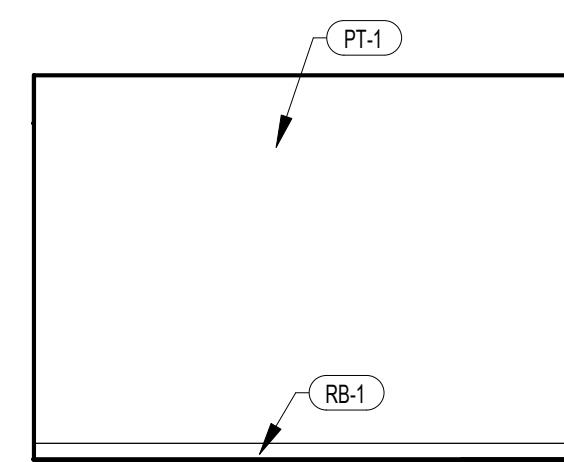
12 LOUNGE 109 - NORTH
1/4" = 1'-0"



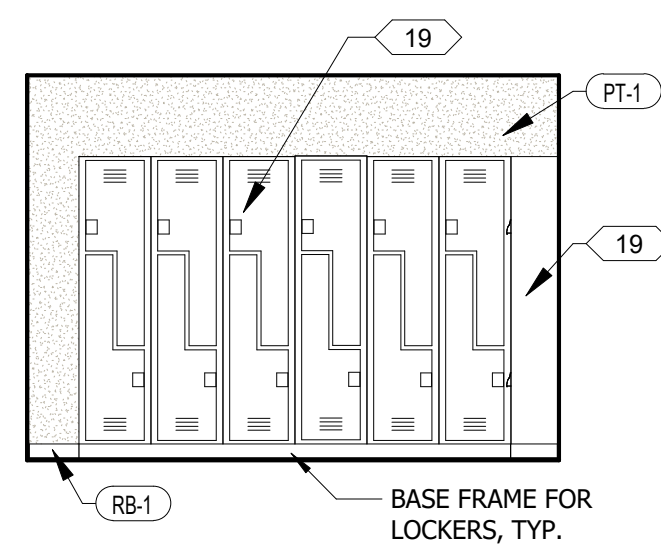
13 LOUNGE 109 - EAST
1/4" = 1'-0"



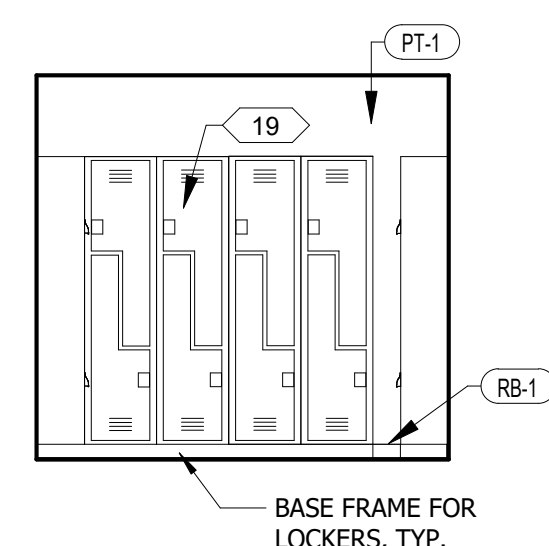
14 LOUNGE 109 - SOUTH
1/4" = 1'-0"



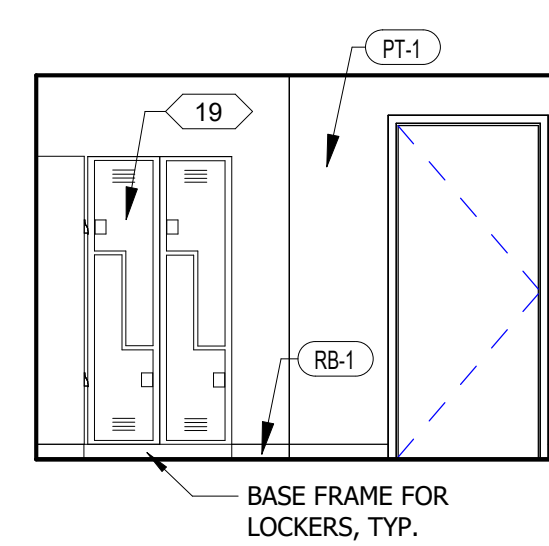
15 LOUNGE 109 - WEST
1/4" = 1'-0"



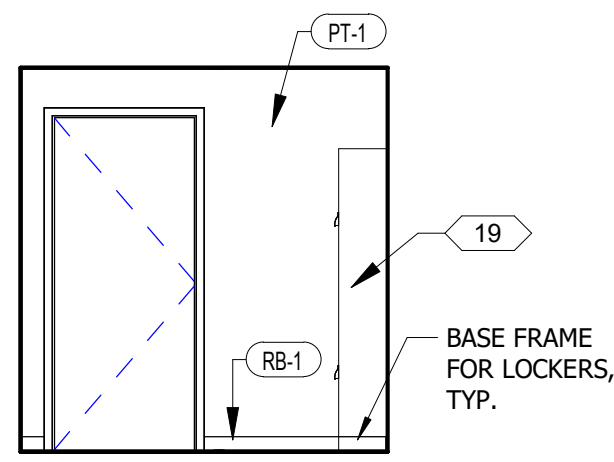
16 LOCKERS 110 - NORTH
1/4" = 1'-0"



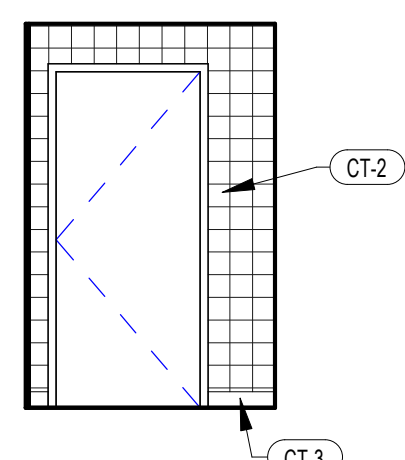
17 LOCKER 110 - EAST
1/4" = 1'-0"



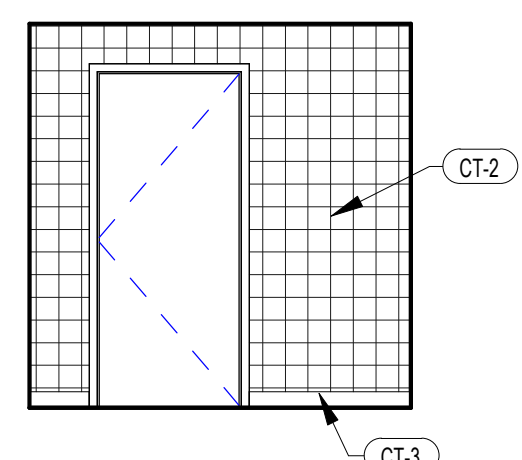
18 LOCKERS 110 - SOUTH
1/4" = 1'-0"



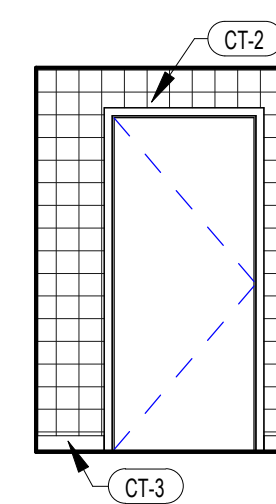
19 LOCKERS 110 - WEST
1/4" = 1'-0"



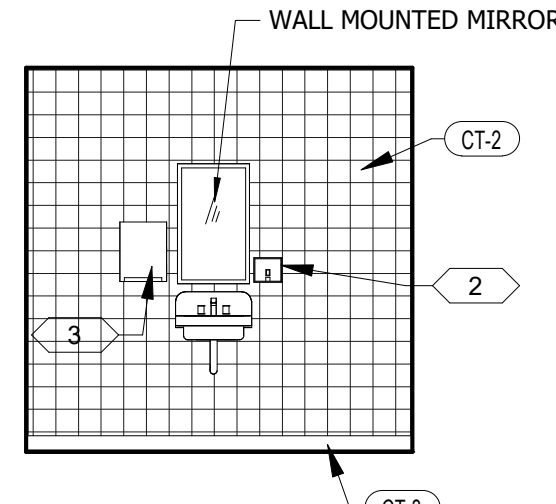
20 WASH 003 - NORTH
1/4" = 1'-0"



21 WASH 003 - EAST
1/4" = 1'-0"



22 WASH 003 - SOUTH
1/4" = 1'-0"



23 WASH 003 - WEST
1/4" = 1'-0"

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CHECKED (HDQTS.)	HQ	

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DATE	BY	NO.
1/8/2024		
1/8/2024		

10347 REGISTERED ARCHITECT

 JAMES HILL
 STATE OF WASHINGTON
 REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

