PROJECT MANUAL

PROJECT NAME AND LOCATION:

Office Renovations **Contract Number: DW2301831**
Sandpiper East Apartments

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INVITATION TO BID

King County Housing Authority (KCHA) will accept bids from qualified general contractors to furnish labor, materials and necessary equipment to perform the following:

SCOPE OF WORK: Work includes, but is not limited to, office addition to the South of the existing cabana, including new entry door and new windows: new garage addition to the North of existing cabana, including new roll-up door and man door; replacing fans in existing bathrooms and other alterations, additions and renovations and other tasks as described in the bid documents.

PROJECT MANUAL DISTRIBUTION:

Address:		King County Housing Authority, 600 Andover Park, Seattle, WA 98188
Distribution:	*	**Documents are available for download on KCHA's website at http://www.kcha.org/business/construction/open/**

PRE-BID CONFERENCE:

Date and Time:	May 11, 2023 at 11:00 A.M.
Jobsite Address:	Sandpiper East Apartments, 1312 139th Ave NE, Bellevue, WA 98005.
In Addition:	Contractors are strongly encouraged to attend the Pre-Bid Conference. Failure to attend the Conference will not relieve the Contractor of any responsibility for information provided at that time.
For Questions:	Questions pertaining to the bid are to be sent via email to MichelleJ@kcha.org no later than seven (7) calendar days prior to bid due date. All responses shall be in the form of Addenda.
Posting:	Addenda will be posted on KCHA's website.

BIDS ARE DUE:

Time:		**2:00 P.M.**
Date:		**May 31, 2023**
Address:		King County Housing Authority 600 Andover Park West, Seattle, WA 98188
Submittal Process:	*	Bids may be sent to Michelle Jackson via email to MichelleJ@kcha.org.
Process:		All Bids must be received by KCHA no later than the above due date and time. No Bids will be accepted after that date and time.

BID GUARANTEE:

Amount:	Five (5%) Percent of the Total bid must accompany Each Bid
Payable to:	King County Housing Authority

PERFORMANCE AND PAYMENT BONDS: As a condition of award Performance and Payment bonds for 100% of the Contract Award Amount shall be furnished for the Work.

KCHA is an Equal Employment Opportunity Employer and strongly encourages minority-owned and women-owned businesses, socially and economically disadvantaged businesses, and small businesses to submit bids or to participate as subcontractors and suppliers on KCHA Contracts.

KCHA reserves the right to reject any or all bids or to waive any informality in the bidding. No bid shall be withdrawn for a period of 60 calendar days subsequent to the opening of the bids without the written consent of KCHA.

CONTACT PERSON: Michelle Jackson at MichelleJ@kcha.org

SECTION 01100 - SUMMARY

PART 1 - GENERAL

1.1 WORK COVERED BY CONTRACT DOCUMENTS

A. Project Identification: Cabana/Office Renovations

B. Project Location: Sandpiper East Apartments,1312 139th Avenue NE, Bellevue, WA 98005

1. 2-Story Cabana

C. Work includes:

1. Office addition to the South of the existing cabana, including new entry door and new windows and siding: new garage addition to the North of existing cabana, including new roll-up door and man door; ADA compliant renovations to sidewalks, doors, bathrooms, etc.; decommissioning, demolishing and filling in existing pool and pouring concrete over new grade; new roofing; electrical, mechanical and structural alterations and additions; and other alterations, additions and renovations as indicated in the plans and specifications. Includes decommission of pool, fill void, new concrete lid, per plans.

1.2 WORK SEQUENCE

A. The Work shall be completed in 120 calendar days from the date of Notice to Proceed.

B. Contractor will submit written schedule outlining dates and duration of job including:

1. Construction start date
2. Work sequence.
3. Anticipated final completion date

1.3 LIQUIDATED DAMAGES

A. Liquidated damages will be assessed for each calendar day that the Contractor exceeds the time for completion in the amount of $250.

1.4 WORK RESTRICTIONS

A. Use of the Premises

1. Use of Site: Limit use of premises to work areas. Do not disturb portions of site beyond areas in which the Work is indicated.

a. Owner Occupancy: Allow for resident occupancy of site. Owner will occupy site and existing buildings during entire construction period. The existing office/cabana building will be vacated for the duration of this project but adjoining areas and other buildings will be occupied. Cooperate with Owner during construction operations to minimize conflicts and facilitate resident usage.
b. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to residents and emergency vehicles at all times. Do not use these areas for parking or storage of materials.

2. Use of Existing Building: Maintain existing building in a weathertight condition throughout construction period. Repair damage caused by construction operations. Protect property, the buildings and occupants during construction period.

B. Occupancy Requirements

1. Full Owner Occupancy: Owner and tenants will occupy site and existing buildings during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner and tenant usage. Perform the Work so as not to interfere with Owner's operations.

1.5 PERMITS AND PLAN REVIEW

A. KCHA has acquired a City of Bellevue Building Permit. Contractor is responsible for coordination of all required inspections.

B. Contractor is responsible for all other permits including but not limited to electrical and mechanical permits and will prepare and file necessary plans, prepare documents and obtain necessary approvals of Authorities Having Jurisdiction (AHJ) for these permits.

C. Obtain required certificates of inspection for work and deliver to the Owner before request for acceptance and final payment for the work.

1.6 CONTRACT MODIFICATION PROCEDURES

A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change.

C. Construction Change Directive: Owner may issue a Construction Change Directive instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

D. Documentation: Maintain detailed records required for a change order to be approved and provide evidence of the following:

1. Wage Rates
2. Hours worked for each trade
3. Materials

4. Equipment

E. Do not perform change order Work without approval of the Owner. Work performed without approval will not be compensated.

1.7 PAYMENT PROCEDURES

A. Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.

B. Each Application for Payment shall be consistent with previous applications and payments.

C. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.

D. Waivers of Lien: With each Application for Payment, submit conditional waivers lien from every entity that is lawfully entitled to file a lien arising out of the Contract and related to the Work covered by the payment.

1. Submit partial waivers on each item for amount requested, before deduction for retainage, on each item.
2. When an application shows completion of an item, submit final or full waivers.
3. Owner reserves the right to designate which entities involved in the Work must submit waivers.

a. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.

E. Final Payment Application: Submit final Application for Payment with releases and close out supporting documentation.

1.8 PROJECT MEETINGS

A. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner, but no later than seven days after execution of the Agreement.

B. Project Meetings: Conduct progress meetings at weekly intervals.

1.9 DEFINITIONS

A. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

B. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

C. "Provide": Furnish and install, complete and ready for the intended use.

D. "Authority Having Jurisdiction (AHJ)": A federal, state, local, or other regional department, or an individual such as a fire official, labor department, health department, building official, or other individual having statutory authority.

1.10 SUBMITTALS

A. Provide product data for each element of construction and type of product or equipment for approval by Owner.

B. Subcontract list. Prepare written information that demonstrates capabilities and experience of firm or persons.

C. Contractors project manager and/or supervisors. Prepare written information that demonstrates capabilities and experience of firm or persons.

1. The Owner will review subcontractors and assigned staff and will accept or reject based on experience or qualifications.

D. Follow Washington Industrial Safety and Health Act (WISHA) regional directives and provide a site-specific safety program that will require an accident prevention and hazard analysis plan for the contractor and each subcontractor on the work site. The Contractor shall submit a site-specific Accident Prevention Program (APP) to the Owner's representative prior to the initial scheduled construction meeting.

1.11 TEMPORARY FACILITIES

A. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking-water fixtures. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities.

B. Barricades, Warning Signs and Lights: Comply with standards and code requirements for erection of structurally adequate barricades. Paint with appropriate colors, graphics and warning signs to inform personnel and the public of the hazard being protected against.

C. Use of Owner's existing electric power service and water will be permitted, as long as equipment is maintained in a condition acceptable to Owner.

D. Four parking spaces shall be available to the contractor for storage containers and parking.

E. A lay-down area will be confirmed with property staff at the time of pre-construction meeting.

1.12 CONSTRUCTION WASTE MANAGEMENT

A. Regulatory Requirements: Conduct construction waste management activities in accordance with State of Washington RCW 39.04.13, and all other applicable laws and ordinances.

B. Performance Requirements

1. General: Where possible divert CDL waste from the landfill by one, or a combination of the following activities: Salvage, Reuse, Source-Separated CDL Recycling, Co-mingled CDL Recycling.

C. Removal of Construction Waste Management

1. Remove CDL waste materials from project site on a regular basis. Do not allow CDL waste to accumulate on-site.
2. Transport CDL waste materials off Owner's property and legally dispose of them.
3. Burning of CDL waste is not permitted.

1.13 EXECUTION REQUIREMENTS

A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.

1.14 CUTTING AND PATCHING

A. Quality Assurance

1. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
2. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Owner's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

B. Performance

1. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
2. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.

    a. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
    b. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

1.15 CLOSEOUT PROCEDURES

A. General: Provide daily and final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations. All waste materials are to be removed and disposed of off site.

1. Prior to acceptance of the work at each building, clean project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.

1.16 At final completion and prior to final payment submit written warranties indicated in other sections.

1.17 WARRANTY

A. Prior to final acceptance and final payment, the Contractor shall furnish all labor and material, equipment, services and perform and complete all work required, with a workmanship guarantee for two (2) years from date of completion.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01100

SECTION 01732 - SELECTIVE DEMOLITION

PART 4 - GENERAL

1.1 SUMMARY

A. This Section includes demolition and removal of the following:
   1. See architectural plans for selective demolition limitations.
   2. Perform all demolition and removal of existing building and site per plans.

4.2 MATERIALS OWNERSHIP

A. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, demolished materials shall become Contractor's property and shall be removed from Project site.

4.3 PROJECT CONDITIONS

A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.

B. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.

   1. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from authorities having jurisdiction.

C. Owner assumes no responsibility for condition of areas to be selectively demolished.

D. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

E. Storage or sale of removed items or materials on-site will not be permitted.

F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

G. Maintain fire-protection facilities in service during selective demolition operations.

4.4 HAZARDOUS MATERIALS

A. Hazardous Materials: Materials containing hazardous materials are included in Sandpiper East Limited Hazmat Survey 12-21-22.
   1. All hazardous material disturbed as part of the work shall be removed and disposed of in accordance with Washington State regulations.
   2. If other materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Owner.

4.5 CONSTRUCTION WASTE MANAGEMENT

A. Regulatory Requirements: Conduct construction waste management activities in accordance with State of Washington RCW 39.04.13, and all other applicable laws and ordinances.

B. Performance Requirements

1. General: Where possible divert CDL waste from the landfill by one, or a combination of the following activities: Salvage, Reuse, Source-Separated CDL Recycling, Co-mingled CDL Recycling.

C. Removal of Construction Waste Management

1. Remove CDL waste materials from project site on a regular basis. Do not allow CDL waste to accumulate on-site.
2. Transport CDL waste materials off Owner's property and legally dispose of them.
3. Burning of CDL waste is not permitted.

PART 5 - PRODUCTS

5.1 REPAIR MATERIALS

A. Use repair materials identical to existing materials.

1. If identical materials are unavailable or cannot be used for exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
2. Use materials whose installed performance equals or surpasses that of existing materials.

5.2 FILL MATERIALS

A. Crushed rock in 12” maximum lifts.

PART 6 - EXECUTION

6.1 EXAMINATION

A. Verify that utilities have been disconnected and capped.

B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

C. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.

6.2 UTILITY SERVICES

A. Existing Utilities: Maintain services indicated to remain and protect them against damage during selective demolition operations.

6.3 PREPARATION

A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

C. Compact all areas to 95%.

6.4 SELECTIVE DEMOLITION

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations.

B. Trenching, backfill and concrete repair as necessary to connect all utilities.

C. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse.

6.5 INSTALLATION

A. Install 12” maximum layers of crushed rock compacted to 95%.

6.6 PATCHING AND REPAIRS

A. General: Promptly repair damage to adjacent construction caused by selective demolition operations.

6.7 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

END OF SECTION 01732

SECTION 02751 - CEMENT CONCRETE PAVEMENT

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes cement concrete floor and sidewalk and accessories.

PART 2 - PRODUCTS

2.1 STEEL REINFORCEMENT

A. Plain-Steel Welded Wire Fabric or #3 rebar 18-inches on center.

2.2 CONCRETE MATERIALS

a. Ready-Mixed Concrete: Comply with requirements of these specifications and the requirements of the color admixture manufacturer, and with ASTM C 94 and ASTM C 1116.

1. Slump of concrete shall be consistent throughout Project at 4-inches or less. At no time shall slump exceed 5-inches.
2. Do not add calcium chloride to mix.
3. Supplemental admixtures shall not be used unless approved by manufacturer.
4. Do not add water to the mix in the field.
5. Expansion joints.

PART 3 - EXECUTION

3.1 DEMOLITION

a. Remove and legally dispose off site.

1. All items as necessary to complete the foundation, sidewalks, rampways, garage floor, and any necessary foundation or walkway areas to complete the work.

3.2 INSTALLATION

A. Summary: Concrete floors, foundations and sidewalks.

B. Provide sub grade with adequate and uniform load bearing characteristics.

C. Forms: Set, brace, and secure edge forms, bulkheads, and intermediate screed guides for pavement to required lines, grades, and elevations.

D. Reinforcement: Accurately position and support reinforcement, and secure against displacement. Set wire ties with ends directed into concrete.

E Joints: Install construction, isolation, contraction, and expansion joints as necessary to prevent cracking. Seal expansion joints.

1. Maximum joint spacing to be 10-feet.

F. Concrete Placement: Provide a uniform 4-inch thick material. Concrete shall have a 28-day compressive strength of 3000 psi in accordance with ASTM C 94. Comply with recommendations in ACI 304R for measuring, mixing, transporting, and placing concrete. Place concrete in a continuous operation within planned joints or sections.

1. Moisten subbase to provide a uniform dampened condition at time concrete is placed.
2. Screed and initial-float concrete surfaces with darby or bull float before excess moisture or bleed water appears on the surface.
3. Protect concrete from cold or hot weather during mixing, placing, and curing.

G. Pavement Tolerances: Slope coping to drain at 1/8-inch per foot.

3.3 FINISHES AND CURING

A. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and the concrete surface has stiffened sufficiently to permit operations. Float surfaces to true planes with gaps below 10-foot long, unleveled straightedge not to exceed 1/8-inch. Cut down high spots, and fill low spots. Refloat surface immediately to uniform granular texture.