NISQUALLY STATE PARK

NEW FULL SERVICE PARK - PHASE 2

INTERIOR ELEVATION A-252

SCALE

AS SHOWN

PARKS FILE#

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10347 REGISTERED ARCHITECT



JAMES HILL
STATE OF WASHINGTON

REGISTERED STAMP

WASHINGTON
STATE
PARKS
AND
RECREATION
COMMISSION



NISQUALLY
STATE PARK

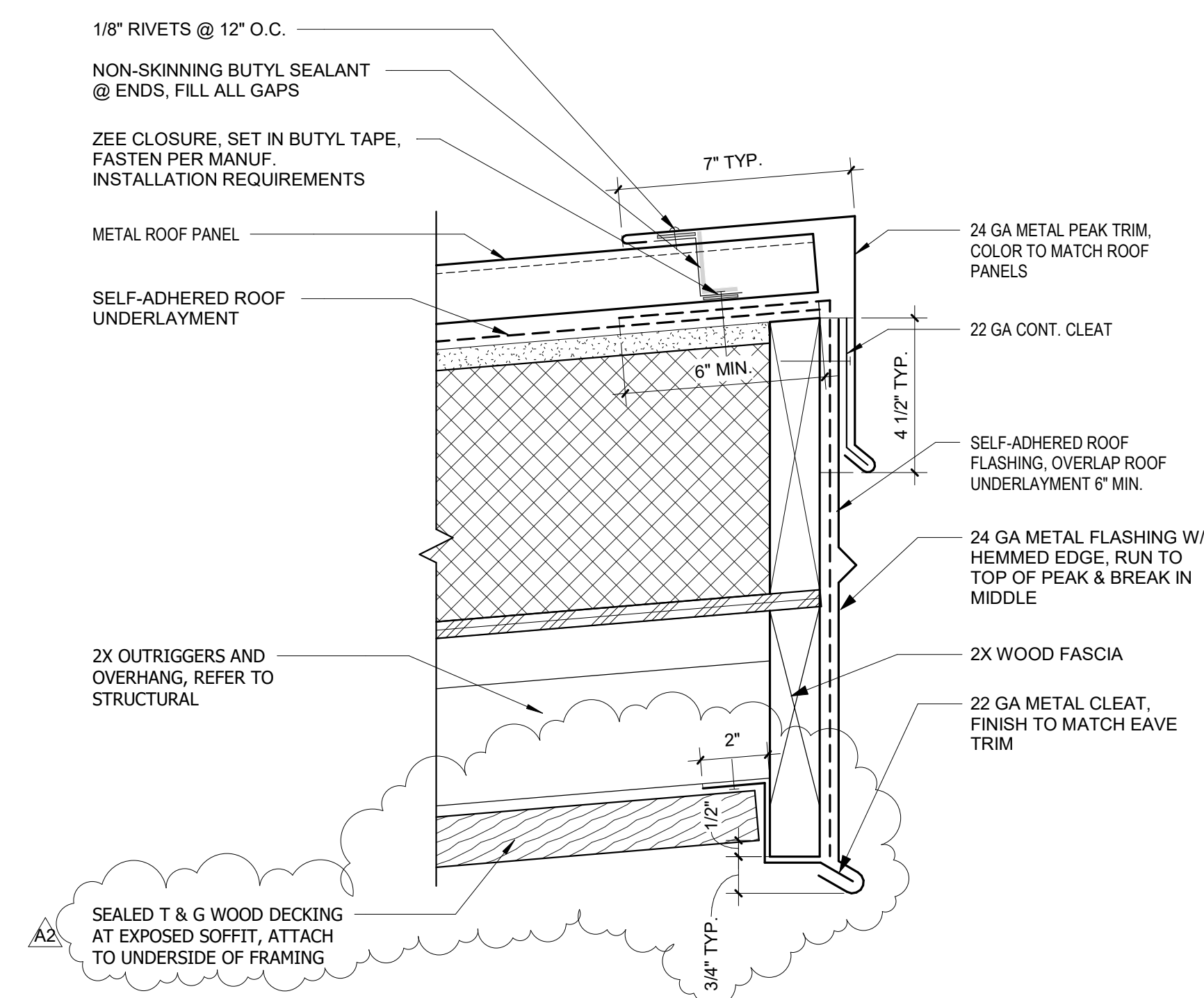
NEW FULL SERVICE
PARK - PHASE 2

BID SET

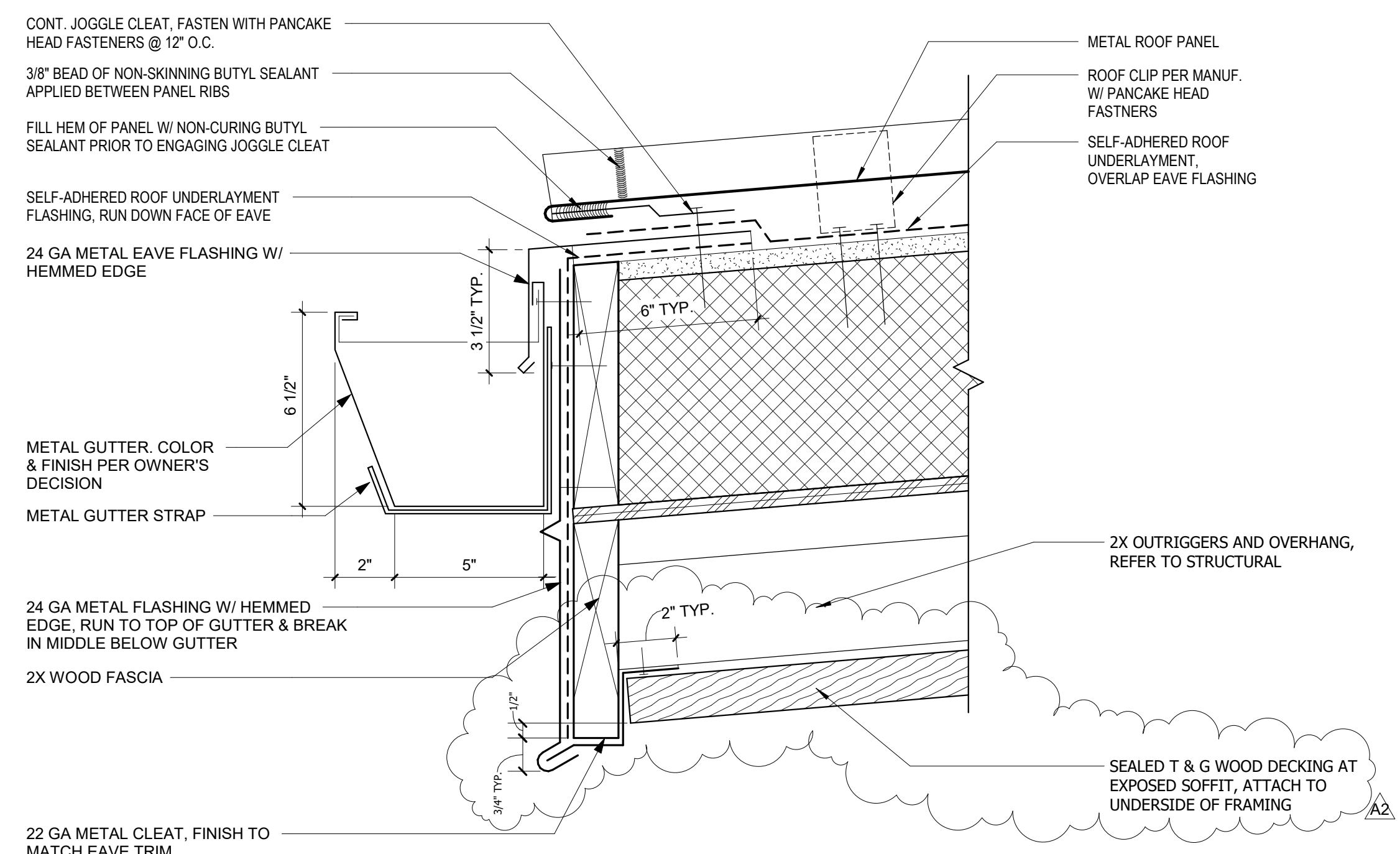
ROOF DETAILS
A-571

SCALE
AS SHOWN

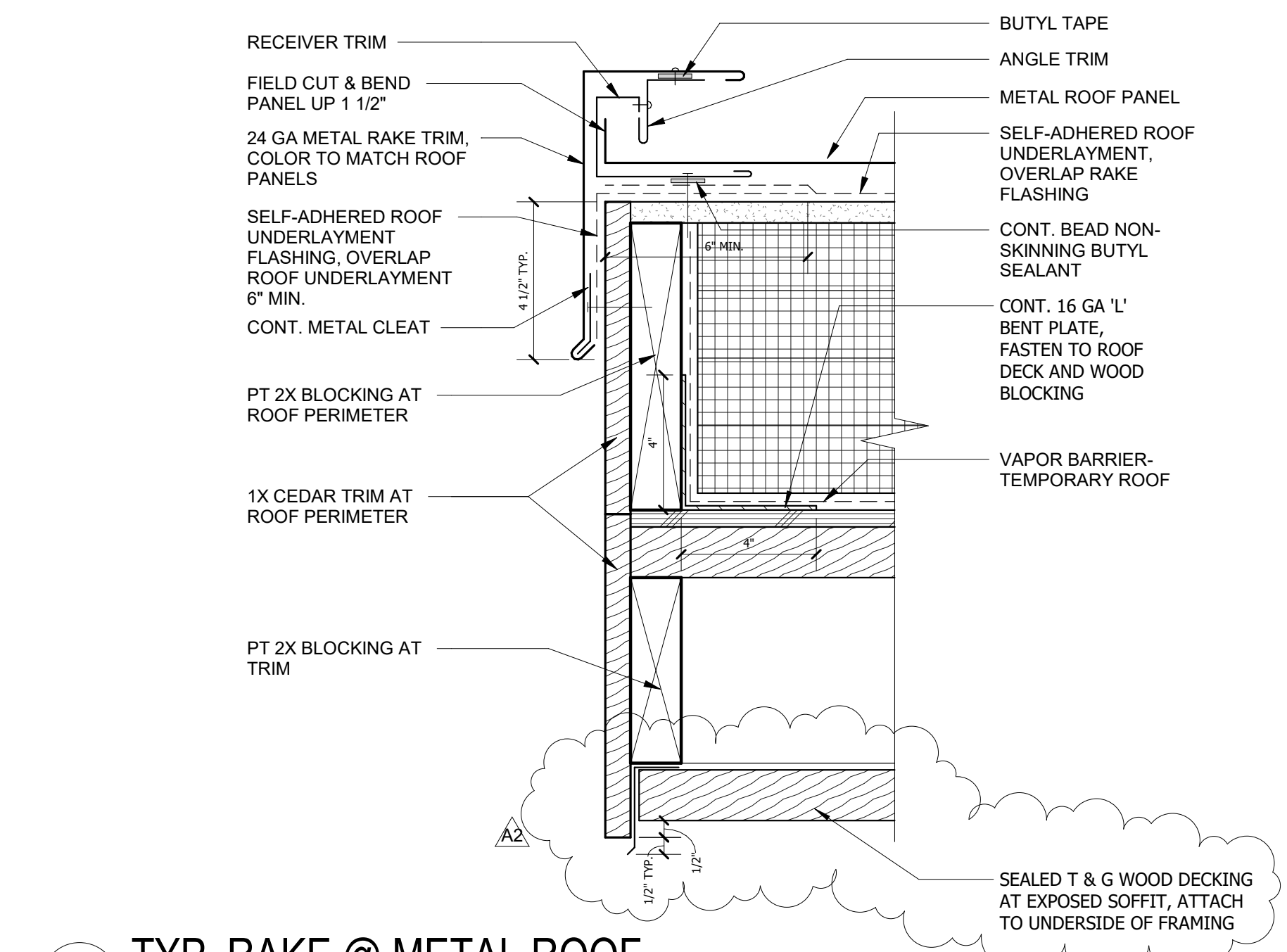
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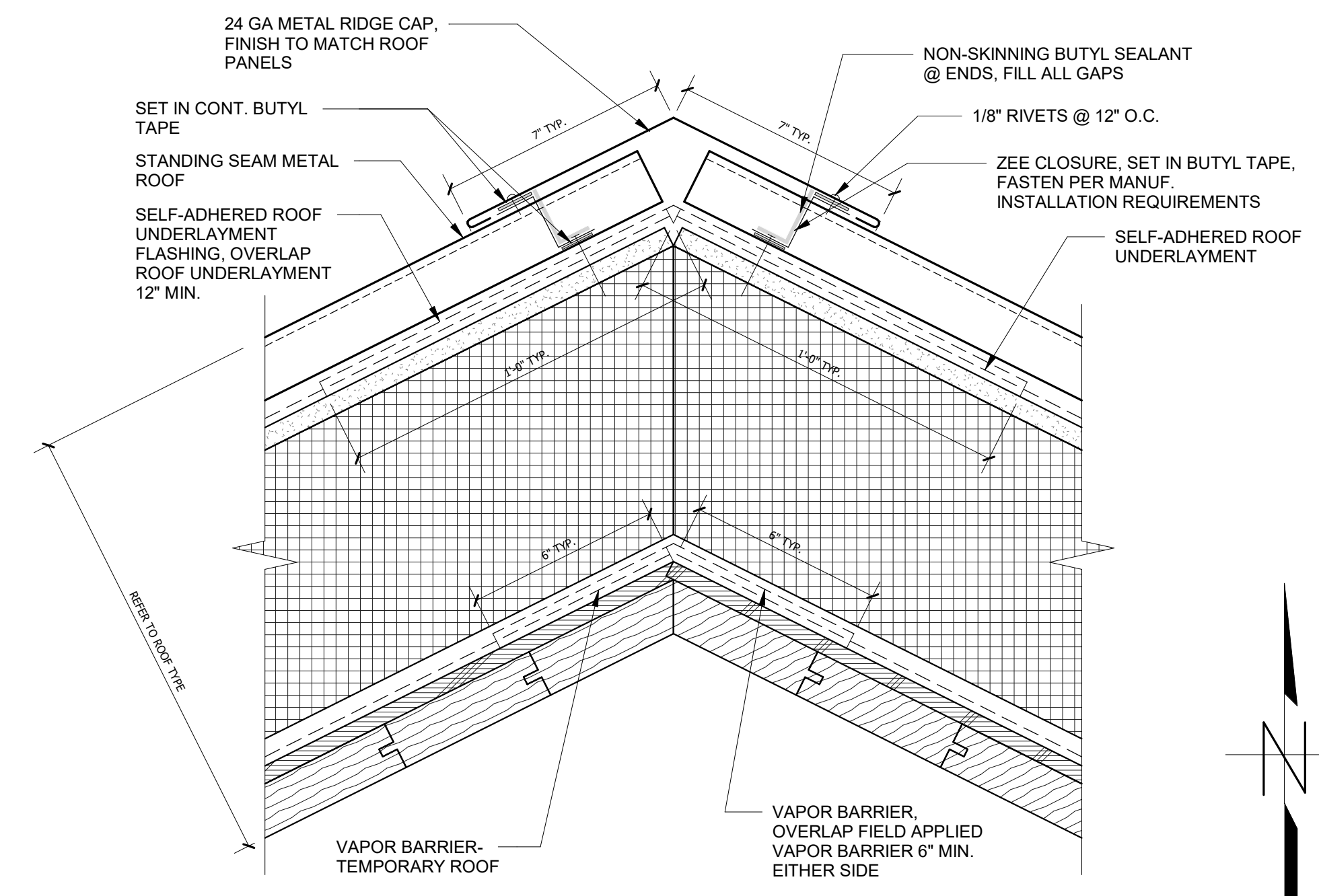
4 TYP. PEAK @ METAL ROOF
3" = 1'-0"