Final finish to be smooth steel trowel finish to match existing for interior floors and broom finish for exterior sidewalks and ranps.

3.4 REPAIRS AND PROTECTION

A. Protect materials from damage. Exclude traffic from pavement for at least 2 days after placement. Repair any damage that occurred due to lack of protection.

END OF SECTION 02751

SECTION 07462 - FIBER CEMENT SIDING

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Siding panels.

B. Accessories and trim.

1.2 SUBMITTALS

A. Product Data: Manufacturer's data sheets on each product to be used, including:

1. Preparation instructions and recommendations.
2. Storage and handling requirements and recommendations.
3. Installation methods, including nailing patterns.

B. Siding manufacturer's requirements for vapor retarders, primer, paint, etc.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: Provide installer with not less than three years of experience with products similar to those specified.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Comply with manufacturer’s instructions to avoid damage to products.

B. Store products off the ground, on a flat surface, and under a roof or separate waterproof covering.

1. Stacking materials may result in damage to product or finish.

1.5 PROJECT CONDITIONS

A. 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 absolute limits.

1.6 WARRANTY

A. Provide manufacturer’s 50-year limited siding warranty.

B. Register manufacturer's warranty, made out in Owner's name, with copy to Owner.

C. Workmanship Warranty: Application warranty for 2 years.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Allura of Plycem, 15055 Woodham Drive Houston, Texas 77073 main: (844) 4 ALLURA or (844) 425-5872 email: info@elementia.com www.alluraUSA.com

2.2 SIDING

A. Fiber Cement Board Panels - General: Allura Fiber Cement Board Panels consist of cement, recycled content and cellulose fiber formed under high pressure into boards with integral surface texture; complying with ASTM C 1186 Type A Grade II; machined edges; for nail attachment.

B. Horizontal Siding: Allura Lap Siding.

1. Thickness: 5/16 inch.
2. Length: 12 feet.
3. Style: Cedar lap siding.

a. Width: 8-1/4 inches (159 mm) wide (6 1/2-inch reveal). See plans for final exposure and width of lap siding.

4. Sealant/Primer: Allura Sealant/Primer.
5. Field Finish Paint: 100 percent acrylic latex as specified in Section 09911.

2.3 ACCESSORIES

A. Cornerboards: 5/4”x 3” and 5/4”x 4”

1. Species: Western SPF.
2. Milled Texture: To match Building 4
3. Dimension: 5/4”x 4”
4. Finish: Primed

B. Fascia, Belly Board and Barge Boards: 5/4-inch material. Primed SPF S1S2E cut to match existing: width.

C. Inside Corner: 2”x 2” primed SPF S1S2E

D. All other trim: Primed SPF S1S2E Trim Board #2 & BTR: 5/4-inch material.

E. Sealant: Paintable, 100 percent acrylic latex caulk complying with ASTM C 920.

F. Building Paper: DuPont Tyvek DrainWrap.

G. Seam Tape (Flashing tape): 3- inch wide, DuPont Tyvek Tape as distributed by DuPont Building Innovations.

H. Finish Paint: As specified in Section 09911.

I. Nails: Hot dipped galvanized steel.

2.4 FINISHES

A. Factory Primer: Provide factory applied universal primer.

1. Primer: Factory applied.
2. Topcoat: Factory Applied - Refer to Section 09911.

PART 3 - EXECUTION

3.1 DEMOLITION

A. General: Demolish and dispose off site existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations.

B. Removed, store and reinstalled all items not identified for replacement.

3.2 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

3.3 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Install moisture barrier with penetration and junction flashing and sealed.

1. Use self-adhesive flashing tape to secure joint and laps.
2. Lap barrier over flashing and tape securely.
3. Tape all penetrations.

3.4 INSTALLATION - LAP SIDING

A. Install materials in strict accordance with manufacturer's installation instructions and recommendations.

B. Starting: Install a minimum 1/4-inch thick lath starter strip at the bottom course of the wall. Apply planks horizontally with minimum 1-1/4-inches wide laps at the top. The bottom edge of the first plank overlaps the starter strip.

C. Allow minimum vertical clearance between the edge of siding and any other material in strict accordance with the manufacturer's installation instructions.

D. Align vertical joints of the planks over framing members and use joint flashing plate.

E. Maintain clearance between siding and adjacent finished grade.

F. Locate splices at least one stud cavity away from window and door openings.

G. Locate splices at least 12-inches away from window and door openings.

3.5 INSTALLATION - TRIM

A. Install woodwork true and straight with no distortions. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.

B. Install trim in longest lengths possible.

C. Corner boards shall be in one single piece.

D. Clean woodwork on exposed and semi exposed surfaces and leave ready for paint.

3.6 ACCESSORIES

A. Install moisture barrier and lap over flashing and tape.

1. Tape all joints and seal around penetrations.

B. Install trim boards as indicated.

C. Set all nails in trim boards and siding as per manufacturer’s instructions.

D. Caulk siding joints in strict accordance with manufacturer's installation instructions.

3.7 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION 07462

SECTION 07620 - SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Formed roof drainage system.
2. Sheet metal flashing.

1.2 SUBMITTALS

A. Product Data: For each product indicated.

1.3 QUALITY ASSURANCE

A. Sheet Metal Flashing and Trim Standard: Comply with SMACNA's "Architectural Sheet Metal Manual." Conform to dimensions and profiles shown unless more stringent requirements are indicated.

PART 2 - PRODUCTS

2.1 ROOF DRAINAGE SHEET METAL FABRICATIONS

A. Hanging Gutters: 5-inch K-Style, 027 gauge aluminum, continuous aluminum gutter complete with end pieces, outlet tubes, and other accessories as required. Fabricate on-site, with no seams. Fabricate gutter accessories from same metal as gutters.

1. Fabricate gutters from: 0.027-inch thick aluminum with baked on finish (Owner to select color from standard range).
2. Hanger Style: Aluminum Quick Screw Hanger with 3-inch hex head screw.

B. Downspouts: Standard 2” x 4” rectangular downspouts complete with front and side elbows. Furnish with metal straps from same material as downspouts.

1. Fabricate downspouts from: 0.027-inch thick aluminum with baked on finish (Owner to select color from standard range).

C. Sealant: Geocel 2000 or approved equal.

2.2 FLASHING

A. 26 gauge min. zinc galvanized complying with ASTM A-93 coating not less than 1.50 ounce zinc coating per sq. ft. (total for both sides), with pre-painted finishes on both sides. (“Kynar” bronze color each side).

B. Fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item.

1. Minimum Pre-primed 26 gauge hot-dipped galvanized steel sheet, or aluminum.

a. Include folded hem on all exposed flashing.

2. Window and door flashing.
3. Bellyband and blocking flashing.
4. Joint flashing plate.
5. Fasteners: Hot-dipped galvanized or stainless steel as required to penetrate minimum 1-1/4 inch into solid backing.

PART 3 - EXECUTION

3.1 ROOF DRAINAGE SYSTEM INSTALLATION

A. General: Install sheet metal roof drainage items to produce complete roof drainage system according to SMACNA recommendations and as indicated. Coordinate installation of roof perimeter flashing with installation of roof drainage system. Install downspouts and plumb.

B. Hanging Gutters: Attach gutters at eave or fascia to firmly anchored gutter brackets spaced not more than 24-inches apart. Crimped and sealed end caps and downspout flanges with a heavy bead of non-curing sealant.

1. Anchor gutter not more than 24-inches apart.
2. Slope gutters to downspouts at ¼” per 1’.
3. When specified use a “Y” attachment to connect two gutters to a single downspout.

C. Downspouts: Join sections with 1-1/2-inch telescoping joints. Provide hex head screws to securely strap to building and downspouts; locate fasteners at top and bottom and at approximately 60-inches o.c. in between.

1. Provide elbows at base of downspout to direct water away from building if no site drainage is present.
2. Connect downspouts to underground drainage system if available.

3.2 FLASHING INSTALLATION

A. General: Install sheet metal roof flashing and trim to comply with performance requirements and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, set units true to line, and level as indicated. Install work with laps, joints, and seams that will be permanently watertight.

END OF SECTION 07620

SECTION 08211 - DOORS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes prehung exterior including hardware.

1.2 SUBMITTALS

A. Product Data: For each type of door.

PART 2 - PRODUCTS

2.1 EXTERIOR DOORS

A. Jeld-Wen 36"x 80" 6-Panel Primed White Fiberglass Prehung Front Door

1. Satin nickel hinges.
2. Bored for existing locksets.
3. Weatherstripping in slotted door jamb.
4. Aluminum threshold and door sweep.

2.2 HARDWARE

A. Door Stops Everbilt Model # 15055 Satin Chrome Wall Door Stop.

B. Door Viewer: Prime-Line 200-degree door viewer.

C. Door Numbers: Remove and reinstall on new doors with double sided tape.

2.3 STANDING AND RUNNING TRIM

A. Interior: Woodgrain Millwork 366 - 11/16 in. x 2-1/4 in. Primed Finger-Jointed Door Casing Moulding.

2.4 MISCELLANEOUS MATERIALS

A. Low/No VOC adhesives and sealants.

B. Other materials as necessary for a complete job.

C. Non expanding foam.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install doors to comply with manufacturer's written instructions, referenced quality standard, and as indicated.

B. All doors shall be painted with finish coats prior to installation.

C. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.

D. Allow door clearance for flooring material and adjust as necessary after flooring installation.

E. Install finish carpentry level, plumb, true, and aligned with adjacent materials. Use concealed shims where required for alignment. Scribe and cut finish carpentry to fit adjoining work. Refinish and seal cuts.

F. Standing and Running Trim: Install with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Stagger joints in adjacent and related trim. Cope at returns and miter at corners. Provide trim to all doors including entry door.

G. Repair damaged or defective finish carpentry where possible to eliminate functional or visual defects. Where not possible to repair, replace finish carpentry. Adjust joinery for uniform appearance.

H. Exterior doors shall be foamed to create an airtight seal. Threshold shall be bedded into beads of silicone caulk.

END OF SECTION 08210

SECTION 08531 – VINYL WINDOWS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Operable Extruded Vinyl (PVC) Windows to match existing.

1.2 SUBMITTALS

A. Product Data: Provide manufacturer's standard details and catalog data demonstrating compliance with referenced standards; include installation instructions and storage requirements.

1. Drawings:

a. Drawings demonstrating dimensional layout of rails, stiles and muntins.

2. Samples:

a. Color samples: Minimum 1 x 4 inch samples of PVC with integral color.
b. Glass.

3. Quality Assurance/Control Submittals:

a. Qualifications: Proof of manufacturer’s qualifications.
b. U-Factor and structural rating test data.
c. Manufacturer’s Installation Instructions.

B. Closeout Submittals: Submit following items:

1. Temporary labels marked to identify windows that labels were applied to.
2. Maintenance instructions.
3. Special Warranties.

1.3 QUALITY ASSURANCE

A. Overall Standards: Comply with AAMA/WDMA/CSA 101/I.S.2/A440-05 except as otherwise noted herein.

B. Qualifications:

1. Manufacturer Qualifications:

a. Certified Manufacturer by AAMA, and NFRC.

C. Certifications for insulated glass windows:

1. AAMA: Windows shall be Gold Label certified with label attached to frame per AAMA requirements.
2. NFRC: Windows shall be NFRC certified with temporary U-factor label applied to glass and an NFRC tab added to permanent AAMA frame label.

D. Mock-up

1. Install window mock-up using approved assembly including fasteners, flashing, tape and related accessories in accordance with the drawings and specifications, and manufacturer's current printed instructions and recommendations.

   a. Mock-up location: As selected by Owner.
   b. Coordinate installation with Owner and give a minimum of one week's notice prior to installation.
   c. Mock-up may remain as part of the work.

2. Testing

   a. The window assembly shall be tested in accordance with ASTM, E783-02(10) standard test method for field measurement of air leakage through installed exterior windows and doors.

      1) The test room shall be pressurized to 50 Pascal with respect to the exterior.
      2) The installation shall be inspected by the Owner with chemical smoke for air leakage of the window installation. This is not a test of the window but of the window installation. The judgment of success of the test will be the approval of the installation by the Owner.
      3) The test shall demonstrate that the assembly is substantially airtight with no significant air leakage pathways identified.
      4) The installation and test shall be repeated until a satisfactory standard is attained.
      5) The successfully tested assembly shall be the method of installation for all the windows in the project.
      6) The Owner may test additional windows during the project to ensure compliance. Coordinate with Owner as necessary.

1.4 DELIVERY, STORAGE AND HANDLING

A. Follow manufacturer's instructions on label applied to windows.

1.5 WARRANTY

A. Commercial Special Warranty:

1. 10 year guarantee.
2. Guarantee windows against defects in materials and workmanship for ten years on glass and material including parts and labor.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. Ply Gem Windows, 5001 D Street NW, Auburn, WA 98001 Tel. (800) 227-3699.

2.2 MATERIALS

A. Window Frame and Sash Members: Impact resistant, exterior grade polyvinyl chloride extrusions complying with AAMA 303 and ASTM D 4726.

1. Non-corroding, non-flaking, non-chipping, non-rotting; no electrical conductance; low thermal conductance
2. Minimum External Wall Thickness: 0.070 inch nominal.
3. Finish of Surfaces Exposed to View: Solid vinyl with smooth gloss finish and uniform consistent color.

B. Insulating Unit: Complying with ASTM E 774, Class CBA.

1. Thermal Performance:

a. Total Unit U-Value: 0.30
b. Visible Transmittance: 0.54
c. Solar Heat Gain Coefficient: 0.28

C. Screens: Type installable from interior side, providing reasonable insect control (only) when operable sash is in open position; re-wirable glass fiber mesh, 14 x 18 mesh, secured in channel of aluminum box frame with continuous vinyl spline.

1. Frame Color: Matching frame and sash interior color.

D. Operating Hardware: Types for specified operable-sash windows; sight-exposed hardware of UV-stabilized engineered plastic; color matched to vinyl extrusions for uniform appearance. Die cast zinc cam-type sash locks and keepers, color matched to vinyl extrusions for uniform appearance.

E. Fasteners: Corrosion-resistant.

F. Weatherstripping: Types for specified operable-sash windows and operable doors.

G. Mullions: Structural mullion system complying with AAMA Grade deflection requirements for supported windows; extruded aluminum core; internal and external rigid PVC caps color to match adjacent window frames.

2.3 GENERAL PERFORMANCE REQUIREMENTS

A. Thermal Performance: Comply with NFRC 100.

B. Air Leakage, Water Resistance, Structural Test: Comply with AAMA/WDMA/CSA 101/I.S.2/A440-05

C. Forced-Entry Resistance: Comply with CAWM 301 and ASTM F588

2.4 VINYL WINDOWS

A. A. Manufacturer: Ply Gem Windows, Cary, NC (with offices in Auburn, WA)

B. Other Manufacturers accepted:

1. VPI Quality Windows, Spokane, WA
2. Cascade, WA

C. Product Description: Ply Gem Pro Series, hollow tubular ultra-violet resistant polyvinyl chloride (PVC) window frames with welded corner construction. Configurations of sash as per existing

D. All units to be NFRC rated.

2.5 COMPONENTS

A. A. Minimum energy conservation requirements: U-value 0.27 or better for entire unit.

B. Insulating Glass: HP2+ sealed double pane units, 3/4" inch thick, Low-E argon filled, conforming to the following.

1. Outer Pane: Clear, Low-E coating, float glass, ASTM C1036, Quality 1.
2. Inner Pane: Clear float glass, Interior Surface Low-E, ASTM C1036, Quality 1.
3. Tempered: Clear, ASTM C 1048.
4. Pane Thickness: ¼”.
5. U-value center of glass: 0.26 (summer daytime) and 0.28 (winter night time).
6. Solar Heat Gain Coefficient (SHGC): 0.27.
7. Visible Light Transmittance: 64%.
8. Locations: All units except those specifically identified on the window schedule(s).

C. Window Frame: Extruded multi-chambered PVC frame with integral ultra-violet degradation resistance, continuous integral nailing fin; depth 3-7/16 inches; nominal wall thickness 0.050 to 0.080 inches; corners mitered and heat welded.

D. Window Hardware: Sash lock: Lever handle with cam lock. Install at factory. Standard crank handles for casement windows, standard handle for awning windows. Locate hardware within 48-inches of finished floor.

E. Window Sills: Tubular; sloped for positive wash; one-piece full width of opening.

F. Operable Sash Weather Stripping: Manufacturer's standard; permanently resilient, profiled to effect weather seal.

G. Color: White PVC frame and hardware.

H. Insect Screen Frame: manufacturer's standard frame of rectangular sections; nominal size similar to operable glazed unit.

I. Insect Screens: gray color.

J. Acceptable Product: Pro Series.

2.6 ACCESSORIES

A. Fasteners and Anchors: Manufacturer's standard.

2.7 FABRICATION

A. Integral nail flange.

B. Units to be factory assembled and glazed.

2.8 FLASHING

A. Self-adhesive flashing tape - 3M™ All weather Flashing Tape 8067.

2.9 SEALANTS

A. Silicone caulk to wet set windows.

B. Paintable caulk to seal siding and trim.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work. Verify rough opening dimensions, levelness of sill plate, and operational clearances. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components to ensure a coordinated, weather tight window installation.

1. Verify that fasteners in framed walls are fully driven and will not interfere with window installation.
2. Verify that sill is flat and level.

B. Coordinate with responsible entity to correct unsatisfactory conditions.

C. Commencement of work by installer is acceptance of substrate conditions.

3.2 WINDOW INSTALLATION

A. Flash head, jamb and sill in accordance as indicated in these specifications and plans and in accordance with industry standards.

1. Adjust GWB liner and wood sills as necessary including either cutting back or extending to match existing.
2. Install self-adhesive flashing tape to sill, jambs and head.

3. Include butterflies at bottom corners.
4. Wet set windows with silicon caulk along nailing penetrations.

    a. Caulk shall be visible through every penetration after installation.

5. Install self-adhesive flashing tape over the nailing fins.
6. Install flashing as indicated on plans.
7. Caulk interior drywall and sills.
8. Remove and reinstall blinds.

3.3 ADJUSTING

A. Adjust operating sashes and ventilators, screens, hardware, and accessories for a tight fit at contact points and weather stripping for smooth operation and weather tight closure. Lubricate hardware and moving parts if necessary.

3.4 CLEANING

A. Remove temporary labels and retain for Closeout Submittals.

B. Clean factory-glazed glass immediately after installing windows. Clean soiled surfaces and glass using a mild detergent and warm water solution with soft, clean cloths. Remove nonpermanent labels, and clean surfaces.

C. Install insect screens on operable panels.

END OF SECTION 08531

SECTION 15830 - FANS

PART 4 - GENERAL

4.1 SUMMARY

A. This Section includes bath fans, ducts and switches.

4.2 SUBMITTALS

A. Product Data

B. Operation and maintenance data.

4.3 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

B. UL Standard: Power ventilators shall comply with UL 705.

C. Testing

1. Test each fan and exterior termination cap using balometer flow hood.
2. Provide test data to Owner showing readings for each fan inside and outside.

PART 5 - PRODUCTS

5.1 BATHROOM EXHAUST FANS

A. Panasonic Whisperceiling Fan/Light FV-0511VQL1 80 CFM selected.

5.2 CONTROL SWITCH

A. Panasonic FV-WCCS2-W

5.3 DUCTS

A. New 4” rigid metal ducts connecting to new wall or roof caps per plans. Insulate all duct runs in non-conditioned space.

5.4 TERMINATION CAP

A. Lower floors: Broan Wall Termination Cap Model 885BL

B. Upper floors: Broan Roof Termination Cap Model 636

5.5 INSULATION

A. Minimum R-4 (R-11 with unfaced fiberglass insulation).

5.6 ACCESSORIES

A. Accessories as required for a complete installation.

1. #8 sheet-metal screws
2. Foil-backed butyl tape UL 181B – Hardcast Foil-Grip 1402
3. Mastic: Hardcast Versi-Grip 181 mastic
4. Support material
5. Electrical connection material including wiring, switch plates, etc

PART 6 - EXECUTION

6.1 INSTALLATION

A. Install fans, ducts and switches in accordance with manufacturers written instructions and requirements of PSE and the AHJ.

1. Connect ducts using mastic and/or tape.
2. Suspend units from structure; use steel wire or metal straps.

B. All mechanical ventilation fan exhaust ducting shall comply with the following:

1. All exhaust fans shall be equipped with a back draft damper located at either the fan outlet or the vent termination.

C. Air-tight and mechanically fastened at each joint using a minimum of two screws, and taped to the fan outlet and to the collar of termination cap.

D. Ducts

1. Install specified duct runs and insulate per code and specifications.

E. Terminal Caps

1. Install all new duct caps and make weather tight all roofing and exterior wall materials at new caps.

F. Insulation

1. Ducting in unconditioned space shall be insulated.

6.2 FIELD QUALITY CONTROL

A. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation. Remove malfunctioning units, replace with new units, and retest.

B. Set timer and humidity controls at levels agreed with Owner in writing prior to installation.

C. Fan testing: Test fans at interior and exterior to verify flow using recently calibrated balometer.

1. Test results shall demonstrate flow in no less than 70 CFM.
2. Provide report listing all units and test results for approval.
3. Units showing less than 70 CFM shall be reinstalled until required flow is achieved.

END OF SECTION 15838

SECTION 20 00 00 - GENERAL MECHANICAL REQUIREMENTS

PART 1 GENERAL

1.01 GENERAL

A. Includes, but not limited to, furnishing labor, materials, and equipment for completion of work unless indicated or noted otherwise. See Division 1 for sequence of work.

B. Work indicated on the mechanical plans and in the specifications, that will not be performed by this Mechanical Contractor (i.e. duct and pipe block-outs, penetrations through walls, floors, and attic, wall patching, work indicated to be performed by other Contractors, etc), shall be coordinated with the General Contractor prior to bid. The Mechanical Contractor is responsible for identifying quantity, size, and type of work with the General Contractor. Work not coordinated will be the responsibility of the Mechanical Contractor and shall not be charged as additional cost to the Owner.

C. All work included in Division 22 and 23 shall be the responsibility of a single Mechanical Subcontractor.

D. This Contractor shall obtain and pay for all permits required by State and local authorities governing the installation of the mechanical work. It is the Contractor's responsibility to contact all utility organizations serving the building, prior to bid, and to include all charges for inspections, installation of materials, equipment and connection of all required utilities.

E. Furnish exact location of electrical connections and complete information on motor controls to Division 26, prior to bid.

F. Putting heating, ventilating, cooling, and exhaust systems into full operation and continuing their operation during each working day of testing and balancing.

G. Making changes in mechanical drive systems (pulleys, belts, VFD’s, motor speed, etc) and dampers or adding dampers as required for correct balance as recommended by Section 23 05 93 and at no additional cost to Owner. All equipment shall be provided with a single point electrical connection, unless otherwise indicated.

H. The drawings and specifications are complementary and what is called for in either is binding as if called for in both.

I. The ductwork and accessibility to HVAC equipment shall take precedence over all other equipment in the ceiling interstitial spaces or other mechanical areas including, but not limited to, sprinkler piping, heating piping, domestic water piping and electrical conduit (except fire pump rooms where as fire sprinkler equipment takes precedence).

1.02 RELATED SECTIONS

A. General and Supplementary Conditions and Division 1 apply to this Section.

B. Section 01 81 13 – Sustainable Building Requirements

1.03 SUBMITTALS REQUIREMENTS OF THIS SECTION

A. Access doors.

1.04 QUALITY ASSURANCE

A. Requirements of Regulatory Agencies:
   1. Perform work in accordance with applicable Codes.
   2. In case of differences between building codes, state laws, local ordinances, utility company regulations, and Contract Documents, the most stringent shall govern.

B. Product Approvals: See paragraphs elsewhere in this specification.

C. Warranties:
   1. In addition to guarantee specified in General Conditions, guarantee heating, cooling, and plumbing systems to be free from noise in operation that may develop from failure to construct system in accordance with Contract Documents.
   2. In order to be protected, secure proper guarantees from suppliers and Subcontractors.
   3. Provide certificates of warranty for each piece of equipment. Clearly record "start-up" date of each piece of equipment on certificate. Include certificates as part of Operation & Maintenance Manual.

D. Manufacture: Use domestic made pipe, pipe fittings, and motors on Project.

E. Identification: Motor and equipment name plates as well as applicable UL and AGA labels shall be in place when Project is turned over to Owner.

1.05 CODES AND STANDARDS

A. Codes and agencies having jurisdictional authority over mechanical installation.
   1. Washington State Energy Code -- Latest Approved Edition
   2. International Building Code -- Latest Approved Edition
   3. International Fire Code – Latest Approved Edition
   4. International Mechanical Code -- Latest Approved Edition
   5. Uniform Plumbing Code -- Latest Approved Edition
   6. Local Sewer and Water District Requirements
   7. State and County Department of Health
   8. Local Fire Marshal
   9. State Boiler Inspector
   10. Puget Sound Air Pollution Control
   11. State of Washington Boiler and Unfired Pressure Vessel Inspection Law
   12. Occupational Safety and Health Administration (OSHA)
   13. Washington Industrial Safety and Health Act (WISHA)
   14. National Fire Protection Association (NFPA)

B. ASME code stamp required on all pressure vessels and relief valves. Certificate required from the State Boiler Inspector showing approval of the equipment and its installation.

1.06 SYSTEMS DESCRIPTION

A. Site Inspection:
   1. Examine premises and understand the conditions which may affect performance of workof this Division before submitting proposals for this work.
   2. No subsequent allowance for time or money will be considered for any consequence related to failure to examine site conditions.

1.07 DESIGN DRAWINGS

A. Mechanical drawings are not shop drawings and are intended to show general arrangement of piping, ductwork, equipment, etc. Follow as closely as actual building construction and work of other trades will permit.

B. Consider architectural, structural and electrical drawings part of this work in so far as these drawings furnish information relating to design and construction of building. Architectural drawings take precedence over mechanical drawings.

C. Because of small scale of mechanical drawings, it is not possible to indicate all offsets, fittings, and accessories which may be required. The Mechanical Contractor shall include in the bid a sufficient quantity of offsets, fittings, and accessories for the size of the project, based upon the contractor’s experience, necessary to facilitate mechanical utility installation. No additional costs shall be charged for additional offsets, fittings, and accessories required for installation of the mechanical utilities shown on the design drawings. Investigate structural and finish conditions affecting this work and arrange work accordingly, providing such fittings, valves, and accessories required in meeting the design conditions.

1.08 PRE-CONSTRUCTION COORDINATION MEETING

A. This Contractor is responsible to participate in coordination meetings with the General Contractor, Fire Protection Contractor and other subcontractors needing to coordinate special requirements (such as electrical contractor, HVAC contractor, plumbing contractor, etc.)

B. Coordination meetings shall consider elevations, required clearances, and routings of all trades to assure that all trades can be installed without conflict.

C. The outcome of this coordination shall allow each system (Mechanical, Fire Protection, Plumbing, Electrical, etc) to be installed without further conflicts for space or locations.

D. Failure to coordinate with other trades and/or existing conditions that result in the removal and re-installation of systems shall not be charged as additional costs.

1.09 COORDINATION DRAWINGS

A. Develop coordination drawings, and other pre-installation coordination methods as necessary to coordinate layouts prior to installation. Coordination drawings shall consist of overlay drawings, or other similar methods to graphically indicate plumbing, fire protection, HVAC, electrical, and other similar elements in a single location in order to identify conflicts. All elements shall be drawn to scale. Coordination drawings are not required to be submitted for approval, except where indicated otherwise in the specification. However, a minimum of one hard copy of coordination drawings shall be present on site at all times and made available to the Owner upon request. If coordination drawings are not on file, or if systems are not installed per coordination drawings, costs and delays of required reengineering, replacement and other work required to correct conflicts shall be solely the Contractor's.

B. Coordination drawings shall consist of one of the following:
   1. Drawing sheets developed sequentially by each trade with all components drawn to scale and color coded to represent each trade.

C. Where coordination drawings, or other preinstallation coordination methods show that available space is inadequate or that modifications will affect architectural elements, request information from the Owner before proceeding with work. No additional payment will be made for installation conflicts which could have been identified by coordination drawings or other pre-installation coordination methods.