3 TYP. EAVE / GUTTER @ METAL ROOF
3" = 1'-0"



2 TYP. RAKE @ METAL ROOF
3" = 1'-0"

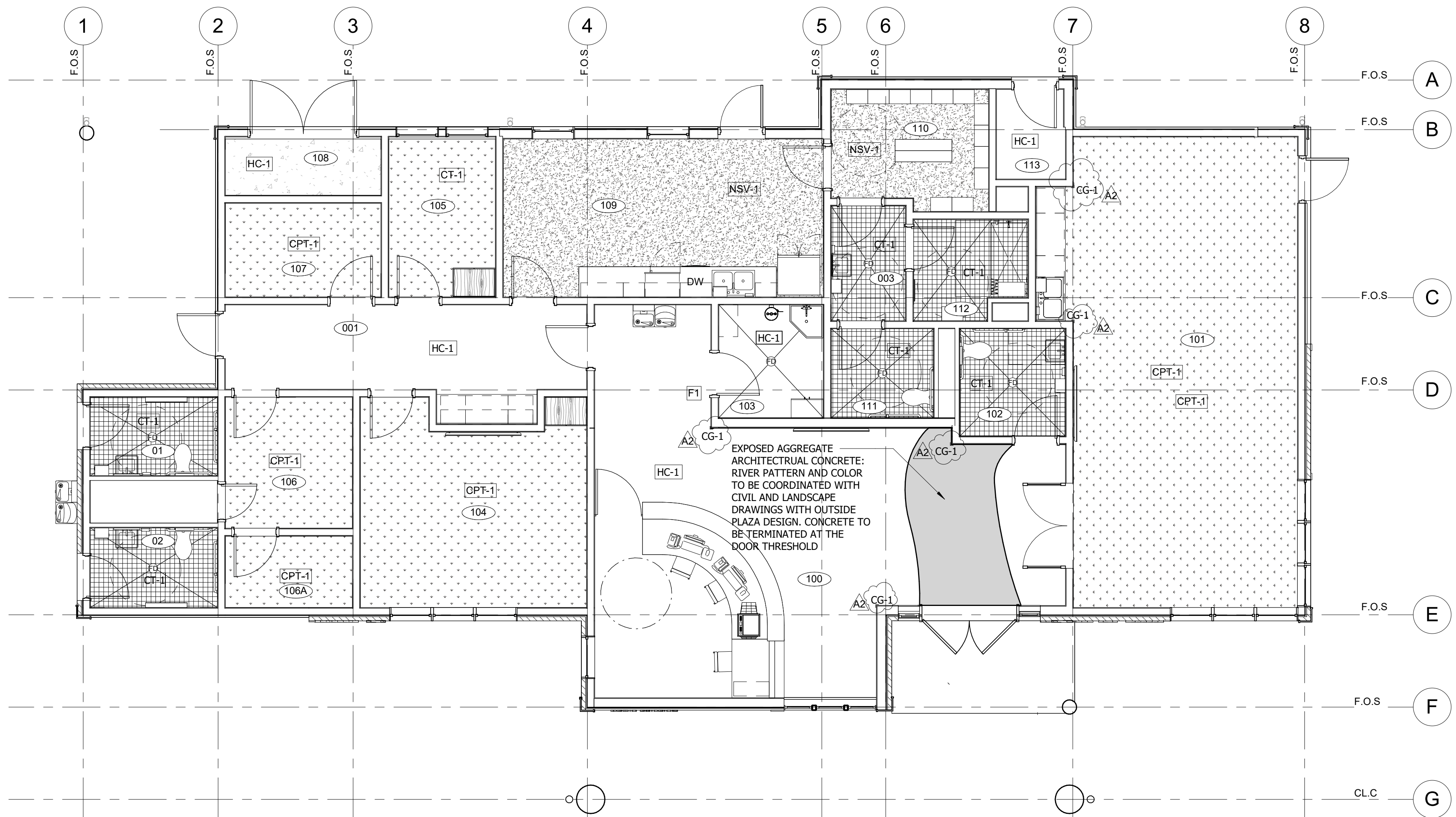


1 TYP. RIDGE @ METAL ROOF
3" = 1'-0"



FINISH SCHEDULE												
Number	Name	FLOOR	BASE	NORTH	EAST	SOUTH	WEST	Ceiling Finish	COUNTER	CABINETS	BACKSPLASH	REMARKS-
01	RESTROOM	CT-1	CT-3	CT-2	CT-2	CT-2	CT-2	GWB-1	-	-	-	
001	HALLWAY	HC-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1	SS-1	PL-1/EB-1	SS-1	
02	RESTROOM	CT-1	CT-3	CT-2	CT-2	CT-2	CT-2	GWB-1	-	-	-	
002	WORK AREA											
003	WASH	CT-1	CT-3	CT-2	CT-2	CT-2	CT-2	GWB-1	-	-	-	
100	ENTRY / WAITING	HC-1	WD-1	PT-1	PT-1	PT-1	PT-1	ACT-2	-	-	-	
101	CONFERENCE ROOM	CP-1	WD-1	PT-1	PT-1	PT-1	PT-1	ACT-2	SS-1	PL-1/EB-1	SS-1	
102	TOILET	CT-1	CT-3	CT-2	CT-2	CT-2	CT-2	GWB-1	-	-	-	
103	CUSTODIAL	HC-1	RB-1	PT-1	PT-1	PT-1	PT-1	GWB-1	-	-	-	
104	OFFICE	CPT-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1	-	-	-	
105	OFFICE / FLEX	CPT-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1	-	-	-	
106	STORAGE	CPT-1	RB-1	PT-1	PT-1	PT-1	PT-1	GWB-1	-	-	-	
106A	SECURE STORAGE	CPT-1	RB-1	PT-1	PT-1	PT-1	PT-1	GWB-1	-	-	-	
107	DATA / MDF	CPT-1	RB-1	PT-1	PT-1	PT-1	PT-1	GWB-1	-	-	-	
108	MECH / ELEC	HC-1	RB-1	PT-1	PT-1	PT-1	PT-1	GWB-1	-	-	-	
109	LOUNGE	NSV-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1	SS-1	PL-1/EB-1	SS-1	
110	LOCKERS	NSV-1	RB-1	PT-1	PT-1	PT-1	PT-1	GWB-1	-	-	-	
111	TOILET	CT-1	CT-3	CT-2	CT-2	CT-2	CT-2	GWB-1	-	-	-	
112	SHOWER	CT-1	CT-3	CT-2	CT-2	CT-2	CT-2	GWB-1	-	-	-	
113	RISER ROOM	HC-1	RB-1	PT-1	PT-1	PT-1	PT-1	GWB-1	-	-	-	

*BASIS OF DESIGN - ARCHITECT HAS FULL SELECTION OF COLOR					
INTERIOR FINISH LEGEND					
Tag	Material	Manufacturer	Product	Notes	
FLOOR	NSV-1	NON-SLIP SHEET VINYL FLOORING (FIELD)	ALTRO	SERIES RELIANCE 25 / COLOR: ARENA D2510	SEAMS: HEAT WELD, TYP. 78.74" X 68.57" X 0.080"
	HC-1	POLISHED CONCRETE	-	PER ARCHITECTURAL SPECIFICATIONS	(REFER TO SPECIFICATIONS)
	CPT-1	CARPET	TARKETT - TANDUS CENTIVA	STYLE: ACCENTUATE 04255 / COLOR: KASHA 45204. BACKING POWERBOND	(REFER TO DRAWINGS)
	CT-1	PORCELAIN TILE (FIELD)	DALTILE	DAPPLE GRAY, DK-326, 2'X2' CERAMIC MOSAIC TILE	2' x 2' (REFER TO DRAWINGS)
	GR-2	EPOXY GROUT	MAIPEI	KERAPOXY (MANUFACTURE DRAWINGS)	(REFER TO DRAWINGS)
WALLS	PT-1	PAINT (FIELD)	PARKER PAINT	ULTRATECHL C122: EGGSHELL ENAMEL; COLOR: CL 2851 W FILTERED	
	PT-2	PAINT, ACCENT	PARKER PAINT	ULTRATECHL C122: EGGSHELL ENAMEL; COLOR: CL 1404D LIPSTICK	
	CT-2	PORCELAIN TILE (FIELD)	DALTILE	PEPPER WHITE, D-147, 4 1/4"X4 1/4" SEMI-GLOSS GLAZED CERAMIC TILE	(REFER TO DRAWINGS)
CG-1	CORNER GUARD	CUSTOM FABRICATED	STAINLESS STEEL, #4 SATIN - 16 GA W/ 2" LEGS X 38" HIGH		
BASE	RB-1	RUBBER BASE	ARMSTRONG	STYLE: COVED WALL BASE / COLOR: GREY MIST, 4" BASE	(REFER TO DRAWINGS)
	CT-3	PORCELAIN TILE (COVED TRIM)	DALTILE	DESERT GRAY, D-X114, 4 1/4"X4 1/4" SEMI-GLOSS GLAZED CERAMIC TILE	(REFER TO DRAWINGS)
	WD-1	WOOD BASE	-	6" HIGH WOOD BASE / DOUGLAS FIR LARCH	(REFER TO DRAWINGS)
CASEWORK	PL-1	PLASTIC LAMINATE (VERTICAL)	NEVAMAR	TEXTURED: RECON OAK WZ005N (REFER TO DRAWINGS)	
	PL-2	PLASTIC LAMINATE (HORIZ.)	NEVAMAR	TEXTURED: BRONZE MATRIX II MR2008T (REFER TO DRAWINGS)	
	EB-1	DRAWER & DOOR EDGE BANDING	CANPLAST	PVC EDGE BANDING: MATCH PL-1/ GROSS TL-3MM	
EB-2	COUNTER EDGE BANDING	CANPLAST	PVC EDGE BANDING: MATCH PL-2/ GROSS TL-3MM "T" MOLDING		
CEILING	GWB-1	PAINTED GYPSUM DRYWALL	PARKER PAINT	ULTRA TECH C122 EGGSHELL ENAMEL	MATCH ADJACENT WALL
	ACT-1	ACOUSTIC CEILING TILE	ARMSTRONG	SUPRAFINE XL	(REFER TO DRAWINGS)
	ACT-2	ACOUSTIC CEILING TILE	ARMSTRONG	STYLE: PLANK CEILING - WOODHAVEN / COLOR: RUSTIC PINE	(REFER TO DRAWINGS)
DOORS	DF-1	DOOR FRAME (HM - PAINT)	PARKER PAINT	ULTRATECH C144 SEMI-GLOSS ENAMEL, CLW1043W "FOSSIL DUST"	(REFER TO DRAWINGS)
	DF-2	SOLID CORE DOOR- PLAM & PAINT	PARKER PAINT	ULTRATECH C144 SEMI-GLOSS ENAMEL, C2851W "FILTERED"	(REFER TO DRAWINGS)
MISC.	SS-1	SOLID SURFACE (PARTIAL HEIGHT WALL TOP CAP/ EQUIPP. MOUNTING BOARD)	DUPONT CORIAN	HOMOGENEOUS COUNTERTOP, "CANVAS"	(REFER TO DRAWINGS)