D. Make runs parallel with lines of building. Utilize space efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

E. Each subcontractor shall:
   1. Indicate the exact name, location and dimension of each element to be provided by that subcontractor.
   2. Arrange components as necessary to avoid conflict with new and existing conditions and the work of other subcontractors as directed by the General Contractor.
   3. Note requirements for sleeves, block-outs, cutting, patching, access doors, blocking, supports, inserts and other similar items.
   4. Notify the General Contractor of conflicts.
   5. Approve the coordination drawings when all conflicts are resolved and an acceptable layout is obtained.

F. The General Contractor shall coordinate the layouts indicated on the coordination drawings and resolve any conflicts prior to commencement of subject portions of the work.

1.10 ELECTRICAL

A. All electrical work, conduit, boxes and devices in connection with control wiring as required to install the control equipment as specified herein or shown on the drawings shall be furnished and installed complete by the Division 26 Contractor.

B. All electrical work performed under this Section of the Specifications shall conform to all applicable portions of the Division 26 specifications and shall conform to all governing codes.

C. All equipment shall be factory wired to a junction box for connection to electrical service.

D. Where a piece of equipment specified includes an electric motor, the motor shall be furnished and mounted by this Contractor. Motor starter, disconnect switches and wiring from the electrical panel to the motor control devices and to the motor shall be provided by the Division 26 Contractor unless stated otherwise in the mechanical specification and/or on the mechanical drawings.

E. All motor controllers and equipment panels (including but not limited to packaged equipment, custom control panels, custom air handler panels) shall comply with NEC (including, but not limited to, marking on controllers and labeling requirements).

1.11 TEMPORARY HEATING (ELECTRIC OR INDIRECT GAS HEATERS)

A. Temporary heating for facility during construction phase shall not be supplied by the permanent system installed under these specifications, unless all of the following are satisfied:
   1. Product warranties shall be extended to account for construction use. Contractor shall furnish certified document stating such extended warranties.
   2. Contractor shall obtain letter of approval from the Owner stating that they understand equipment expected life may be shortened due to severe usage.
   3. Contractor shall be responsible for pressure cleaning all coils and vacuum cleaning all ductwork prior to occupancy.

1.12 PRODUCT HANDLING AND PROTECTION

A. Contractor is responsible for protection of all material, equipment and apparatus provided under this Section from damage, water, corrosion, freezing and dust, both in storage and when installed, until final project acceptance.

B. Provide temporary heated and sheltered storage facilities for material and equipment.

C. Completely cover motors and other moving machinery to protect from dirt and water during construction.

D. Handle and protect equipment and/or material in manner precluding unnecessary fire hazard.

E. Equipment requiring rotation and/or lubrication during storage shall have records maintained and witnessed on a monthly basis and forwarded to the Architect/Engineer prior to acceptance. Provide recorded maintenance for the O&M Manual.

F. Material or equipment damaged because of improper storage or protection will be rejected.

G. Equipment finish that is damaged by handling, storage, etc. shall be corrected by the Contractor at no additional cost to the Owner.

1.13 DEFINITIONS

A. Finished Spaces: Spaces used for habitation or occupancy where rough surfaces are plastered, paneled, or otherwise treated to provide a pleasing appearance.

B. Unfinished Spaces: Spaces used for storage or work areas, such as fan rooms, mechanical and boiler rooms, etc., where appearance is not a factor.

C. Concealed Spaces: Spaces out of sight. For example, above ceilings; below floors; between double walls; furred-in areas; pipe and duct shafts; and similar spaces.

D. Exposed: Open to view. For example, pipe running through a room and not covered by other construction.

E. Outside: Open to view up to 5 feet beyond the exterior side of walls, above the roof, and unexcavated or crawl spaces.

F. Conditioned Space: An area, room or space normally occupied and being heated or cooled for human habitation by any equipment as defined by the extent of the building envelope insulation.

G. Replace: Existing mechanical equipment and components shall be demolished and discarded from the project site or as directed otherwise. New mechanical equipment and components shall be installed in the area where the existing mechanical equipment and components were demolished or as indicated on the contract documents.

H. Removed: Existing mechanical equipment and components identified on the contract documents shall be taken apart, taken down, and discarded from the project site unless directed

otherwise on plan. Removed items shall not be brought back to the project site for use or reinstallation.

I. Reinstall: Existing mechanical equipment and components identified on the contract documents that need to be taken down and installed in the same or new location.

1.14 SCHEDULE OF VALUES

A. General: Provide schedule of values per Division 1 and related project requirements:
   1. Division 20, 22 and 23 Breakdown: Provide schedule of values for each Division, broken down into labor and materials per specification section at a minimum. Further breakdown into subcategories is at the option of the Contractor.

B. The Contractor is advised that in addition to payments held out for retainage and project final completion, the Owner reserves the right to withhold 10% of the funds for any of the above categories until the systems (of that category) have been proven to operate as specified and have been completely tested, adjusted, and balanced.

1.15 SUBMITTAL PROCEDURES

A. All material used on the project shall be new and free of defects. The Owner reserves the right to reject any material, the appearance of which has been damaged on the site or in shipment. The material shall be of pre-approved equal quality to that which is specified. Should the make and type of material differ from that specified, the Contractor may be required to submit catalog and engineering data (samples if requested) necessary to make a comparison and determine its suitability. The Contractor shall also bear the cost of all changes to any aspect of the project (electrical, mechanical, building, etc.) made necessary by any approved substitutions. Approved substitutions include those listed as approved manufacturers or approved substitutions. Tentative approval of substitute material and equipment will be made **prior to bid only**. Such request for approval shall be made two weeks in advance of the bid opening to allow time to assess its suitability. Failure to obtain approval prior to bid shall require the successful bidder to furnish materials and equipment only as specified herein (see paragraph 2.01, this specification).

B. Equipment submittals shall be submitted per one of the following processes as selected by the Owner:
   1. Electronic Submittal Process:
      a. The Contractor shall upload one complete PDF file of the Electronic Submittal Package to the Owner for approval. The Electronic Submittal package shall include the following:
         1. All required submittals (i.e. equipment cut sheets, shop drawings, etc.) per each specification section.
         2. Table of contents identifying each specification section, submittal requirement of each specification, and the manufacturer name and model number of each item submitted.
         3. Index sheet for each specification section.
         4. Submission of PDF files of individual specifications or equipment cuts will be automatically rejected.
         5. The Contractor shall complete and upload a Submittal Information Form for Owner to review. The equipment submittal will not be considered “Received” nor will a review be provided until both the Electronic Submittal Package and Submittal information Form have been uploaded.
   2. Hard Copy Submittal Process:
      a. The Contractor shall submit to the Owner, for approval, complete information on all equipment and materials to be provided on the project. Provide copies as specified by Division 1 and at a minimum provide one (1) **copy** of the manufacturer's catalog and engineering data, shop drawings of shop fabricated equipment and instruction data for each item included under this Section of the Specifications. The Contractor shall submit a typed, signed list including all items to be furnished on the project. The signature on the aforementioned list shall indicate that the Contractor has examined the suitability of all material and equipment with respect to compliance with these

specifications. The Contractor's approval shall also indicate that physical dimensions of the equipment have been verified with the installation requirements and were found to cause no interference therewith. The submittal packages are as follows:

b. Furnish submittals in a hard-back, three-ring binder. The binder shall have tabs which are indexed with a Table of Contents. The Table of Contents shall correlate an index number for each individual specification number. If the equipment submittal is not bound to the Engineer's satisfaction, it may be rejected.

3. Review of submittal data by the Owner does not relieve the Contractor of responsibility for quantities, measurements, and compliance with the intent of all contract documents.
4. Furnish submittals generally according to the list below. Individual sections may contain more specific submittal listing of the particular section labeled "Submittal Requirements." Furnish on each particular section and the following equipment:
   a. Pipe
   b. Pipe Insulation
   c. Duct Insulation and Lining
   d. Hot Water Tanks
   e. Plumbing Fixtures
   f. Valves
   g. Pipe Hangers
   h. Piping Specialties
   i. HVAC Equipment
   j. Temperature Control Equipment and Shop Drawings
5. Any material found to be installed without prior approval will be required to be removed and replaced with only specified material at Contractor's cost.

1.16 OPERATION AND MAINTENANCE MANUAL FOR MECHANICAL SYSTEMS

A. Bind Operation & Maintenance Manual for Mechanical Systems in three-ring, hard-backed binder with clear plastic pocket on spine. Spine of each binder shall have following typewritten lettering inserted:

OPERATION
AND
MAINTENANCE
MANUAL
FOR MECHANICAL SYSTEMS

B. Provide master index at beginning of Manual showing items included. Use plastic permanent tab indexes for Sections of Manual.

C. First Section shall consist of name, address, and phone number of Architect, General Contractor, and Mechanical, Plumbing, Sheet Metal, Refrigeration, Temperature control, and Electrical Subcontractors. Also include complete list of equipment installed with name, address, and phone number of each vendor.

D. Provide Section for each type of item of equipment.

E. Submit copies as specified by Division 1.

F. Include descriptive literature (Manufacturer's catalog data) of each manufactured item. Literature shall show capacities and size of equipment used and be marked indicating each specific item with applicable data underlined.

G. Include all warranties/guarantees including extended warranties.

H. Include all start-up logs.
   1. .

I. Maintenance Instructions shall include:
   1. Manufacturer's maintenance instructions for each piece of mechanical equipment installed in Project. Instructions shall include name of vendor, installation instructions, parts numbers and lists operation instructions of equipment, and maintenance and lubrication instructions.
   2. Summary list of mechanical equipment requiring lubrication showing name of equipment,

location, and type and frequency of lubrication.

3. List of mechanical equipment used indicating name, model, serial number, and name plate data of each item together with number and name associated with each system item.

1.17 WARRANTY

A. All warranty information shall be submitted as part of the “Operation and Maintenance Manual for Mechanical Systems” in this section.

B. All warranties for mechanical and plumbing equipment shall start upon completion of commissioning.

1.18 AS-BUILT DRAWINGS

A. The Contractor shall maintain, in addition to coordination drawings, an as-built set of prints that clearly identify all deviations from the original design. The As-Built drawings shall be drafted per one of the following methods:
   1. Draft all revisions on a separate dark layer, on the coordination drawing set. The Contractor shall maintain a copy of the original coordination drawing set.
   2. Draft all revisions on the design drawings with a red color pencil.

B. This red lined set shall identify all drawing revisions including addenda items, change orders, and Contractor revisions.

C. Drawings shall show locations of all underground pipe and duct installed by this Contractor. Underground pipes and ducts shall be shown with cross section elevations. All pipe, raceway, manholes or lines of other trades shall be included.

D. The Contractor shall update all references to specific products to indicate products actually installed on project. This shall include, but not be limited to, air handlers, heat pumps etc.
   1. Upon completion of the Division 22 and 23 Work, the Contractor shall deliver the red lined drawings and one set of neatly drafted as-built drawings on electronic media in ACAD 2015 format and PDF files to the Engineer for transmittal through the Engineer to the Owner.

PART 2 PRODUCTS

A. In reviewing a manufacturer for acceptance, factors considered include the following: engineering data showing item's performance, proper local representation of manufacturer, likelihood of future manufacturer's local support of product, service availability, previous installation, previous use by Owner/Engineer/Architect and record, product quality, availability/quality of maintenance and operation data, capacity/performance compared to specified items, acoustics, items geometry/access utility needs, and similar concerns.

B. If approval is received to use other than specified items, responsibility for specified capacities and ensuring that items to be furnished will fit space available lies with this Division.

C. If non-specified equipment is used and it will not fit job site conditions, this Division assumes responsibility for replacement with items named in Specification.

2.02 ACCESS DOORS

A. This Contractor shall be responsible for furnishing and installing flush mounted access doors in walls, ceiling and floors and chases where the following equipment is concealed and is not accessible through same.
   1. Valves (shut off, balancing, control, trap primers, etc).
   2. Dampers (control, balancing, fire, smoke, etc.).

B. Doors shall be UL listed 20 ga. cold rolled steel with concealed hinge, screwdriver operated lock and prime coated. Furnish suitable for area mounted. Provide stainless steel access doors for non-painted surfaces (i.e. tile, MDF)

C. Approved Manufacturers:
   1. Milcor
   2. Acudor
   3. Greenheck
   4. Nystrom

PART 3 EXECUTION

3.01 WORKMANSHIP

A. This Contractor shall provide completed systems with a neat and finished appearance. If, in the judgment of the Engineer, any portion of the work has not been performed in a workmanlike manner or is left in a rough, unfinished state, this Contractor will be required to remove, reinstall or replace same and patch and paint surrounding surfaces in a manner acceptable to the Engineer, without increase in cost to the Owner.

3.02 FINAL INSPECTION

A. Final Inspection:
   1. Prior to acceptance of the mechanical work, the Contractor shall put all mechanical systems into operation for a period of not less than 5 working days so that they may be inspected by the Owner's representatives.
   2. The time of the final inspection shall be mutually agreed to by the Owner, and Contractor.
   3. The Contractor shall furnish adequate staff to operate the mechanical systems during inspection.

3.03 OPERATION AND MAINTENANCE TRAINING

A. Upon completion of the work, and after all tests and final inspection of the work by the Authority(s) having jurisdiction, the Contractor shall demonstrate and instruct the Owner's designated operation and maintenance personnel in the operation and maintenance of the various mechanical systems. The Contractor shall arrange scheduled instruction periods with the Owner. The Contractor's representatives shall be Superintendents or Foremen knowledgeable in each system and Supplier's Representative when so specified.

B. The contractor shall, at a minimum, include an Owner Training sign-in sheet in the O&M Manual that indicates the start and end times of the training and the type of training provided. Owner shall sign off on the Owner training sign-in sheet to be considered complete and satisfactory to Owner.

C. Costs for time involved by Contractor shall be included in the bid.

3.04 CLOSEOUT SUBMITTALS

B. Requirements: Final approval of mechanical installation will be recommended upon completion of the following:
   1. Completion of all punchlist items
   2. Owner Training Sign-In sheet with Owner's signature
   3. Permit Submittal
   4. Valve Diagrams
   5. Reproducible As-Built drawings delivered to Architect
   6. Air and/or Water Balance Report
   7. Asbestos Free Statement
   8. Guarantees
   9. Equipment Manufacturer of all HVAC compressor units shall provide start-up logs.
   10. EMCS Trend Logs.

3.05 PREPARATION

B. New Buildings: Each Section of this Division shall bear expense of cutting, patching, repairing, and replacing of work of other Sections required because of its fault, error, tardiness, or because of damage done by it.

C. Existing Buildings:
   1. Cut carefully to minimize necessity for repairs to existing work. Do not cut beams, columns, or trusses.
   2. Patch and repair walls, floors, ceilings, and roofs with materials of same quality and appearance as adjacent surfaces unless otherwise shown. Surface finishes by General Contractor.
   3. Cutting, patching, repairing, and replacing pavements, sidewalks, roads, and curbs to permit installation of work of this Division is responsibility of Section installing work.

4. This work shall be scheduled such that utility services and/or existing systems for the facility are not interrupted during normal operating hours, without prior written permission of the Owner's representative. Work that is performed during normal operational hours shall not interfere with the normal function of the facility's daily operation.
5. The Mechanical Contractor shall be responsible for the removal of all existing mechanical equipment and utilities indicated to be removed on the drawings. The Mechanical Contractor shall also be responsible for the removal and reinstallation of all existing mechanical equipment and utilities that will interfere with installation and operation of any new construction indicated or required and shall be responsible for the removal of all existing mechanical equipment and utilities indicated to be abandoned that will interfere with installation and operation of any new construction indicated or required. All mechanical equipment (other than piping) to be removed shall remain the property of the Owner, and shall be transported - stored - or disposed of, as directed by the Owner. This will be at no cost to the Owner.

3.06 INSTALLATION

B. Install mechanical equipment to permit easy access for normal maintenance, and so that parts requiring periodic replacement or maintenance, (e.g., coils, heat exchanger bundles, sheaves, filters, motors, bearings, etc.) can be removed. Relocate items, which interfere with access.

C. Provide access doors in equipment, ducts, and walls/ceilings as required to allow for inspection and proper maintenance.

D. Valves, damper operators, and other devices which are manually adjusted or operated shall be located so as to be easily accessible by a person standing on the floor. Any such items which are not in the open shall be made accessible through access openings in the building construction.

E. Gauges, thermometers, instrumentation and other components which are installed to monitor equipment performance, operating conditions, etc., shall be oriented so as to be easily read by a person standing on the floor. Provide necessary brackets and hangers as needed.

F. If circumstances at a particular location make the accessible installation of an item difficult or inconvenient, the situation shall be discussed with the Owner before installing the item in a poor access location.

G. Belts, pulleys, couplings, projecting set screws, keys and other rotating parts which may pose a danger to personnel, shall be fully enclosed or guarded in accordance with OSHA regulations.

H. Dissimilar Metals: Provide separations between all dissimilar metals. Where not specified in another way, use 10 mil black plastic tape wrapped at point of contact or plastic centering inserts.

I. Provide offsets around all electrical panels (and similar electrical equipment) to maintain space clear above and below panel to structure and clearance of 3.5 feet directly in front of panel, except where indicated otherwise or required by NEC to be more. Such offsets are typically not shown on the drawings, but are required per this paragraph.

J. Piping Through Framing: Piping through framing shall be installed in the approximate center of the member. Where located such that nails or screws are likely to damage the pipe, a steel plate at least 1/16-inch thick shall be installed to provide protection. At metal framing, wrap piping to prevent contact of dissimilar metals. At metal and wood framing, provide plastic pipe insulators at piping penetrations through framing nearest each fixture and on at least 48-inch centers.

K. Safety Protection: All ductwork, piping and related items installed by this Contractor that present a safety hazard (i.e., items installed at/near head height, items projecting into maintenance access paths, etc.) shall be covered (at hazardous area) with 3/4" thick elastomeric insulation and 2" wide reflective red/white striped self-sticking safety tape.

L. Equipment Access: Access to equipment is of utmost importance. Contractor shall apply extra attention to the laying out of pipe and duct routings, and in coordinating all work. Poor access to equipment will not be accepted. Contractor shall note that in essentially all areas, piping routed in ceiling space needs to run in joist space, necessitating elbows/fittings/transitions at crosses

with other trades, at structural beams, and at all connections to mains and branches. Hatched areas at HVAC units indicate equipment access areas. These (and all other) access areas shall be clear of obstructions. The Mechanical Contractor is responsible to coordinate and ensure that all trades stay clear of access areas for any Division 22 and 23 furnished equipment.

M. Ensure that items to be furnished fit space available. Make necessary field measurements to ascertain space requirements including those for connections and furnish and install equipment of size and shape so final installation shall suit true intent and meaning of Contract Documents.

N. Pipe Installation: Install piping in longest reasonable lengths. The use of short lengths of pipe with multiple couplings where a single length of pipe could have been used is not acceptable.

3.07 ADJUSTMENT AND CLEANING

B. Properly lubricate equipment before Owner's acceptance.

C. Clean exposed piping, ductwork, equipment, and fixtures, remove debris from site. Repair all damaged finishes and leave everything in working order.

D. Remove stickers from fixtures and adjust flush valves.

3.08 PAINTING

B. Paint all exposed pieces of equipment if not factory finished or painted under the Architectural Section of these specifications. Paint shall be one coat primer and two coats enamel color as directed by the Architect.

3.09 REBATES

B. Furnish vendor invoices on heat pumps to Owner after installation for power company rebates.

3.10 REQUESTS FOR INFORMATION (RFI)

A. It is our intent to provide a timely response for RFIs regarding Division 20, 22 and 23 Work. To further expedite this process, if a suggestion can be determined or derived at by the initiator of the RFI, it is required this suggestion be supplied with the submitted RFI. If no suggestion is given where one is possible, the RFI will be returned as incomplete. RFI’s will be returned to the Contractor within seven (7) business days from the time received by the Owner Representative. All Mechanical RFIs shall be written on the form provided at the back of this Section.

END OF SECTION

SECTION 22 11 16 - DOMESTIC WATER PIPE AND FITTINGS

PART 1 GENERAL

1.01 GENERAL

A. Includes, but not limited to, general piping installation procedures for domestic water systems.

1.02 RELATED SECTIONS

A. Section 20 00 00 – General Mechanical Requirements.

B. Section 22 13 00 – Soil, Waste, and Vent Piping System

1.03 SUBMITTAL REQUIREMENTS OF THIS SECTION

A. Pipe

B. Solder

1.04 REFERENCES

A. ASTM E814: Fire Tests of Through-Penetration Fire Stops.

B. UL 1479: Through-Penetration Fire Stop Systems.

C. NSF/ANSI 61: Leaching of contaminates into the water.

D. NSF/ANSI 372: Lead content in drinking water system components.

1.05 QUALITY ASSURANCE

A. NSF Compliance: NSF 61 for potable water service.

B. Domestic water fittings, joining materials, and all other appurtenances in contact with potable water shall be lead-free except those specifically exempted in Section 3874 of the Safe Water Drinking Act.
   1. Lead-free shall mean:
      a. Not containing more than 0.2% lead when used with respect to solder and flux; and
   2. Not more than a weighted average of 0.25% when used with respect to the vetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures.

1.06 OPERATION AND MAINTENANCE REQUIREMENTS OF THIS SECTION

Not Applicable

PART 2 PRODUCTS

2.01 PIPE (FOR POTABLE SYSTEMS)

A. Above Ground Piping:
   1. Type L Copper, ASTM B 88:
      a. Approved Manufacturers:
         1. Mueller
         2. Cambridge
         3. Nibco
         4. Cerro
   2. Fittings:
      a. Solder type (all sizes)

PART 3 EXECUTION

3.01 INSTALLATION OF PIPING AND FITTINGS

A. Furnish and install complete system of piping, valved as indicated or as necessary to completely control entire apparatus. Pipe drawings are diagrammatic and indicate general location and connections. Piping may have to be offset, lowered, or raised as required or directed at site. This does not relieve this Division from responsibility for proper erection of systems of piping in every respect.

B. Properly make adequate provisions for expansion, contraction, slope, and anchorage.
   1. Cut piping accurately for fabrication to measurements established at site and work into place without springing or forcing.
   2. Remove burr and cutting slag from pipes.
   3. Make changes in direction with proper fittings.

C. Install piping at such heights and in such a manner as to not interfere with removal of other equipment, ducts, or devices, or block access to doors, windows, or access openings. Provide accessible, ground joint unions in piping at connections to equipment.

D. Coordinate installation of piping with all trades which are affected by installation to avoid conflicts.

E. Consult all drawings for location of pipe spaces, ducts, electrical equipment, ceiling heights, door openings, window openings, and other details and report discrepancies or possible conflicts to Architect/Engineer before installing pipe.

F. Allow sufficient clearances for installation of pipe insulation in thickness specified. If interferences occur, reroute piping to accommodate insulation.

G. Make connections of dissimilar metals with insulating couplings. (di-electric unions). See Section 22 11 19 – Piping Specialties.

H. During installation cap or plug open ends of pipes and equipment to keep dirt and other foreign materials out of system. Do not use plugs of rags, wool, cotton waste, or similar materials.

I. Do not use reducing bushings, street elbows, or close nipples.

J. T-drill procedure for connecting pipes will not be allowed.

K. Wrought tees shall be used on all branch piping and branch to main connections.

L. Bury water piping 6 inches minimum below bottom of slab and encase in 2 inches minimum of sand.

M. All copper joints below slab shall be cleaned bright and brazed.

N. Copper joints to be soldered shall be cleaned bright by manual or mechanical means. The joints shall be properly fluxed with approved-type flux before soldering.

O. Solder for potable water pipes shall be of a lead free type and shall conform to current UPC standards for solder and all local code requirements.
   1. Approved Manufacturers:
      a. Canfield
      b. J.W. Harris
      c. Aqua-Clean

P. All piping in finished areas shall be installed concealed unless specifically noted otherwise.

Q. Pitch all piping and provide drain valves so that all piping and equipment can be drained.

R. Provide escutcheons where pipe passes through walls, floors, or ceilings.

S. Install all exposed piping parallel to the closest wall and in a neat, workmanlike manner.

3.02 DOMESTIC WATER PIPING TESTS AND STERILIZATION

A. Tests: As the work progresses each section of the water system shall be tested under a 100psi hydrostatic test held for 2 hours without reduction of pressure (a pressure fluctuation of +/- 1 psi is acceptable). If any leaks occur or piping or valves are found to be defective, same shall be removed and new material installed, and the test made on that section again until all material is found to be satisfactory. Such test shall be made in the presence of the Owner's Representative.

B. Flushing and Chlorination: All piping shall be flushed to remove all dirt and foreign material. After flushing, all piping shall be chlorinated in accordance with regulations of the Washington State Health Dept. After the contact period, the chlorine shall be drained from the piping and the piping flushed. The Contractor will take samples for bacteriological analysis. The water analysis must be satisfactory before piping is acceptable.

END OF SECTION

SECTION 22 11 17 - CROSSLINKED POLYETHYLENE (PEX) PIPING SYSTEM

PART 1 GENERAL

1.01 GENERAL

A. Includes, but not limited to general PEX piping installation for domestic water systems.

B. Section applies to unexposed domestic water piping 2” and smaller. See Section 22 1116 for pipe and fittings larger than 2”.

1.02 RELATED SECTIONS

A. General Conditions, Division 1

B. Section 20 00 00 – General Mechanical Requirements

C. Section 22 11 16 – Domestic Water Pipe and Fittings

1.03 SUBMITTAL REQUIREMENTS OF THIS SECTION

A. Pipe

B. Fittings

C. Hangers

1.04 REFERENCES

A. ASTM F877: Standard specification for cross-linked polyethylene (PEX) plastic hot and cold water distribution systems.

B. ASTM F1960: Standard specifications for cold expansion fittings with PEX reinforcing rings for use with cross-linked polyethylene tubing.

C. ANSI/NSF Standard 14: Plastic piping systems components and dedicated materials.

D. Uniform Plumbing Code: Approved.

1.05 SPARE PARTS

A. Two (2) crimping tools

B. 100 joint bands

C. 50 Tee fittings

D. 50 elbow fittings

E. 10 supply stops

F. 50 feet of each color of piping

1.06 OPERATION AND MAINTENANCE REQUIREMENTS OF THIS SECTION

A. List of spare parts provided to Owner.

1.07 QUALITY ASSURANCE

A. NSF Compliance: NSF 61 for potable water service.

B. Domestic water fittings, joining materials, and all other appurtenances in contact with potable water shall be lead-free except those specifically exempted in Section 3874 of the Safe Water Drinking Act.

1. Lead-free shall mean:
    a. Not containing more than 0.2% lead when used with respect to solder and flux; and
    b. Not more than a weighted average of 0.25% when used with respect to the vetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures.

PART 2 PRODUCTS

2.01 APPROVED MANUFACTURERS

A. Rehau

B. Wirsbo

C. Viega

2.02 PIPE (FOR POTABLE SYSTEMS)

A. Cross-linked polyethylene pipe shall be produced and certified in accordance with ASTM F876, PPI TR-3, and CSA B137.5.

B. Pipe shall be available in blue, red, and white colors.

2.03 FITTINGS

A. Fittings shall be plastic or brass on hot water systems. Fittings shall be plastic for cold water systems. Brass fittings (hot and cold) shall be insulated per Section 22 0719.

PART 3 EXECUTION

3.01 INSTALLATION OF PIPING AND FITTINGS

A. Furnish and install complete system of piping, valved as indicated or as necessary to completely control entire apparatus. Pipe drawings are diagrammatic and indicate general location and connections. Piping may have to be offset, lowered, or raised as required or directed at site. This does not relieve this Division from responsibility for proper erection of systems of piping in every respect.

B. PEX piping shall not be installed where exposed to view without ceilings (e.g. areas open to structure). Pipe shall transition to Type L copper or as specified under Section 22 11 16 where piping is exposed.

C. Install piping at such heights and in such a manner as to not interfere with removal of other equipment, ducts, or devices, or block access to doors, windows, or access openings. Provide accessible, ground joint unions in piping at connections to equipment.

D. Coordinate installation of piping with all trades, which are affected, by installation to avoid conflicts.

E. Consult all drawings for location of pipe spaces, ducts, electrical equipment, ceiling heights, door openings, window openings, and other details and report discrepancies or possible conflicts to Architect/Engineer before installing pipe.

F. Allow sufficient clearances for installation of pipe insulation in thickness specified. If interferences occur, reroute piping to accommodate insulation.

G. Cap or plug open ends of pipes and equipment to keep dirt and other foreign materials out of system. Do not use plugs of rags, wool, cotton waste, or similar materials.