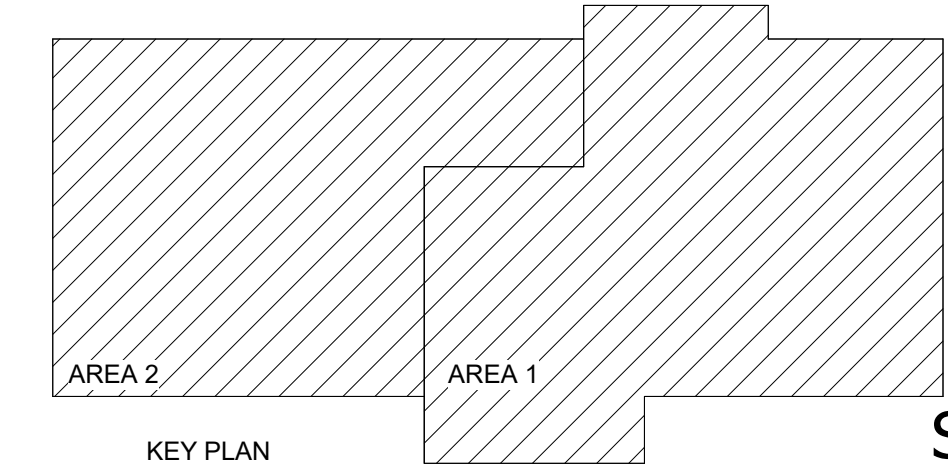


INTERIOR FINISH FLOOR PLAN LEGEND

- NON-SLIP SHEET VINYL FLOORING, REFER TO INTERIOR FINISH LEGEND
- CARPET FLOORING, REFER TO INTERIOR FINISH LEGEND
- HARDENED CONCRETE, REFER TO ARCHITECTURAL SPECIFICATIONS
- CERAMIC TILE FLOORING, REFER TO INTERIOR FINISH LEGEND
- EXPOSED AGGREGATE ARCHITECTURAL CONCRETE, REFER TO ARCHITECTURAL SPECIFICATIONS

FINISH PLAN NOTES

1. ALL INTERIOR SHALL MEET THE CURRENT IBC FOR FLAME SPREAD AND SMOKE DEVELOPMENT MINIMUM STANDARDS.
2. REFER TO 'FINISH LEGEND' AND PROJECT SPECIFICATION MANUAL FOR INTERIOR FINISH CALL-OUTS AND MANUFACTURERS.
3. REFER TO 'DOOR SCHEDULE' FOR DOOR AND FRAME FINISH.
4. REFER TO 'REFLECTED CEILING PLAN' FOR CEILING FINISHES.
5. REFER TO 'INTERIOR ELEVATIONS,' AND 'MOUNTING HEIGHT SHEET' FOR DIMENSIONS AND PATTERNS.
6. SV1 'GRAIN' SHALL BE PERPENDICULAR TO DOOR/ ENTRY OPENING U.N.O.
7. ALL INTERIOR WALL OR CEILING FINISHES SHALL BE CLASS A OR B TO COMPLY WITH NFPA101 TABLE 10.2.2.



811 Call 811
two business days
before you dig

CAD NO.

ISSUED DATE
ADDENDUM #2 05/08/2024

NO. REVISIONS

ACTION	BY	DATE
DESIGNED	-	1/8/2024
DRAWN	-	1/8/2024
CHECKED (FIELD)	-	-
CHECKED (HQDTS.)	HQ	-

10347 REGISTERED ARCHITECT
JAMES HILL
STATE OF WASHINGTON

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

NISQUALLY STATE PARK

NEW FULL SERVICE PARK - PHASE 2

ROOM FINISH SCHEDULE A-621

SCALE
AS SHOWN

PARKS FILE#

1 REFERENCE FLOOR PLAN - INTERIOR FINISHES
3/16" = 1'-0"

CAD NO.

5/8/24
DATE

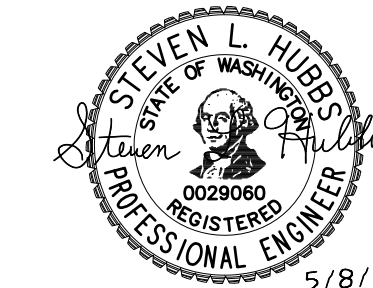
SJK
APP.

SJK
INT.

ADDENDUM #2
REVISIONS

1
NO.

ACTION	BY	DATE
DESIGNED	SJK	1/8/2024
DRAWN	JAE	1/8/2024
CHECKED (FIELD)	BD	
CHECKED (HDQTS.)		



REGISTERED STAMP

WASHINGTON
STATE
PARKS
AND
RECREATION
COMMISSION



NISQUALLY
STATE PARK

NEW FULL SERVICE
PARK - PHASE 2

ADMINISTRATION
BUILDING
ELECTRICAL
SITE PLAN
E102

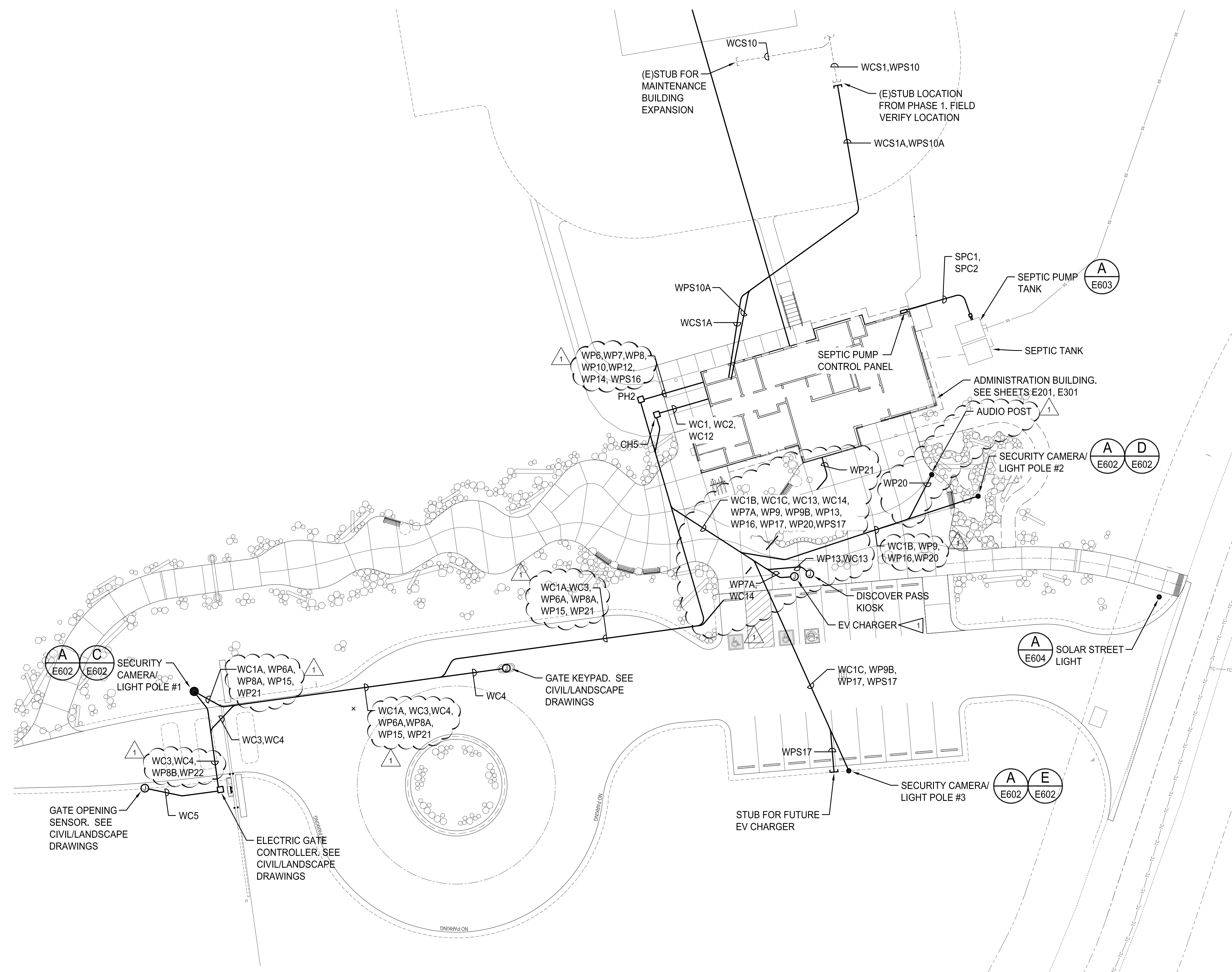
SCALE

AS NOTED

PARKS FILE#

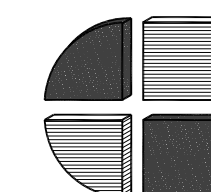
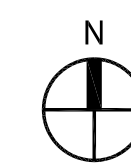
ELECTRICAL NOTES:

- 1 LEVEL 2, DUAL PORT, ELECTRIC VEHICLE CHARGING STATION WITH CONCRETE BASE. BTC POWER #EVP-2002-30-P-001.



ADMINISTRATION BUILDING ELECTRICAL SITE PLAN

SCALE: 1"=20'-0"



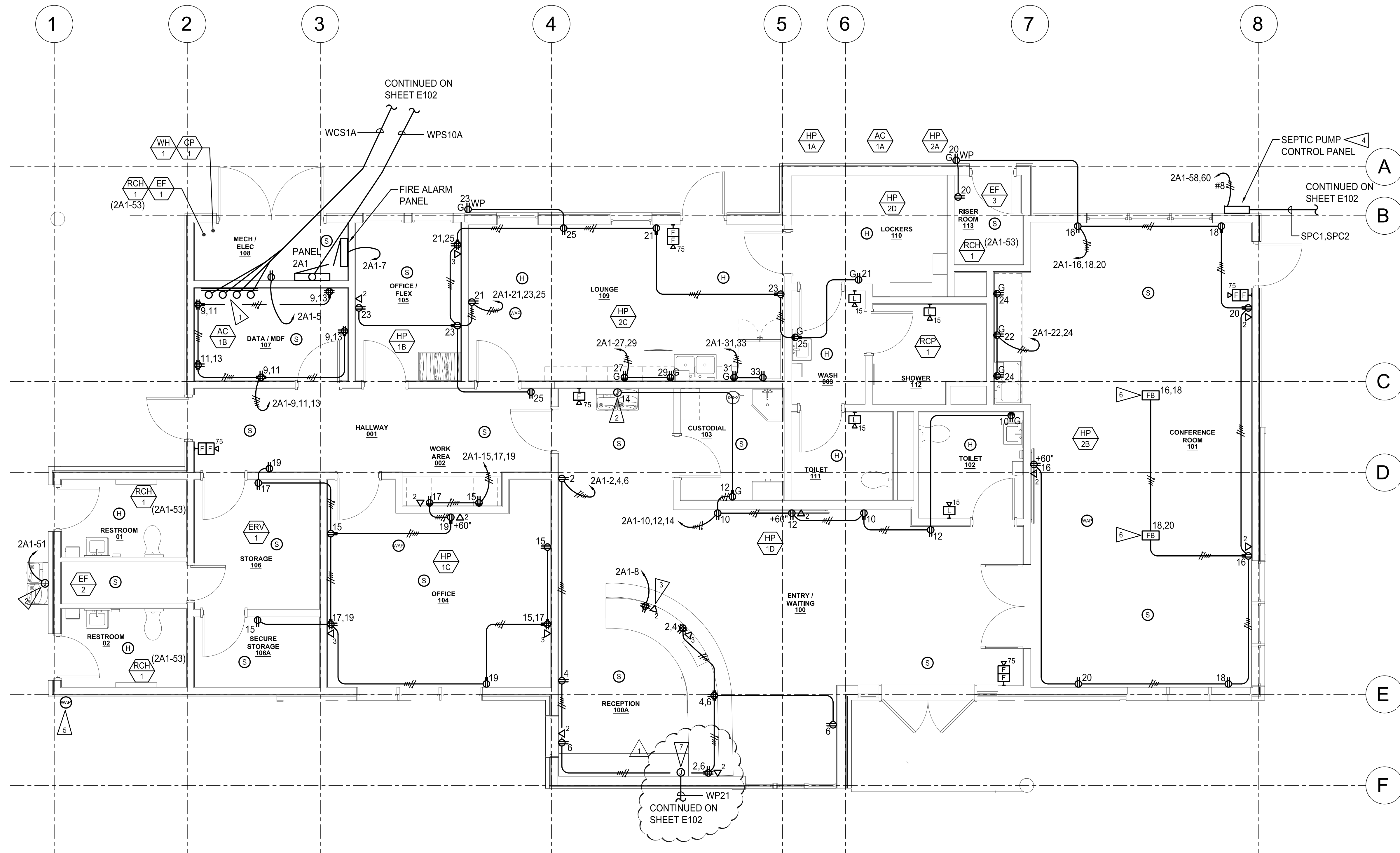
CROSS ENGINEERS, INC
923 MLK Jr. Way
Tacoma, WA 98405
Info@crossengineers.com
Phone: (253) 759-0118
Job Number: 20-119



SHEET 160 OF 253

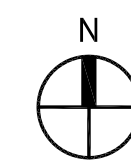
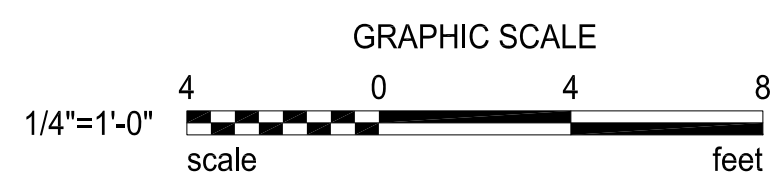
ELECTRICAL NOTES:

- 1 PROVIDE 3/4" x 4'-0"W x 8'-0"H, 3 HOUR RATED PLYWOOD. DO NOT PAINT OVER LABEL.
- 2 DRINKING FOUNTAIN CONNECTION.
- 3 DATA OUTLET FOR CAMS SYSTEM.
- 4 PROVIDE ADDITIONAL 3/4"C-(2)#12 CU & (1)#12 CU GRD AND CONNECT TO PANEL 2A1. CIRCUIT #56 FOR CONNECTION OF CONTROL PANEL ALARM.
- 5 EXTERIOR RATED, WIRELESS ACCESS POINT. PROVIDE 1" CONDUIT TO ACCESSIBLE CEILING SPACE WITHIN BUILDING FOR ROUTING DATA CABLING.
- 6 PROVIDE THREE (3) CAT 6 DATA OUTLETS IN EACH FLOOR BOX.
- 7 GATE OPENER. FIELD COORDINATE EXACT LOCATION PRIOR ROUGH-IN.