H. Provide stainless steel inserts at compression stop valves.

I. All couplings, elbows, tees, reducing tees adapters and any other connecting devices shall be of the same manufacturer as the PEX piping.

J. Kinked tubing shall be reformed in accordance with manufacturer’s recommendation or cut out and replaced.

K. Fittings shall be made by the manufacturers recommended installation tool. Installation tools (with appropriate heads for each size of pipe on the project) shall be delivered to the Owner at the completion of the job.

L. 90° direction turns and wall penetrations shall be provided with a bend support or elbow fitting.

M. Support piping from structure, with fasteners appropriate for adjacent surfaces.

N. Copper sweated and threaded connections are to be made prior to PEX connections.

O. Transition PEX to copper at fire walls. Provide fire stop sealants at fire rated walls.

P. PEX piping is not to be installed where exposed to direct sunlight. Transition to copper as required.

Q. Tubing ends shall be cut square and free of burrs or debris before connection is made.

R. PEX tubing shall be fully seated against shoulder of fitting.

S. Horizontal piping shall be supported every 32".

T. Vertical piping shall be supported every 4'.

U. Allow 1/8" to 3/16" of slack per foot of run for expansion and contraction.

V. PEX tubing shall be installed to allow for expansion and contraction. Do not rigidly attach to structure.

W. Provide sleeves where PEX piping passes through masonry walls.

X. Protect tubing from nail/screw damage with suitable steel plate protectors.

Y. The minimum bend radius of PEX tubing is six times its diameter. Smaller radius turns shall be provided with an elbow.

Z. Install all piping in a neat, workmanlike manner.

AA. Provide insulators where PEX piping passes through metal studs.

BB. Supply stops shall be provided with a pipe bracket support from adjacent structure, a pipe clamp, tube talon, and a plastic or metal bend support. (Sioux Chief Universal Slider Bracket or approved equal).

CC. Insulation shall be continuous at hanging brackets and clamps, except where approved plastic speed clips are utilized.

DD. Plastic speed clips and cushioned clamps may be used. Provide Holdrite, or prior approved equivalent.

EE. Insulated pipe inserts and insulation shields shall be used at all hot and cold PEX hangers and pipe supports where speed clips and cushioned clamps are not used. See Section 22 05 29 for insulated pipe inserts and insulation shields.

FF. Pipe shall be installed with the following color scheme:

1. Cold Water: blue
2. Hot Water: red
3. Hot Water Recirculation: white

3.02 WATER PIPING TEST AND FLUSHING

A. Tests: As the work progresses each section of the water system shall be tested under a 100psi hydrostatic test held for 2 hours without reduction of pressure (a pressure fluctuation of +/- 1 psi is acceptable). If any leaks occur or piping or valves are found to be defective, same shall be removed and new material installed, and the test made on that section again until all material is found to be satisfactory. Such test shall be made in the presence of the Owner's Representative.

B. Flushing and Chlorination: All piping shall be flushed to remove all dirt and foreign material. After flushing, all piping shall be chlorinated in accordance with regulations of the Washington State Health Dept. After the contact period, the chlorine shall be drained from the piping and the piping flushed. The Contractor will take samples for bacteriological analysis. The water analysis must be satisfactory before piping is acceptable.

END OF SECTION

SECTION 22 13 00 - SOIL, WASTE, AND VENT PIPING SYSTEM

PART 1 GENERAL

1.01 GENERAL

A. Includes but not limited to:
   1. Furnish and install soil, waste, and vent piping systems within building and connect with outside utility lines 5 feet out from building, or as indicated.
   2. Furnish and install acid waste piping system within building, or as indicated.
   3. Perform excavating and backfilling required by work of this Section.

1.02 RELATED SECTIONS

A. General Conditions, Division 1

B. Section 20 00 00 – General Mechanical Requirements

C. Section 22 11 16 – Domestic Water Pipe and Fittings

D. Section 01 81 13 – Sustainable Building Requirements

1.03 SUBMITTAL REQUIREMENTS OF THIS SECTION

A. Pipe and Fittings

B. Above ground couplings

C. Below ground couplings

D. Solvent Cement

1.04 OPERATION AND MAINTENANCE REQUIREMENTS OF THIS SECTION

Not Applicable

PART 2 PRODUCTS

2.01 SOIL WASTE AND VENT PIPING

A. PVC Soil Waste and Vent Piping:
   1. Each pipe of PVC pipe shall bear the manufacturers identification mark and shall be certified by the manufacturer to have met the requirements of the latest ASTM specifications.
   2. Aboveground: All aboveground soil, waste and vent piping and fittings shall be type DWV and comply with ASTM D 2665/D 1785, ASTM D 2949, ASTM F 1488 and CSA CAN/CSA-B181.2.
   3. Belowground: All below ground soil, waste and vent piping and fittings shall be type DWV and comply with ASTM D 2665/D 1785, ASTM D2949, and CSA CAN/CSA-B181.2.
   4. Below Ground PVC Waste and Vent Piping Beyond 5' Outside Building: Shall be type DWV and comply with ASTM D 2665/D 1785, ASTM D 2949, ASTM D 3034, CSA B 182.2 and CSA CAN/CSA-B182.4.
   5. Joints:
      a. Mechanical Joints: Mechanical joints on drainage pipe shall be made with an elastomeric seal conforming to ASTM C 1173, ASTM D 3212 or CSA CAN/CSA-B602. Mechanical joints shall not be installed in above-ground systems, unless otherwise approved. Joints shall be installed in accordance with the manufacturer's instructions.

b. Solvent Cementing: Joint surfaces shall be clean and free from moisture. A purple primer that conforms to ASTM F 656 shall be applied. Solvent cement not purple in color and conforming to ASTM D 2564, CSA CAN/CSA-B137.3, CSA CAN/CSA-B181.2 or CSA CAN/CSA-B182.1 shall be applied to all joint surfaces. The joint shall be made while the cement is wet and shall be in accordance with ASTM D 2855. Solvent-cement joints shall be permitted above or below ground.
   1. Adhesives and sealants wet applied inside the WRB must meet ESDS 6.2 Low VOC adhesives and sealants requirements. Provide documentation of compliance.

c. Threaded Joints: Threads shall conform to ASME B1.20.1. Schedule 80 or heavier pipe shall be permitted to be threaded with dies specifically designed for plastic pipe. Approved thread lubricant or tape shall be applied on the male threads only.

6. Approved Manufacturers:
   a. Charlotte
   b. Mueller Industries
   c. Cresline

B. ABS Soil Waste and Vent Piping:
1. Each pipe of ABS pipe shall bear the manufacturers identification mark and shall be certified by the manufacturer to have met the requirements of the latest ASTM specifications.
2. Aboveground: All aboveground soil waste and vent piping and fittings shall be solid wall Schedule 40 DWV and comply with ASTM D 2661.
3. Belowground: All belowground soil waste and vent piping and fittings shall be solid wall Schedule 40 DWV and comply with ASTM D 2661.
4. Belowground ABS Waste and Vent Piping Beyond 5' Outside Building: Shall be solid wall Schedule 40 DWV and comply with ASTM D 2661 and ASTM D 2751.
5. Joints:
   a. Mechanical Joints: Mechanical joints on drainage pipe shall be made with an elastomeric seal conforming to ASTM C 1173, ASTM D 3212 or CSA CAN/CSA-B602. Mechanical joints shall not be installed in above-ground systems, unless otherwise approved. Joints shall be installed in accordance with the manufacturer's instructions.
   b. Solvent Cementing: Joint surfaces shall be clean and free from moisture. Solvent cement black in color and conforming to ASTM D 2235, CSA-B137.3, CSA-B181.2 or CSA-B182.1 shall be applied to all joint surfaces. The joint shall be made while the cement is wet and shall be in accordance with ASTM D 2855. Solvent-cement joints shall be permitted above or below ground.
   c. Threaded Joints: Threads shall conform to ASME B1.20.1. Schedule 80 or heavier pipe shall be permitted to be threaded with dies specifically designed for plastic pipe. Approved thread lubricant or tape shall be applied on the male threads only.
6. Approved Manufacturers:
   a. Plastic Services and Products (PSP)
   b. BOW Plumbing Products
   c. Rocky Mountain Colby

PART 3 EXECUTION

3.01 INSTALLATION

A. Do not caulk threaded work.

B. Place cleanouts as follows:
1. Where shown on Drawings and near bottom of each stack and riser.
2. At every 90 degree change of direction for horizontal lines.
3. Every 100 feet of horizontal run.
4. Extended cleanout to accessible surface. Do not place cleanouts in carpeted floors. In such locations, use wall type cleanouts.

C. Each fixture and appliance discharging water into sanitary sewer or building sewer lines shall have seal trap in connection with complete venting system so gases pass freely to atmosphere with no pressure or siphon condition on water seal.

D. Vent entire waste system to atmosphere. Discharge vent pipe minimum 14 inches above roof. Join lines together in least practicable number before projecting above roof. Set back vent lines so they will not pierce roof near edge or valley.

E. Use torque wrench to obtain proper tension in cinch bands on above ground hubless cast iron pipe. Butt ends of pipe against centering flange of coupling.

F. Flash pipes passing through roof with 4 lbs. per sq. ft. of sheet lead flashing (or as shown on the plan) fitted snugly around pipes and caulk between flashing and pipe with flexible waterproof compound. Extend lead up and turn in to pipe for min. 1"/vent. Flashing base shall be at least 24 inches square.

G. Grade soil and waste lines within building perimeter 1/4 inch fall per ft. in direction of flow.

H. For exterior waste piping under parking areas or roads use ductile iron or SDR 35 PVC (DWV rated) if pipe is buried less than 5'-0" below finish paving or grade.

I. Installation shall comply with all the latest local plumbing, building, and fire code requirements. Solvent cement joints shall be made in a two-step process with primer manufactured for thermoplastic piping systems and solvent cement conforming to ASTM D 2564, test installation with water.

J. Install an expansion joint in each vertical straight run of PVC, ABS, or polypropylene waste and vent pipe at intervals in excess of 30 feet. Install and anchor pipe per expansion joint manufacturer’s instructions. Provide access panel as required for servicing the expansion joint.

K. Install vertical waste pipe to comply with standard installation practices for suds control.

L. Install grease traps, grease interceptor, and oil/water separators to allow access for lid removal and servicing.

3.02 FIELD QUALITY CONTROL

A. Before piping is covered, conduct tests for leaks and defective work. Notify Architect prior to testing. Correct leaks and defective work. Fill waste and vent system to roof level with water, 10 feet minimum, and show no leaks for two hours.

END OF SECTION

SECTION 22 33 00 - ELECTRIC STORAGE TYPE WATER HEATERS

PART 1 GENERAL

1.01 GENERAL

A. Includes, but not limited to, furnishing and installing specified system.

1.02 RELATED SECTIONS

A. General Conditions, Division 1

B. Section 20 00 00 – General Mechanical Requirements

C. Section 22 11 16 – Domestic Water Pipe and Fittings

D. Section 01 81 13 – Sustainable Building Requirements

1.03 SUBMITTAL REQUIREMENTS OF THIS SECTION

A. Water heaters: Provide compliance documentation with ESDS Credit 5.9 Domestic Water Heating.

1.04 OPERATION AND MAINTENANCE REQUIREMENTS OF THIS SECTION

A. Water Heaters

PART 2 PRODUCTS

2.01 APPROVED MANUFACTURERS

A. State

B. Lochinvar

C. Rheem/Ruud

D. Bradford White

E. PVI

2.02 WATER HEATER

A. This water heater(s) shall be as scheduled and listed by Underwriter's Laboratories. Heater(s) shall have a maximum working pressure of 150 psi with a separate 3/4" tapping for relief valve installation and a rigidly supported anode rod for maximum cathodic protection. All internal surfaces of the heater(s) exposed to water shall be glass-lined with an alkaline borosilicate composition fused-to-steel. Electrical heating element(s) shall be low watt density incoloy sheath, screw-in design. Element operation shall be double element, non-simultaneous (or single element); (or double element, simultaneous). The controls shall include a thermostat with each element and a high temperature cutoff. The jacket shall provide full size control compartments for performance of service and maintenance through front panel openings and enclose the tank with foam insulation. The drain valve shall be located in the front for ease of servicing. Outer jacket shall be baked enamel finish. Heater(s) shall have an 8 or 10 year limited warranty covering the tank, thermostats, high limit and heating elements for residential installation; 3 years for commercial installation (2 years on EEC models) as outlined in the written warranty. Fully illustrated instruction manual to be included. Heater(s) shall meet ASHRAE Standard 90.lb-1990 for energy efficiencies and the minimum energy factor required by the Federal "National Energy Conservation Act of 1987".

PART 3 EXECUTION

3.01 INSTALLATION

A. Water heaters shall each have a relief valve sized to match heat input and set to relieve at 120 psi.

B. Install temperature-pressure relief valve on hot water heater and pipe discharge directly above funnel of floor drain or as shown on plans.

C. If system has a hot water recirculating line and/or check valve in the cold water supply to tank, provide a pre-charged, diaphragm type expansion tank "Amtrol" Model AST or approved equal. Size per schedule on Hot Water Tank Piping Diagram.

D. Water heaters installed in unconditioned space or on a concrete floor shall be placed on incompressible insulation having a minimum insulation value of R-10.

E. Provide and install seismic bracing per S.M.A.C.N.A. zone 3.

END OF SECTION

SECTION 22 40 00 - PLUMBING FIXTURES

PART 1 GENERAL

1.01 SUMMARY

A. Includes, but not limited to, furnishing and installing specified plumbing fixtures. Provide and install soft flow aerators on all lavatories and sinks (service sinks not included). See 3.03 for energy conservation devices.

B. All plumbing fixtures to meet ADA requirements.

1.02 RELATED SECTIONS

A. General Conditions, Division 1

B. Section 20 00 00 – General Mechanical Requirements

C. Section 22 11 16 – Domestic Water Pipe and Fittings

D. Section 22 11 17 – Crosslinked Polyethylene (PEX) Piping System

1.03 QUALITY ASSURANCE (REGULATORY REQUIREMENTS)

A. Installation shall meet requirements of local codes and manufacturer's instructions.

1.04 SUBMITTAL REQUIREMENTS OF THIS SECTION

A. All plumbing fixtures in this section and called out on the plans.

B. Carriers.

1.05 OPERATION AND MAINTENANCE REQUIREMENTS OF THIS SECTION

A. Faucets, Exploded Parts Diagram

PART 2 PRODUCTS

2.01 APPROVED MANUFACTURERS

A. Wall Hung Sinks:
   1. Kohler

B. Supply Stops:
   1. Chicago Faucets “STB” Series, Loose Key
   2. Engineered Brass Company (EBC) “LAH” Series, Loose Key
   3. BrassCraft “KT” Series, Loose Key

C. Faucets:
   1. Moen

D. Waste:
   1. EBC
   2. Just
   3. Elkay

E. Traps:
   1. EBC
   2. Just
   3. Elkay
   4. Dearborn Brass

F. Fiberglass Showers and Combination Tub/Showers:
   1. Fiberfab
   2. Lasco

G. Shower Valves/Bath & Shower Valves:
   1. Moen

2.02 FIXTURES

A. See Schedule on Drawings for fixture manufacture and model numbers and special requirements.

B. Toilets (WC): Manufactured of glazed vitreous china with an elongated bowl. Assemblies need to have a current Maximum performance (MaP) rating of 800 or more and be listed as a WaterSense approved fixture.

C. Lavatory Sinks: Manufactured of glazed vitreous china or enameled cast iron (unless called out as stainless steel or solid surface on the plumbing fixture schedule).

2.03 CARRIERS

A. WC carrier in stud wall with plumbing chase (Heavy duty type):
   1. J.R. Smith: 200 Series (Adjustable type)
   2. Zurn: Z-1200 Series (Adjustable type)
   3. Wade: W300 Series (Adjustable type)

B. Lavatory carriers in stud wall:
   1. J.R. Smith: 0700 (0700Z for 2x4 stud wall)
   2. Zurn: Z-1231
   3. Wade: W520

C. Lavatory carriers in plumbing chase wall:
   1. J.R. Smith: 0720
   2. Zurn: Z-1253
   3. Wade: W571

PART 3 EXECUTION

3.01 GENERAL

A. Installation: Install fixtures including traps and accessories with accessible stop or control valve in each hot and cold water branch supply line.
   1. Fixture and supply piping shall be the smallest diameter branch allowed.

B. Mounting: Verify mounting height with architectural elevations. Architectural elevations take precedent over these heights.
   1. ADA Fixtures:
      a. Toilet: 17" to 19" to top of seat.
      b. Lavatory: 29" minimum clearance under fixture, maximum of 33" to rim.
      c. Shower Unit: Control height shall be 40" from finished floor.

C. Make fixture floor connections with approved brand of cast iron floor flange, soldered or caulked securely to waste pipe.

D. Perform quality check flow tests prior to completion for faucets and showers, and verify toilet fill level is correct.

E. Make joints between fixtures and floor flanges tight with approved fixture setting compound or gaskets.

F. Caulk between fixtures and wall and floor with white butyl rubber non-absorbent caulking compound. Point edges.

G. Install and connect all P-100 fixtures. Provide chrome plated brass waste, "Just" or equal.

H. Provide concealed arm supports for wall mounted china lavatories.

I. All exposed metal shall be chrome-plated brass.

J. Provide concealed heavy steel stanchion and supporting plate for lavatories and urinals.

K. Provide floor-mount fixture support for wall-hung water closets, and with 2” no-hub auxiliary inlet at each location of back to back water closet and urinal.

L. Provide rear anchor support for all heavy-duty WC carriers.

M. All fixture mounting heights shall be verified or determined on site prior to installation. Coordinate with architectural drawings.

N. Provide trap primer and connection to p-trap of showers, floor sinks, floor drains, and service sinks.

O. ADA showers shall be installed with entrance lip flush with finish floor.

P. On ADA water closets, provide flush valve handle or tank handle on side facing wheelchair turn around.

Q. All ADA lavatory P-trap and angle stop assemblies shall be insulated with institutional A.D.A. insulator kit as manufactured by E.B.C. or equal. Abrasion resistant exterior cover shall be smooth and have 1/8" wall minimum over cushioned foam insert. Fasteners shall remain substantially out of sight. Use part 500RHS on offset P-trap if required.

R. Sensor Type Fixtures: Mechanical contractor to coordinate with electrical contractor for installation of all infra-red sensor type fixtures. Transformer kit provided and installed by mechanical contractor, all electrical connectors, wire connections, and testing by electrical contractor.

S. Wall Hydrant: Install at 18" above finished grade, unless otherwise indicated.

T. Lavatory, Classroom, and Hand Sink Faucets: Set hot water delivery temperature at 105°F. Faucets without a mechanical temperature limit stop shall be provided with a point of use thermostatic mixing valve.

U. Fountain: Anchor bottom of fountain to wall. Bubbler height to be a maximum 36 inches above finish floor. Also, clear knee space between the bottom of the apron and the floor shall be at least 27 inches high.

3.02 ADJUSTING, CLEANING

A. Polish chrome finish at completion of Project.

B. Remove all manufacturers' labels tags, and protective plastic.

C. Clean all fixtures.

D. Polish floor drain covers.

3.03 ENERGY CONSERVATION

A. Fixture shall be purpose-built for low-flow applications.

Fixture	Standard
Tank-type WC	.8 gal. (3.0 liters) per flush
Showerheads	1.50 gal. (8.14 liters) per minute
Lavatory Faucets (non-metered)	1.0 gal. (3.98 liters) per minute
Kitchen Faucets	1.75 gal. (9.5 liters) per minute

END OF SECTION

SECTION 23 34 23 - EXHAUST FANS

PART 1 GENERAL

1.01 GENERAL

A. Includes, but not limited to, furnishing and installing specified material as described in Contract Documents.

1.02 RELATED SECTIONS

A. General Conditions and Division 1 apply to this Section.

B. Section 20 00 00 - General Mechanical Conditions.

1.03 QUALITY ASSURANCES (REQUIREMENTS OF REGULATORY AGENCIES)

A. Bear AMCA seal, UL 507 (for continuous operation), and UL 705 (volume control by speed control on direct drive units).

1.04 SUBMITTAL REQUIREMENTS OF THIS SECTION

A. Exhaust Fans

B. Exhaust Fan Curbs (Rooftop Fans)

C. Fan curves showing system curve, and a fan curve with the maximum operation point with maximum motor size (limited by maximum shaft speed of and/or surge point).

1.05 OPERATION AND MAINTENANCE OF THIS SECTION

A. Submittal Data including Curves.

B. Exhaust Fan Operation and Maintenance Manual

PART 2 PRODUCTS

2.01 CEILING MOUNTED EXHAUST FAN

A. General:
   1. Acoustically insulated housings.
   2. Include chatterproof integral back-draft damper with no metal contact.
   3. True centrifugal wheels.
   4. Entire fan, motor, and wheel assembly shall be easily removable without disturbing housing.
   5. Suitably ground motors and mount on rubber-in shear vibration isolators.
   6. Provide roof cap or wall cap as required.
   7. Provide “Architectural deluxe” metal grille.

B. Approved Manufacturers:
   1. Greenheck
   2. Panasonic

2.02 SPEED CONTROL

A. Use manufacturer’s recommended speed control, which varies speed from 50 to 100% of full speed.

B. All fan motors 1/12 HP or greater and less than 1 HP shall be Electronically Commutated Motors (ECM) or shall have a minimum efficiency of 70 percent when rated in accordance with DOE 10 C.F.R. 431. These motor speeds shall be adjustable.

PART 3 EXECUTION

3.01 INSTALLATION

A. Anchor fan units securely to structure or curb.

B. Extend all internal wiring to box on exterior of unit.

C. Factory mount speed control on outside of case on in-line fans, including wall propeller fans, and underneath weather casing for rooftop fans.

D. Grease hood exhaust fan. Up-blast discharge shall be a minimum of 40" from top of fan to roof. Provide with vented curb and replaceable grease termination receptor.

E. Confirm fan air flow rate, speed setting, and time delay settings, as listed in the mechanical schedule.

F. Ductwork to be sealed with mastic at a minimum 1/16” thick at all lateral and longitudinal seams.

G. Elbows in ductwork to not occur within 18” of fan housing.

END OF SECTION

SECTION 06 10 00 - ROUGH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Structural dimension lumber framing.

B. Non-structural dimension lumber framing.

C. Sheathing.

D. Preservative treated wood materials.

E. Concealed wood blocking, nailers, and supports.

1.02 REFERENCE STANDARDS

A. ANSI A208.1 - American National Standard for Particleboard; 2009.

B. AWC (WFCM) - Wood Frame Construction Manual for One- and Two-Family Dwellings; 2015.

C. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.

D. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2014.

E. ASTM D2898 - Standard Test Methods for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing; 2010.

F. AWPA U1 - Use Category System: User Specification for Treated Wood; 2012.

G. PS 1 - Structural Plywood; 2009.

H. PS 2 - Performance Standard for Wood-Based Structural-Use Panels; 2010.

I. PS 20 - American Softwood Lumber Standard; 2010.

J. WWPA G-5 - Western Lumber Grading Rules; 2011.

1.03 SUBMITTALS

A. See Project Administration, for submittal procedures. Refer to BID PACKAGE for these GENERAL REQUIREMENTS.

1.04 DELIVERY, STORAGE, AND HANDLING

A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
   1. Species: Douglas Fir-Larch, unless otherwise indicated.
   2. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.
   3. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.
   4. Lumber of other species or grades is acceptable provided structural and appearance characteristics are equivalent to or better than products specified.

B. Lumber fabricated from old growth timber is not permitted.

C. Provide sustainably harvested wood, see Section 01 81 13 - Sustainable Building Requirements

D. Provide wood harvested and milled within a 500 mile radius of the project site.

2.02 DIMENSION LUMBER

A. Grading Agency: Western Wood Products Association; WWPA G-5.

B. Sizes: Nominal sizes as indicated on drawings, S4S.

C. Moisture Content: S-dry or MC19.

D. Stud Framing (2 by 2 through 2 by 6):
   1. Species: Douglas Fir-Larch.
   2. Grade: No. 2, unless noted otherwise.

E. Joist, Rafter, and Small Beam Framing (2 by 6 through 4 by 16):

F. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
   1. Lumber: S4S, No. 2 or Standard Grade.
   2. Boards: Standard or No. 3.

2.03 CONSTRUCTION PANELS

A. Wall Sheathing: Plywood, PS 1, Grade C-D, Exposure I.

2.04 ACCESSORIES

A. Fasteners and Anchors:
   1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.

B. Sill Gasket on Top of Foundation Wall: 1/4 inch thick, plate width, closed cell plastic foam from continuous rolls.

C. Sill Flashing: As specified in plans.

2.05 FACTORY WOOD TREATMENT

A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
   1. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.

B. Preservative Treatment:
   1. Preservative Pressure Treatment of Lumber Above Grade: AWPA U1, Use Category UC3B, Commodity Specification A using waterborne preservative.
      a. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
      b. Treat lumber exposed to weather.
      c. Treat lumber in contact with roofing, flashing, waterproofing, or decks.
      d. Treat lumber in contact with masonry or concrete.
      e. Treat lumber less than 18 inches above grade.

PART 3 EXECUTION

3.01 PREPARATION

A. Where wood framing bears on cementitious foundations, install full width sill flashing continuous over top of foundation, lap ends of flashing minimum of 4 inches and seal.

B. Install sill gasket under sill plate of framed walls bearing on foundations; puncture gasket cleanly to fit tightly around protruding anchor bolts.

C. Coordinate installation of rough carpentry members specified in other sections.

3.02 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.

B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.03 FRAMING INSTALLATION

A. Set structural members level, plumb, and true to line. Discard pieces with defects that would lower required strength or result in unacceptable appearance of exposed members.

B. Make provisions for temporary construction loads, and provide temporary bracing sufficient to maintain structure in true alignment and safe condition until completion of erection and installation of permanent bracing.

C. Install structural members full length without splices unless otherwise specifically detailed.

D. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by applicable codes and AWC (WFCM) Wood Frame Construction Manual

E. Install horizontal spanning members with crown edge up and not less than 1-1/2 inches of bearing at each end.

F. Construct double joist headers at floor and ceiling openings and under wall stud partitions that are parallel to floor joists; use metal joist hangers unless otherwise detailed.

G. Provide bridging at joists in excess of 8 feet span as detailed. Fit solid blocking at ends of members.

H. Frame wall openings with two or more studs at each jamb; support headers on cripple studs.

3.04 BLOCKING, NAILERS, AND SUPPORTS

A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.

B. In framed assemblies that have concealed spaces, provide solid wood fire blocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to code authorities may be used in lieu of solid wood blocking.

C. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.

D. Where ceiling-mounting is indicated, provide blocking and supplementary supports above ceiling, unless other method of support is explicitly indicated.

3.05 INSTALLATION OF CONSTRUCTION PANELS

A. Wall Sheathing: Secure with long dimension perpendicular to wall studs, with ends over firm bearing and staggered, using nails, screws, or staples.
   1. Place water-resistive barrier horizontally over wall sheathing, weather lapping edges and ends.

3.06 TOLERANCES

A. Framing Members: 1/4 inch from true position, maximum.

B. Surface Flatness of Floor: 1/8 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum.

C. Variation from Plane (Other than Floors): 1/4 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum.

3.07 CLEANING

A. Waste Disposal: Comply with the requirements of Section 01 74 19 - Construction Waste Management and Disposal.
   1. Comply with applicable regulations.
   2. Do not burn scrap on project site.
   3. Do not burn scraps that have been pressure treated.
   4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or “waste-to-energy” facilities.

B. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill.

C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION

SECTION 06 20 00 - FINISH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Finish carpentry items.

B. Wood door frames.

C. Wood casings and moldings.

D. Hardware and attachment accessories.

1.02 RELATED REQUIREMENTS

A. Section 06 10 00 - Rough Carpentry: Support framing, grounds, and concealed blocking.

B. Section 09 90 00 - Painting and Coating

1.03 REFERENCE STANDARDS

A. ANSI A208.1 - American National Standard for Particleboard; 2009.

B. AWI (QCP) - Quality Certification Program; current edition at www.awiqcp.org.

C. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2014.

D. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards, U.S. Version 3.0; 2016.

E. AWPA U1 - Use Category System: User Specification for Treated Wood; 2012.

F. HPVA HP-1 - American National Standard for Hardwood and Decorative Plywood; 2009.

G. WDMA I.S. 4 - Industry Specification for Preservative Treatment for Millwork; 2013.

1.04 SUBMITTALS

A. See Division 1 Project Administration for submittal procedures and requirements. Refer to BID PACKAGE for these GENERAL REQUIREMENTS.