ADMINISTRATION BUILDING POWER/DATA FLOOR PLAN

SCALE: 1/4"=1'-0"



CROSS ENGINEERS, INC.
 923 MLK Jr. Way
 Tacoma, WA 98405
 Info@crosseengineers.com
 Phone: (253) 759-0118
 Job Number: 20-119



SHEET 164 OF 253

CAD NO.	
SJK	5/8/24
SJK	DATE
SJK	APP.
SJK	INT.
ADDENDUM #2	
1	NO.

ACTION	BY	DATE
DESIGNED	SJK	1/8/2024
DRAWN	JAE	1/8/2024
CHECKED (FIELD)	BD	
CHECKED (HDQTS.)		



REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

NISQUALLY STATE PARK

NEW FULL SERVICE PARK - PHASE 2

ADMINISTRATION BUILDING POWER/DATA FLOOR PLAN E301

SCALE: **AS NOTED**

PARKS FILE#

BID SET

SURFACE MOUNTING 22,000 AIC		PANEL SCHEDULE									
No. 2A1		LOCATION: ADMINISTRATION BLDG. SERVING: ADMINISTRATION BLDG.				120/208 VOLTS 3PHASE 4WIRE 400 AMPS WITH 400 MAIN BREAKER					
CKT NO.	LOAD DESCRIPTION	KVA	TRIP AMPS	TRIP AMPS	KVA	LOAD DESCRIPTION	CKT NO.				
1	LIGHTS	1.22	20	20	.54	RECEPTACLES	2				
3	LIGHTS	.75			.54	RECEPTACLES	4				
5	RECEPTACLE	.18			.54	RECEPTACLES	6				
7	FIRE ALARM	.50			1.50	CAMIS SYSTEM	8				
9	IDF EQUIPMENT	1.20			.54	RECEPTACLES	10				
11	IDF EQUIPMENT	1.20			.54	RECEPTACLES	12				
13	IDF EQUIPMENT	1.20			.50	DRINKING FOUNTAIN	14				
15	RECEPTACLES	.90			.72	RECEPTACLES	16				
17		.72			.72		18				
19		.72			.72		20				
21		.72			.18		22				
23		.72			.36	RECEPTACLES	24				
25	RECEPTACLES	.72			5.00	WH-1	26				
27	COFFEE MAKER	1.20			.2		28				
29	COFFEE MAKER	1.20			1.14	ERV-1,HP-1B,1C,1D,	30				
31	MICROWAVE	1.20			.2	HP-2B,2C,2DS	32				
33	REFRIGERATOR	1.20	20	20	.35	CP-1,EF-1,EF-2,EF-3	34				
35	AC-1A/AC-1B	2.29	20	20	.80	RCP-1,RCH-1	36				
37		.2			.25	SITE LIGHTS	38				
39	HP-1A	7.49	60	20	1.50	DISCOVERY KIOSK	40				
41		.2			6.24	EV CHARGER	42				
43	HP-2A	7.49	60	20	.2		44				
45		.2			6.24	EV CHARGER	46				
47	GATE CONTROLLER	2.50	30	20			48				
49		.2			.50	POLE COMM. BOX RECEPT.	50				
51	DRINKING FOUNTAIN	.50	20	20	.50	POLE COMM. BOX RECEPT.	52				
53	RCH-1 (QTY OF 3)	1.26	20	20	.50	POLE COMM. BOX RECEPT.	54				
55	AUDIO POST	.50	20	20	.10	PUMP CNT. PANEL ALARM	56				
57	SPACE				3.50	SEPTIC PUMP PANEL	58				
59					.2		60				
61					.30	TVSS	62				
63							64				
65	SPACE				.3		66				

REMARKS: .
 * PROVIDE CIRCUIT BREAKER HANDLE LOCK
 ** PROVIDE GFI CIRCUIT BREAKER

TYPICAL OF PANELS R1 AND R2

FLUSH MOUNTING 22,000 AIC		PANEL SCHEDULE									
No. R1		LOCATION: R1 SERVING: R1				120/240 VOLTS 1PHASE 3WIRE 200 AMPS WITH MAIN LUGS					
CKT NO.	LOAD DESCRIPTION	KVA	TRIP AMPS	TRIP AMPS	KVA	LOAD DESCRIPTION	CKT NO.				
** 1	RECEPTACLES - KITCHEN	1.50	20	30	5.00	DRYER	2				
** 3	RECEPTACLES - KITCHEN	1.50			.2		4				
** 5	REFRIGERATOR	1.20			1.50	WASHER	6				
** 7	RANGE HOOD	.50			1.20	RECEPTACLES/ LIGHTING	8				
** 9	DISHWASHER	1.20	20	20	1.20	RECEPTACLES/ LIGHTING	10				
** 11	RANGE	8.00	50	20	1.20	RECEPTACLES/ LIGHTING	12				
13		.2			5.00	WATER HEATER	14				
15	BATH RECEPTACLE	.18	20	20	.2		16				
* 17	RECEPTACLES/ LIGHTING	1.20			4.60	HP-3A/3B	18				
* 19	RECEPTACLES/ LIGHTING	1.20			.2		20				
* 21	ERV-2	.16	20	20	1.00	EW-2	22				
* 23	SEPTIC PUMP PANEL	2.50	30	20	.2		24				
25		.2			1.00	EW-1(QTY OF 2)	26				
27	TVSS		30	20	.10	PUMP CNT. PANEL ALARM	28				
29			2	20		SPARE	30				

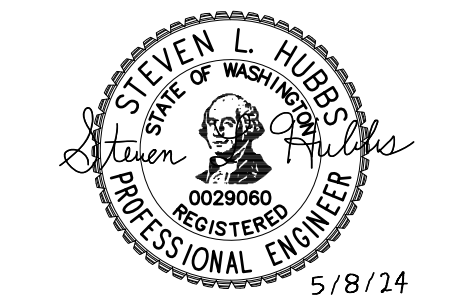
REMARKS: .
 * PROVIDE AFCI RATED CIRCUIT BREAKER.
 ** PROVIDE AFCI/GFCI RATED CIRCUIT BREAKER.
 *** PROVIDE GFCI RATED CIRCUIT BREAKER.

TYPICAL R1/R2 DWELLING LOAD CALCULATIONS (NEC 220-82B)				
Service				Demand Load
Lighting/Receptacles	1,286	sq.ft.	x 3 VA	= 3.86 KVA
Kitchen Receptacles	1.50	KVA	x Qty of 2	= 3.00 KVA
Laundry Receptacles	1.50	KVA	x Qty of 1	= 1.50 KVA
Range	8.00	KVA	x Qty of 1	= 8.00 KVA
Dryer	5.00	KVA	x Qty of 1	= 5.00 KVA
Range Hood	0.50	KVA	x Qty of 1	= 0.50 KVA
Dishwasher	1.20	KVA	x Qty of 1	= 1.20 KVA
Refrigerator	1.20	KVA	x Qty of 1	= 1.20 KVA
Water Heater	5.00	KVA	x Qty of 1	= 5.00 KVA
ERV Unit	0.16	KVA	x Qty of 1	= 0.16 KVA
Septic Panel & Alarm	2.60	KVA	x Qty of 1	= 2.60 KVA
Total				32.02 KVA
(Subtract 100% of First 10.00 KVA)				10.00 KVA
				22.02 KVA
(Subtract 40%)			x	40 %
				8.81 KVA
(Addition 100% of First 10.00 KVA)				10.00 KVA
				18.81 KVA
Heat Pump/ Wall Heaters			=	6.50 KVA
Total				25.31 KVA
				105.4 Amps
				@ 120/240V, 1PH

- ELECTRICAL NOTES:**
- 1 PLUG-ON, BUSS STYLE, TVSS UNIT. SIEMENS #QSPD-2-A-065P OR EQUAL.
 - 2 SEPTIC TANK SYSTEM CONNECTIONS IN PANEL R1 ONLY.

CAD NO.	
5/8/24	DATE
SJK	APP.
SJK	INT.
REVISIONS	
1	NO.

ACTION	BY	DATE
DESIGNED	SJK	1/8/2024
DRAWN	JAE	1/8/2024
CHECKED (FIELD)	BD	
CHECKED (HDQTS.)		



REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

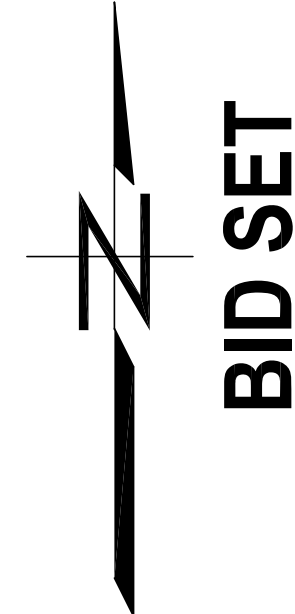
NISQUALLY STATE PARK

NEW FULL SERVICE PARK - PHASE 2

PANEL SCHEDULES E402

SCALE AS NOTED

PARKS FILE#



CONDUIT AND CONDUCTOR SCHEDULE

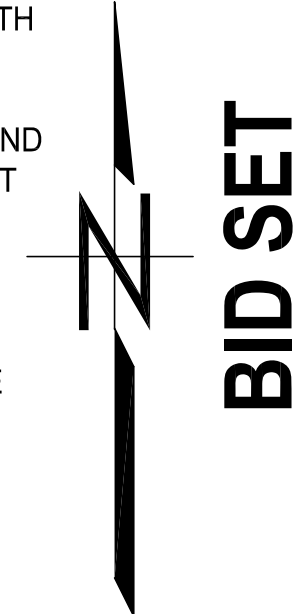
CIRCUIT ID	CONDUIT			CONDUCTORS PER CONDUIT			FROM	TO	REMARKS
	NO.	SIZE	TYPE	NO.	SIZE	TYPE			
OM2	2	3"	PVC	-	-	-	OMV1	OMV2	②
OM3	2	3"	PVC	-	-	-	OMV2	OMV3	②
OM4	1	3"	PVC	-	-	-	OMV3	RESIDENCE #1 OHOP METER	②
OM5	1	3"	PVC	-	-	-	OMV3	RESIDENCE #2 OHOP METER	②
OM6	3	3"	PVC	-	-	-	EXISTING OHOP TRANSFORMER	STUBBED LOCATION - SHEET E103	
RCC3	2	2"	PVC	-	-	-	(E)STUBBED LOCATION - SHEET E103 - PHASE 1	RCV1	①
RCC4	2	2"	PVC	-	-	-	RCV1	RCV2	①
RCC5	2	2"	PVC	-	-	-	-	RCV3	①
RCC6	1	2"	PVC	-	-	-	RCV3	RESIDENCE 1	①
RCC7	1	2"	PVC	-	-	-	RCV3	RESIDENCE 2	①
SPC1	1	1"	PVC/GRS	3/1	8/10	CU	SEPTIC PUMP CONTROL PANEL	SEPTIC PUMP TANK	⑬
SPC2	1	1"	PVC/GRS	④	④	④	SEPTIC PUMP CONTROL PANEL	SEPTIC PUMP TANK	⑬
SPC3	1	1"	PVC/GRS	3/1	10/10	CU	SEPTIC PUMP CONTROL PANEL	SEPTIC PUMP TANK	⑬
SPC4	1	1"	PVC/GRS	④	④	④	SEPTIC PUMP CONTROL PANEL	SEPTIC PUMP TANK	⑬
WP6	1	1"	PVC	2/1	8/10	CU	PANEL 2A1, CIRCUIT #38	PH2	
WP6A	1	3/4"	PVC	2/1	8/10	CU	PH2	PH3	
WP6B	1	3/4"	PVC	2/1	8/10	CU	PH3	LIGHT POLE #1	⑬
WP7	1	1"	PVC	4/1	6/10	CU	PANEL 2A1, CIRCUIT #42,44	PH2	
WP7A	1	1"	PVC	4/1	6/10	CU	PH2	EV CHARGING STATION	
WP8	1	1"	PVC	3/1	8/10	CU	PANEL 2A1, CIRCUIT #47,49	PH2	
WP8A	1	1"	PVC	3/1	8/10	CU	PH2	PH3	
WP8B	1	1"	PVC	3/1	8/10	CU	PH3	GATE CONTROLLER	
WP9	1	1"	PVC	2/1	8/10	CU	PH2	PH4	
WP9A	1	1"	PVC	2/1	8/10	CU	PH4	LIGHT POLE #2	⑬
WP9B	1	1"	PVC	2/1	8/10	CU	PH3	PH5	
WP9C	1	1"	PVC	2/1	8/10	CU	PH5	LIGHT POLE #3	⑬
WP10	1	2"	PVC	-	-	-	ADMIN. BUILDING ELECTRICAL ROOM	PH2	
WP11	1	2-1/2"	PVC/GRS	4/1	10/10	CU	PH8	PANEL 2WH (WELL HOUSE)	EXISTING
WP12	1	1"	PVC	3/1	10/10	CU	PANEL 2A1, CIRCUIT #40,55	PH2	
WP13	1	1"	PVC	2/1	10/10	CU	PH2	DISCOVER PASS KIOSK	
WP14	1	1"	PVC	4/1	10/10	CU	PANEL 2A1, CIRCUIT #50,52,54	PH2	
WP15	1	1"	PVC	2/1	10/10	CU	PH2	PH3	
WP16	1	1"	PVC	2/1	10/10	CU	PH2	PH4	
WP17	1	1"	PVC	2/1	10/10	CU	PH2	PH5	
WP18A	1	3/4"	PVC	2/1	10/10	CU	PH3	LIGHT POLE #1	⑬
WP18B	1	3/4"	PVC	2/1	10/10	CU	PH4	LIGHT POLE #2	⑬
WP18C	1	3/4"	PVC	2/1	10/10	CU	PH5	LIGHT POLE #3	⑬
WP19	1	1-1/2"	PVC	3/1	6/8	CU	WELL PUMP CONTROLLER	WELL HEAD	EXISTING
WP20	1	1"	PVC	2/1	10/10	CU	PH2	AUDIO POST	
WP21	1	1"	PVC	4	16	CU	GATE CONTROLLER OPENER - ADMIN BLDG	PH3	⑬
WP22	1	1"	PVC	4	16	CU	PH3	GATE CONTROLLER	⑬
WPS8A	1	2"	PVC	-	-	-	(E)STUBBED LOCATION - SHEET E103 - PHASE 1	PH6	⑬
WPS9	2	4"	PVC	4/1	600/2	CU	(E)MDP - PHASE 1	(E)JPV1 - PHASE 1	⑬
WPS10	2	4"	PVC	4/1	600/2	CU	(E)JPV1 - PHASE 1	(E)STUBBED LOCATION - SHEET E101 - PHASE 1	⑬
WPS10A	2	4"	PVC	4/1	600/2	CU	(E)STUBBED LOCATION - SHEET E101 - PHASE 1	ADMIN BUILDING - PANEL 2A1	⑬
WPS14	1	2"	PVC	-	-	-	PH6	PH7	
WPS15	1	2"	PVC	-	-	-	PH7	STUB LOCATION - SHEET E103	
WPS16	1	1"	PVC	-	-	-	PANEL 2A1	PH2	
WPS17	1	1"	PVC	-	-	-	PH2	STUB LOCATION - SHEET E102	
WC1	1	2"	PVC	-	-	-	COMMUNICATIONS ROOM	CH5	⑬
WC1A	1	2"	PVC	-	-	-	CH5	CH6	⑬
WC1B	1	2"	PVC	-	-	-	CH5	CH7	⑬
WC1C	1	2"	PVC	-	-	-	CH5	CH8	⑬
WC2	2	2"	PVC	-	-	-	COMMUNICATIONS ROOM	CH5	⑬
WC2A	1	2"	PVC	-	-	-	CH6	LIGHT POLE #1	⑬
WC2B	1	2"	PVC	-	-	-	CH7	LIGHT POLE #2	⑬
WC2C	1	2"	PVC	-	-	-	CH8	LIGHT POLE #3	⑬
WC3	1	1"	PVC	-	-	-	CH5	GATE CONTROLLER	⑬
WC4	1	1"	PVC	4	16	CU	GATE CONTROLLER	GATE CONTROLLER - KEYPAD	⑬
WC5	1	1"	PVC	4	16	CU	GATE CONTROLLER	GATE OPENING SENSOR	⑬
WC6	1	2"	PVC	-	-	-	CH11	WELL HOUSE	EXISTING
WC7	1	2"	PVC	-	-	-	CH9	CH10	⑬
WC8	1	2"	PVC	-	-	-	CH10	CV3	⑬
WC9	1	2"	PVC	-	-	-	CV3	CV4	⑬
WC10	1	2"	PVC	-	-	-	CV4	STAFF RESIDENCE PARKS COMMUNICATIONS BOX	⑬
WC11	1	2"	PVC	-	-	-	CV4	STAFF RESIDENCE PARKS COMMUNICATIONS BOX	⑬
WC12	1	2"	PVC	-	-	-	COMMUNICATIONS ROOM	CH5	⑬
WC13	1	1"	PVC	-	-	-	CH5	DISCOVER PASS KIOSK	⑬
WC14	1	1"	PVC	-	-	-	CH5	EV CHARGER	⑬
WCS1A	4	2"	PVC	-	-	-	ADMIN. BUILDING	(E)STUBBED LOCATION - SHEET E101 - PHASE 1	⑬
WCS7A	1	2"	PVC	-	-	-	(E)STUBBED LOCATION - SHEET E103 - PHASE 1	CH9	⑬
WCS14	1	2"	PVC	-	-	-	CH10	(E)STUB LOCATION - SHEET E103	⑬

SCHEDULE ABBREVIATION LEGEND:

- RCC = RAINIER CONNECT COMMUNICATIONS CONDUIT
- WC = WASHINGTON STATE PARKS COMMUNICATIONS CONDUIT
- WCS = WASHINGTON STATE PARKS SPARE COMMUNICATIONS CONDUIT
- WP = WASHINGTON STATE PARKS POWER CONDUIT
- WPS = WASHINGTON STATE PARKS SPARE POWER CONDUIT
- OM = OHOP MUTUAL MEDIUM VOLTAGE
- FOC = FIBER OPTIC CABLE
- PVC = SCHEDULE 40 PVC CONDUIT
- GRS = GALVANIZED RIGID STEEL CONDUIT
- EMT = ELECTRICAL METALLIC TUBING
- CV = COMMUNICATIONS VAULT
- CH = COMMUNICATIONS HANDHOLE
- PV = POWER VAULT
- PH = POWER HANDHOLE
- MDP = MAIN DISTRIBUTION POWER SWITCHBOARD
- SPC = SEPTIC PUMP POWER/CONTROLS

SCHEDULE NOTES:

- ① COMMUNICATIONS CABLE BY RAINIER CONNECT.
- ② SECONDARY CABLING PROVIDED/INSTALLED BY OHOP.
- ③ SECONDARY CONDUCTORS FROM OHOP PADMOUNT TRANSFORMER TO UTILITY METER BY OHOP UTILITY.
- ④ FLOAT CONTROLS WIRING PER MANUFACTURERS REQUIREMENTS.
- ⑤ EXTENSION OF EXISTING CONDUITS STUBBED AND CAPPED IN PHASE 1 TO NEW ADMINISTRATION BUILDING ELECTRICAL/MECHANICAL ROOM. PROVIDE NEW POWER WIRING IN ONE(1) EXISTING CONDUIT FOR CONNECTION TO PANEL 2A1 AS PART OF THIS PHASE.
- ⑥ EXTENSION OF EXISTING CONDUIT STUBBED AND CAPPED IN PHASE 1 TO NEW POWER HANDHOLE PH8. PROVIDE NEW POWER WIRING (4)#4/0 CU & (1)#6 CU GRD IN EXISTING CONDUIT AS PART OF THIS PHASE.
- ⑦ EXTENSION OF EXISTING CONDUIT STUBBED AND CAPPED IN PHASE 1 TO NEW POWER HANDHOLE PH6.
- ⑧ EXTENSION OF EXISTING CONDUIT STUBBED AND CAPPED IN PHASE 1 TO NEW OHOP MUTUAL VAULT OMV1.
- ⑨ PROVIDE (1) 3-CELL, EDGE DETECTABLE INNERDUCT IN (1)2" CONDUIT. MAXCELL #MXED52223 OR EQUAL. PROVIDE (1) OUTSIDE PLANT 4 COUNT, SINGLE MODE, FIBER OPTIC CABLE, CORNING OR EQUAL.
- ⑩ EXTENSION OF EXISTING CONDUITS STUBBED AND CAPPED IN PHASE 1 TO NEW ADMINISTRATION BUILDING DATA/MDF ROOM. PROVIDE NEW WIRING IN EXISTING CONDUIT AS PART OF THIS PHASE.
- ⑪ EXTENSION OF EXISTING CONDUITS STUBBED AND CAPPED IN PHASE 1 TO NEW COMMUNICATIONS HANDHOLE CH11. PROVIDE NEW WIRING IN EXISTING CONDUIT AS PART OF THIS PHASE.
- ⑫ EXTENSION OF EXISTING CONDUITS STUBBED AND CAPPED IN PHASE 1 TO NEW COMMUNICATIONS HANDHOLE CH9.
- ⑬ LIGHT FIXTURE ON POLE POWER.
- ⑭ RECEPTACLE IN COMMUNICATIONS BOX ON LIGHT POLE POWER.
- ⑮ CONTRACTOR SHALL FIELD VERIFY SEPTIC PUMP ELECTRICAL CONNECTION REQUIREMENTS WITH SEPTIC INSTALLER PRIOR TO ROUGH-IN.
- ⑯ EXTENSION OF EXISTING CONDUIT STUBBED AND CAPPED IN PHASE 1 TO NEW RAINIER CONNECT VAULT RCV1.
- ⑰ PROVIDE (1) 3-CELL, EDGE DETECTABLE INNERDUCT IN (1)2" CONDUIT. MAXCELL #MXED52223 OR EQUAL. PROVIDE (1) OUTSIDE PLANT 2 COUNT, SINGLE MODE, FIBER OPTIC CABLE, CORNING OR EQUAL.
- ⑱ CABLING PER GATE CONTROLLER MANUFACTURER REQUIREMENTS.



CAD NO.

5/8/24 DATE

SJK INT. APP.

SJK INT.

REVISIONS

ADDENDUM #2

NO.

ACTION	BY	DATE
DESIGNED	SJK	1/8/2024
DRAWN	JAE	1/8/2024
CHECKED (FIELD)	BD	
CHECKED (HDQTS.)		

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

NISQUALLY STATE PARK

NEW FULL SERVICE PARK - PHASE 2

CONDUIT AND CONDUCTOR SCHEDULE E502

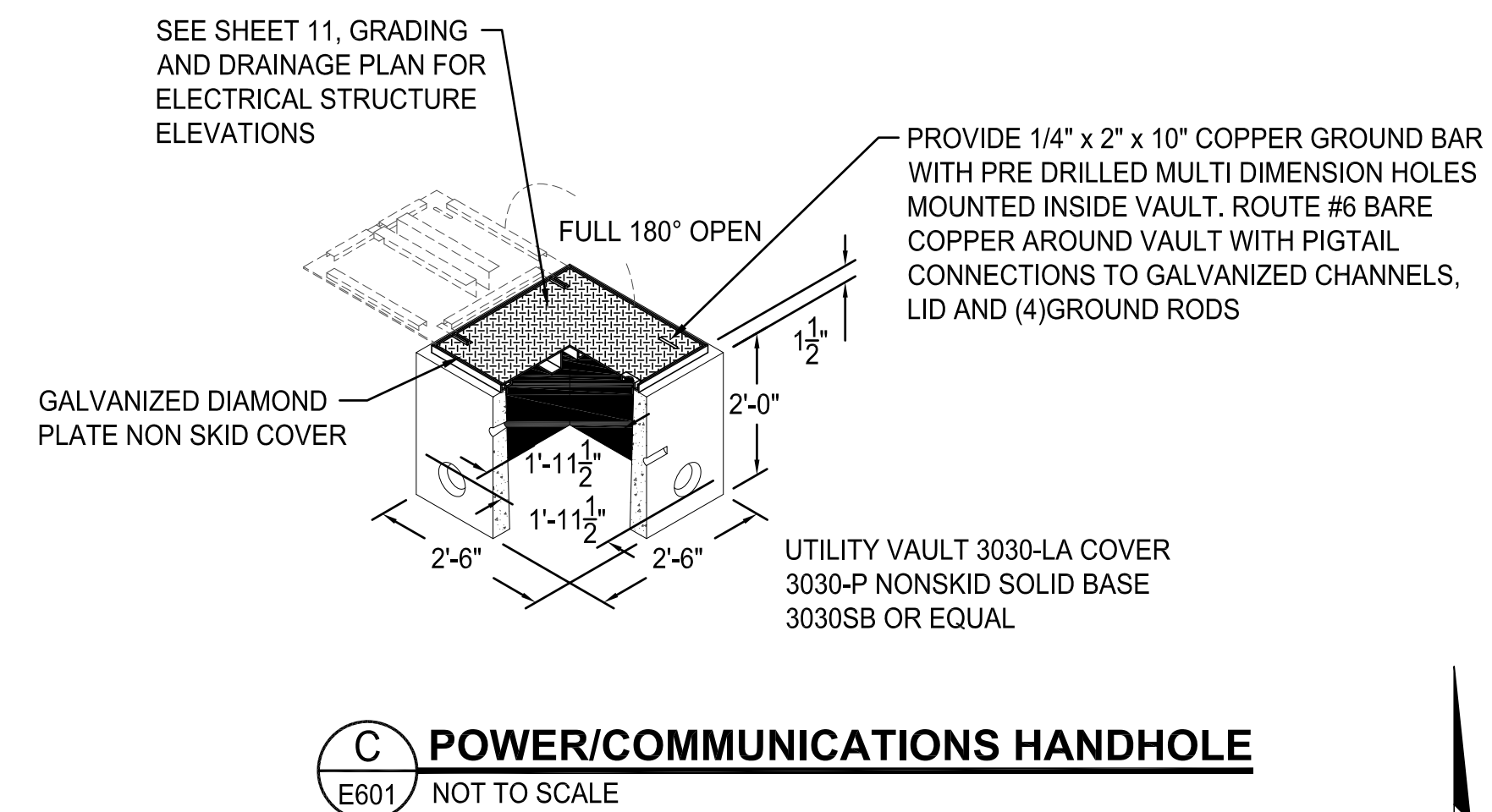
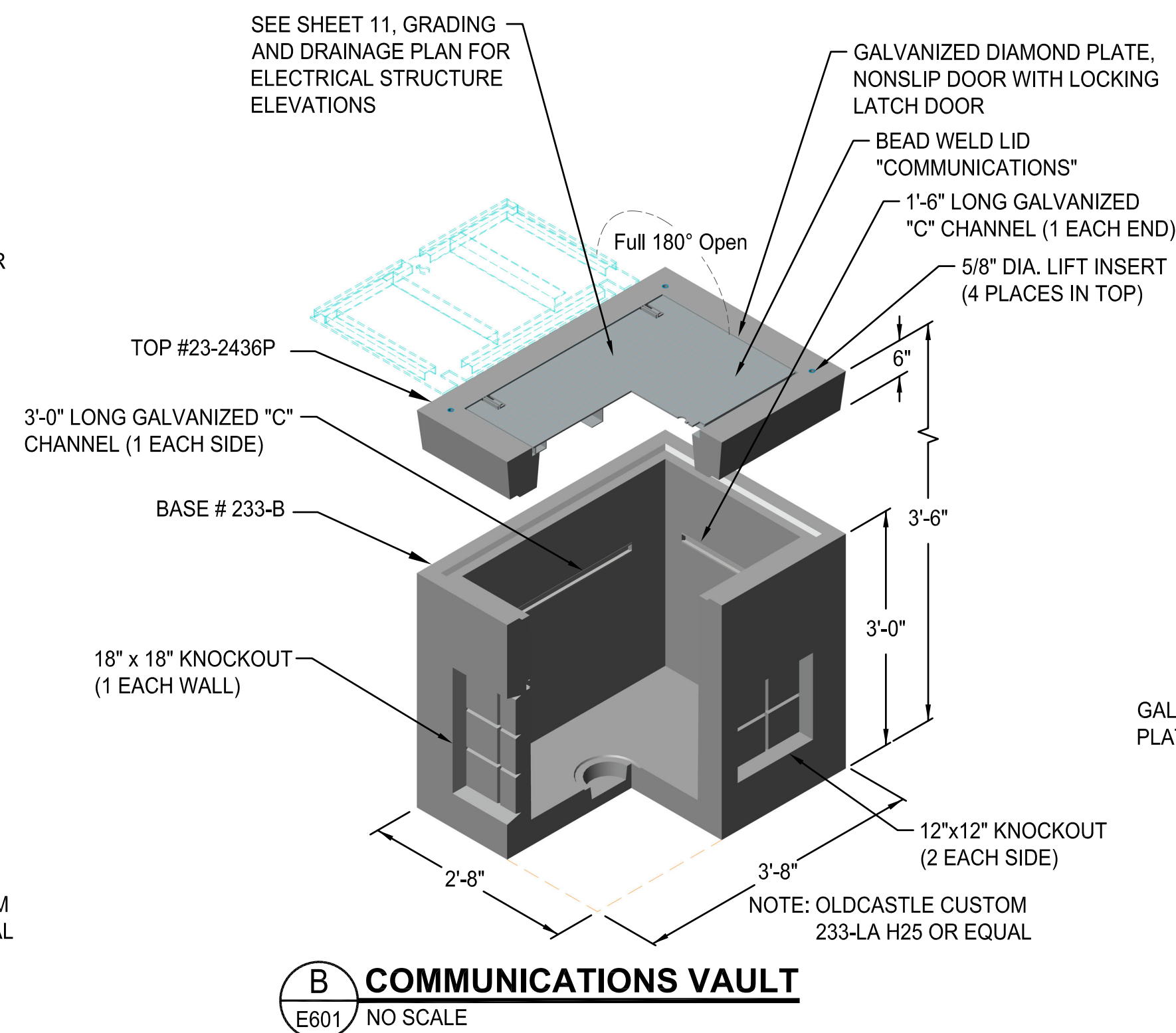
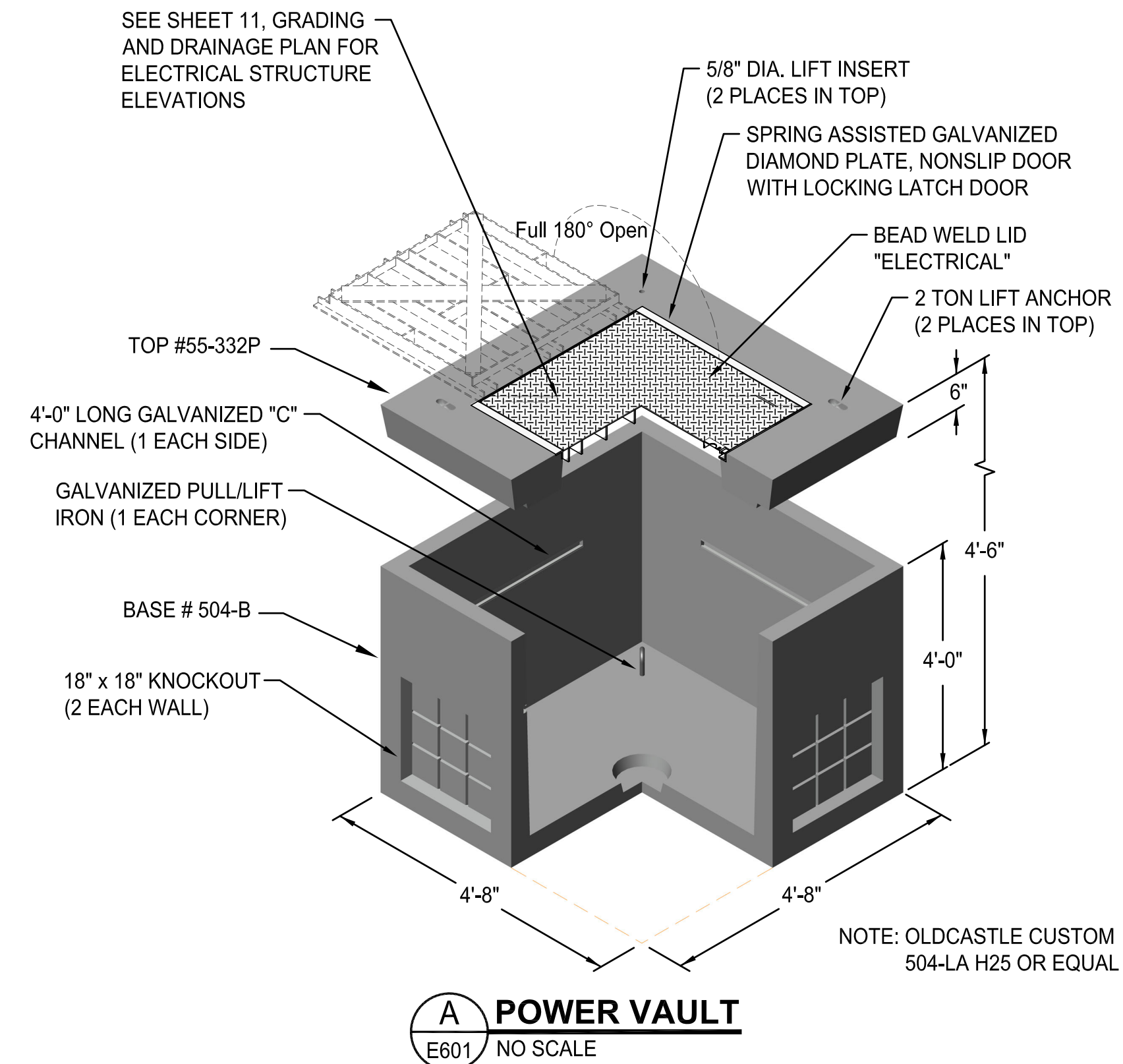
SCALE: **AS NOTED**

PARKS FILE#

VAULT AND HANDHOLE SCHEDULE			
ID	DESCRIPTION	LOADING	NOTES
OMV1,2,3	CUSTOM POWER VAULTS, SEE DETAIL A, THIS SHEET	MINIMUM H25	①②③④ ⑤⑥
CV3,4	CUSTOM COMMUNICATION VAULTS SEE DETAIL B, THIS SHEET	MINIMUM H25	①②③④ ⑤⑥
PH2,3,4,5,6,7,8	CUSTOM POWER HANDHOLE, SEE DETAIL C, THIS SHEET	MINIMUM H25	①②③④ ⑤⑥
RCV1,2,3 CH5,6,7,8,9,10,11	CUSTOM COMMUNICATIONS HANDHOLE, SEE DETAIL C, THIS SHEET	MINIMUM H25	①②③④ ⑤⑥

VAULT SCHEDULE NOTES:

- ALL CONDUITS ENTERING OR LEAVING VAULTS SHALL USE BLOCK-OUTS WITH BELL ENDS AND GROUTED. PROVIDE REMOVABLE FOAM FILL IN ALL EMPTY CONDUIT OPENINGS. PROVIDE PULL STRINGS IN ALL EMPTY CONDUITS. PROVIDE CONDUIT LABELS FOR ALL CONDUITS ENTERING AND LEAVING VAULTS/HANDHOLES. PROVIDE PHENOLIC LABEL ATTACHED TO VAULT/HANDHOLE WALL WITH TWO (2) PLASTIC INSERTS AND STAINLESS STEEL SCREWS ADJACENT TO EACH CONDUIT. PHENOLIC LABEL SHALL HAVE CONDUIT ID ENGRAVED AS INDICATED ON CONDUIT AND WIRE SCHEDULE DRAWINGS.
- POWER AND COMMUNICATIONS VAULT/HANDHOLE BEDDING. CONTRACTOR SHALL COMPACT SUBGRADE TO 95% OF MAXIMUM DENSITY, THEN INSTALL 4" OF CLASS A BACKFILL COMPACTED TO 95% OF MAXIMUM DENSITY AND THEN 2" OF .625 MINUS CRUSHED ROCK COMPACTED TO 100% MAXIMUM DENSITY FOR BEDDING. SEE CIVIL AND SLOPE ALL GRADES AWAY FROM LIDS TO PREVENT SURFACE WATER FROM ENTERING VAULT.
- ALL WIRE (POWER AND COMMUNICATIONS) SHALL COMPLETELY LOOP AROUND VAULT/HANDHOLE WALLS PRIOR TO EXITING VAULT.
- CONTRACTOR SHALL PROVIDE WELDED BEAD LABEL ON LID TO READ "ELECTRIC" OR "COMMUNICATIONS". METAL STAMP LID AND FRAME OF EACH VAULT/HANDHOLE TO MATCH DRAWING LABELS.
- PROVIDE BOLTED GROUND LUG(S) ON LID AND FRAME. PROVIDE #2 BARE CU GROUND IN EACH VAULT TO TWO (2) 3/4" X 10'-0" GROUND RODS EXTERIOR TO VAULT OR HANDHOLE.
- PROVIDE STENCIL PAINTED, VAULT/HANDHOLE LOAD RATING ON INSIDE OF VAULT DIRECTLY BELOW LID. MINIMUM 4" HIGH LETTERS.



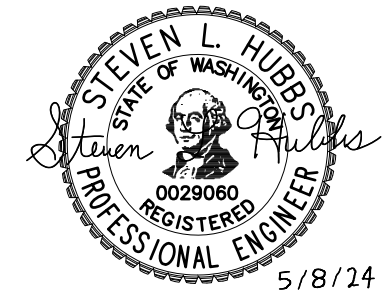
CAD NO.

SJK SLH SJK INT.

ADDENDUM #2

NO.

ACTION	BY	DATE
DESIGNED	SJK	1/8/2024
DRAWN	JAE	1/8/2024
CHECKED (FIELD)	BD	
CHECKED (HDQTS.)		



REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

NISQUALLY STATE PARK

NEW FULL SERVICE PARK - PHASE 2

ELECTRICAL SITE DETAILS E601

SCALE

AS NOTED

PARKS FILE#

BID SET



CAD NO.	
5/8/2024	DATE
	APP.
	INT.
ADDENDUM #2: -REVISE POST AND RAIL FENCE RAIL SIZE AND DIMENSIONS	REVISIONS
	NO.

ACTION	BY	DATE
DESIGNED	BD	1/8/2024
DRAWN	AD,JH	1/8/2024
CHECKED (FIELD)	BD	
CHECKED (HDQTS.)		

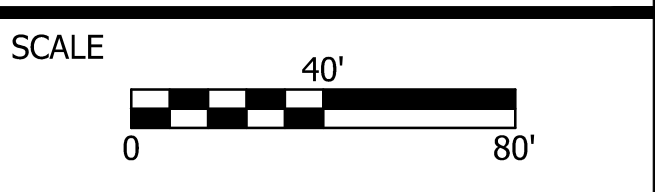


WASHINGTON
STATE
PARKS
AND
RECREATION
COMMISSION

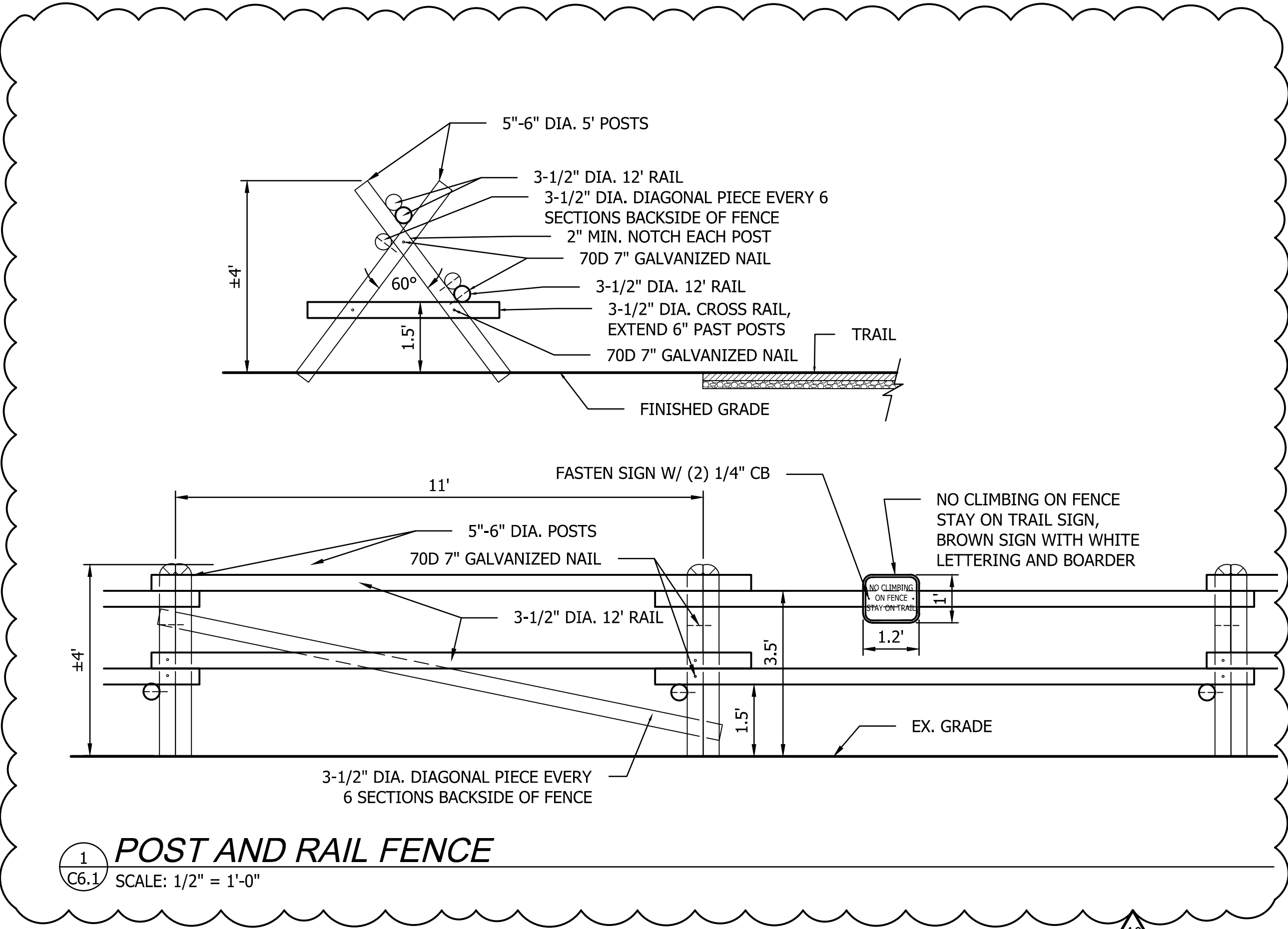
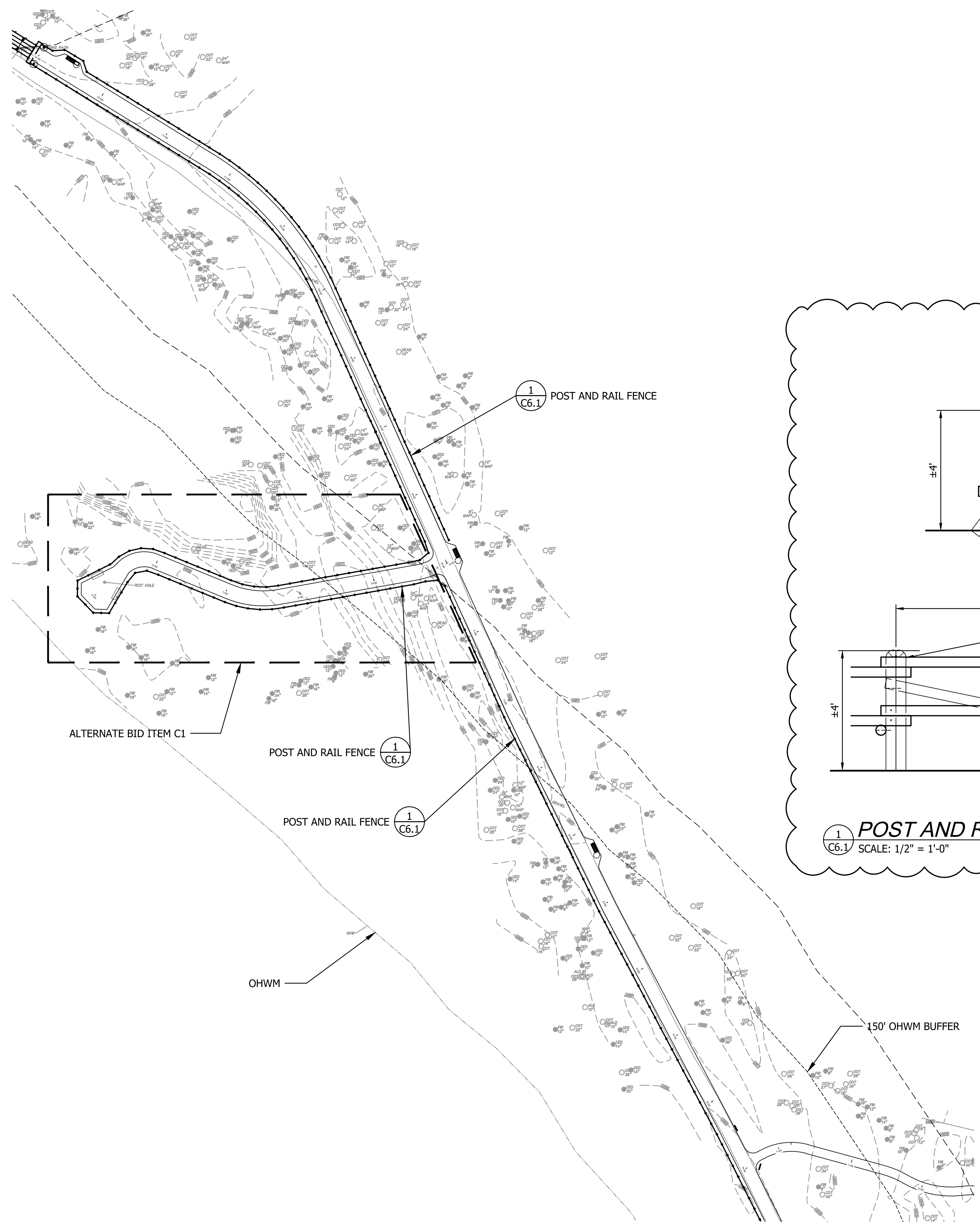
NISQUALLY
STATE PARK

NEW FULL SERVICE
PARK - PHASE 2

FENCING PLAN -
NISQUALLY/OHOP
TRAIL
B-C6.1



PARKS FILE#



FENCE SCHEDULE

SYMBOL	DESCRIPTION
— — — — —	POST AND RAIL FENCE