1.05 QUALITY ASSURANCE

A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of documented experience.
   1. Accredited participant in the specified certification program prior to the commencement of fabrication and throughout the duration of the project.

B. Quality Certification: Comply with AWI (QCP) woodwork association quality certification service/program in accordance with requirements for work specified in this section.
   1. Provide labels or certificates indicating that the work complies with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade or grades specified.
   2. Provide designated labels on shop drawings as required by certification program.
   3. Provide designated labels on installed products as required by certification program.
   4. Submit certifications upon completion of installation that verifies this work is in compliance with specified requirements.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Protect work from moisture damage.

PART 2 PRODUCTS

2.01 FINISH CARPENTRY ITEMS

A. Quality Standard: Premium Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

B. Exterior Woodwork Items:
   1. Door Casings and Moldings: Softwood; prepare for paint finish.
   2. Soffits and Fascia: Prepare for paint finish.
   3. Enclosing Soffit Spaces: As detailed.
   4. Enclosing Structural Members: Softwood lumber; "PT" preservative treated.

5. Brackets, Finials, and Pediments: Prepare for paint finish.

C. Interior Woodwork Items:
1. Moldings, Bases, Casings, and Miscellaneous Trim: Clear white pine; prepare for paint finish.
2. Window Sills: Clear fir; prepare for transparent finish.

2.02 WOOD-BASED COMPONENTS

A. Wood fabricated from old growth timber is not permitted.

2.03 LUMBER MATERIALS

A. Softwood Lumber: face species, plain sawn, maximum moisture content of 6 percent; with vertical grain.

B. Hardwood Lumber: face species, plain sawn, maximum moisture content of 6 percent.

2.04 SHEET MATERIALS

A. Hardwood Plywood: Face species as indicated, plain sawn, book matched, medium density fiberboard core; HPVA HP-1, Front Face Grade AA, Back Face Grade 1, glue type as recommended for application.

2.05 FASTENINGS

A. Adhesive for Purposes Other Than Laminate Installation: Suitable for the purpose; not containing formaldehyde or other volatile organic compounds.

B. Concealed Joint Fasteners: Threaded steel.

2.06 ACCESSORIES

A. Lumber for Shimming and Blocking: Softwood lumber of Doug Fir species.

B. Wood Filler: Solvent base, tinted to match surface finish color.

2.07 WOOD TREATMENT

A. Factory-Treated Lumber: Comply with requirements of AWPA U1 - Use Category System for pressure impregnated wood treatments determined by use categories, expected service conditions, and specific applications.

B. Water Repellent Preservative Treatment by Dipping Method: WDMA I.S. 4, with 0.25 percent retainage.

2.08 FABRICATION

A. Shop assemble work for delivery to site, permitting passage through building openings.

B. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify adequacy of backing and support framing.

3.02 INSTALLATION

A. Install work in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade indicated.

B. Set and secure materials and components in place, plumb and level.

C. Carefully scribe work abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim to conceal larger gaps.

3.03 TOLERANCES

A. Maximum Variation from True Position: 1/16 inch.

B. Maximum Offset from True Alignment with Abutting Materials: 1/32 inch.

END OF SECTION

SECTION 09 21 16 - GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Performance criteria for gypsum board assemblies.

B. Gypsum sheathing.

C. Cementitious backing board.

D. Gypsum wallboard.

E. Joint treatment and accessories.

1.02 RELATED REQUIREMENTS

A. Section 01 81 13 – Sustainable Building Requirements

B. Section 06 10 00 - Rough Carpentry: Building framing.

C. Section 07 25 00 - Weather Barriers: Water-resistive barrier over sheathing.

D. Section 07 92 00 - Joint Sealants: Sealing acoustical gaps in construction other than gypsum board or plaster work.

1.03 REFERENCE STANDARDS

A. ANSI A108.11 - American National Standard for Interior Installation of Cementitious Backer Units; 2010 (Revised).

B. ANSI A118.9 - American National Standard Specifications for Test Methods and Specifications for Cementitious Backer Units; 1999 (Reaffirmed 2010).

C. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2015.

D. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members; 2014.

E. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2012.

F. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2015.

G. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2013.

H. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2014.

I. ASTM C1280 - Standard Specification for Application of Gypsum Sheathing Board; 2013.

J. ASTM C1325 - Specification for Non-Asbestos Fiber-Mat Reinforced Cementitious Backer Units; 2014.

K. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2014.

L. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2012.

M. GA-216 - Application and Finishing of Gypsum Board; 2013.

1.04 SUBMITTALS

A. See Division 1 Project Administration for submittal requirements and procedures. Refer to BID PACKAGE for these GENERAL REQUIREMENTS.

B. Product Data: Provide data on gypsum board, accessories, and joint finishing system.

C. Sustainable Building Requirements:
   1. Provide product information for all mold prevention surfaces in wet areas. Evergreen Sustainable Design Standards (ESDS) Credit 7.8: State that there are smooth, durable, in-organic, water-proof surfaces in all wet areas.

2. ESDS Credit 7.9 requires non-paper faced or mold resistant gypsum wall board behind and adjacent to tub and shower enclosures. Provide documentation of compliance for products to be installed in these locations
3. Evergreen Sustainable Design Standards (ESDS) Credit 6.2 Low/No VOC Adhesives and Sealants are to be used. All interior adhesives shall comply with the most recent version of Rule 1168 of the South Coast Air Quality Management District.

D. Test Reports: For stud framing products that do not comply with ASTM C645 or ASTM C754, provide independent laboratory reports showing maximum stud heights at required spacing and deflections.

1.05 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing gypsum board application and finishing, with minimum 3 years of documented experience.

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

A. Provide completed assemblies complying with ASTM C840 and GA-216.

2.02 BOARD MATERIALS

A. Manufacturers - Gypsum-Based Board:
   1. American Gypsum Company: www.americangypsum.com.
   2. CertainTeed Corporation: www.certainteed.com.
   3. Georgia-Pacific Gypsum: www.gpgypsum.com.
   4. National Gypsum Company: www.nationalgypsum.com.
   5. USG Corporation: www.usg.com.

B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
   1. Application: Use for vertical surfaces, unless otherwise indicated.
   2. Thickness:
      a. Vertical Surfaces: 5/8 inch.
      b. Ceilings: 1/2 inch.

C. Backing Board For Wet Areas:
   1. Application: Surfaces behind tile in wet areas including tub and shower surrounds and shower ceilings.
   2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
   3. ANSI Cement-Based Board: Non-gypsum-based; aggregated Portland cement panels with glass fiber mesh embedded in front and back surfaces complying with ANSI A118.9 or ASTM C1325.
      a. Thickness: 1/2 inch.

2.03 ACCESSORIES

A. Acoustic Sealant: Acrylic emulsion latex or water-based elastomeric sealant; do not use solvent-based non-curing butyl sealant.

B. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
   1. Tape: 2 inch wide, coated glass fiber tape for joints and corners, except as otherwise indicated.

C. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inch in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion resistant.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that project conditions are appropriate for work of this section to commence.

3.02 FRAMING INSTALLATION

A. Studs: Space studs at 16 inches on center.
   1. Extend partition framing to structure where indicated and to ceiling in other locations.
   2. Partitions Terminating at Ceiling: Attach ceiling runner securely to ceiling track in accordance with manufacturer's instructions.

B. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.

3.03 ACOUSTIC ACCESSORIES INSTALLATION

A. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.

B. Acoustic Sealant: Install in accordance with manufacturer's instructions.

3.04 BOARD INSTALLATION

A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

B. Exterior Sheathing: Comply with ASTM C1280. Install sheathing vertically, with edges butted tight and ends occurring over firm bearing.

C. Cementitious Backing Board: Install over wood framing members where indicated, in accordance with ANSI A108.11 and manufacturer's instructions.

D. Installation on Wood Framing: For non-rated assemblies, install as follows:
   1. Single-Layer Applications: Screw attachment.

3.05 INSTALLATION OF TRIM AND ACCESSORIES

A. Control Joints: Place control joints consistent with lines of building spaces and as follows:
   1. Not more than 30 feet apart on walls over 50 feet long.

B. Corner Beads: Install at external corners, using longest practical lengths.

3.06 JOINT TREATMENT

A. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:

B. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
   1. Feather coats of joint compound so that camber is maximum 1/32 inch.

3.07 TOLERANCES

A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

END OF SECTION

SECTION 09 90 00 - PAINTING AND COATING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface preparation.

B. Field application of texture and paints.

C. Paint exposed surfaces, except where the paint schedules indicate that a surface or material is not to be painted or is to remain natural. If the paint schedules do not specifically mention an item or a surface, paint the item or surface the same as similar adjacent materials or surfaces whether or not schedules indicate colors. If the schedules do not indicate color or finish, the Owner will select from standard colors and finishes available.

D. Scope: Finish all interior and exterior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated, including the following:
   1. Texture and Prime all interior surfaces
   2. Both sides and edges of plywood backboards for electrical and telecom equipment before installing equipment.
   3. Exposed surfaces of steel lintels and ledge angles.
   4. Prime and texture all surfaces to receive wall paint.
   5. Mechanical and Electrical:
      a. In finished areas, paint all insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, and hangers, brackets, collars and supports, unless otherwise indicated.

E. Do Not Paint or Finish the Following Items:
   1. Items fully factory-finished unless specifically so indicated; materials and products having factory-applied primers are not considered factory finished.
   2. Items indicated to receive other finishes.
   3. Items indicated to remain unfinished.
   4. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.
   5. Labels: Do not paint over Underwriters Laboratories (UL), Factory Mutual (FM), or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.
   6. Floors, unless specifically so indicated.
   7. Glass.
   8. Concealed pipes, ducts, and conduits.

1.02 RELATED REQUIREMENTS

A. Section 06 20 00 - Finish Carpentry

B. Section 08 16 13 - Fiberglass Doors

C. Section 09 21 16 - Gypsum Board Assemblies

1.03 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.

B. ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications; 2014.

C. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials; 2007.

1.04 SUBMITTALS

A. See Division 1 - Project Administration for submittal requirements and procedures. Refer to BID PACKAGE for these GENERAL REQUIREMENTS.

B. Product Data: Provide complete list of all products to be used, with the following information for each:

1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
2. MPI product number (e.g. MPI #47).
3. Cross-reference to specified paint system(s) product is to be used in; include description of each system.
4. If proposal of substitutions is allowed under submittal procedures, explanation of all substitutions proposed.

C. Sustainable Building Requirements:
1. All paints and coatings wet applied inside the Weather Resistive Barrier must comply with the requirements of Evergreen Sustainable Design Standards (ESDS) Credit 6.1 Low/No VOC Paints, Primers and Coatings. Provide documentation of compliance

D. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches in size, illustrating range of colors available for each finishing product specified.
1. Where sheen is specified, submit samples in only that sheen.
2. Where sheen is not specified, discuss sheen options with Architect before preparing samples, to eliminate sheens definitely not required.
3. Provide up to three revisions of colors.

E. Manufacturer's Instructions: Indicate special surface preparation procedures.

F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
1. Extra Paint and Coatings: 1 gallon of each color; store where directed.
2. Label each container with color in addition to the manufacturer's label.

1.05 SCHEDULING OF WORK

A. Coordinate the commencement of work with the Owner so as not to cause inconvenience to the facility.

B. Post notices in conspicuous areas three to five days in advance of beginning work on specified phase, noting start date, any instructions to occupants and business phone number.

C. Identify items that need to be moved by occupant (i.e.: automobiles, deck items, BBQ, lounge chairs, plants, etc.).

1.06 QUALITY ASSURANCE

A. Field Samples: Prepare Field Samples for Owner or Owner's Representative’s to review and to establish requirements for color and finish texture.

B. Correct areas, modify method of application/installation, or adjust finish texture as directed to comply with specified requirements.

C. Maintain field sample accessible to serve as a standard of quality for this Section.

D. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum three years documented experience.

E. Applicator Qualifications: Company specializing in performing the type of work specified approved by manufacturer.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

D. Storage and Protection: Comply with manufacturer's recommendations.

E. Remove oily rags, waste, etc., every night and take every precaution to prevent fire.

F. Store in a cool, dry place out of direct sunlight.

G. Protect from the elements and from damage.

H. Store at a temperature of not less than 40 degrees F.

I. Stack materials no more than three high in five-gallon containers.

1.08 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the paint product manufacturer.

D. Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.

E. Provide lighting level of 80 ft. candles measured mid-height at substrate surface.

1.10 EXTRA MATERIALS

A. See Division 1 Project Administration for additional provisions. Refer to BID PACKAGE for these GENERAL REQUIREMENTS.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Provide all paint and coating products from the same manufacturer to the greatest extent possible.
   1. In the event that a single manufacturer cannot provide all specified products, minor exceptions will be permitted provided approval by Architect is obtained using the specified procedures for substitutions.

B. Paints:
   1. Rodda Paint Co.; 6107 N. Marine Dr.; Portland, OR 97203; Toll Free Tel: 800-452-2315; Tel: 503-737-6033; www.roddapaint.com

C. Primer Sealers: Same manufacturer as top coats.

D. Approved Substitution: See Division 1 Project Administration for substitution requirements and procedures. Refer to BID PACKAGE for these GENERAL REQUIREMENTS.

2.02 PAINTS AND COATINGS - GENERAL

A. Paints and Coatings: Ready mixed, unless intended to be a field-catalyzed coating.
   1. Where MPI paint numbers are specified, provide products listed in Master Painters Institute Approved Product List, current edition available at www.paintinfo.com, for specified MPI categories, except as otherwise indicated.
   2. Provide paints and coatings of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
   3. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
   4. Supply each coating material in quantity required to complete entire project's work from a single production run.
   5. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.

B. Primers: Where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.
   1. Products:
      a. Rodda 501601x First Coat Primer.
      b. Rodda 70822x Barrier III High Solids Metal Primer.

C. Volatile Organic Compound (VOC) Content:
   . Paints and coatings that will be wet applied inside the WRB must comply with the VOC

content requirements of ESDS Credit 6.1 – Low VOC Paints and Coatings. a
2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

D. Chemical Content: The following compounds are prohibited:
1. Aromatic Compounds: In excess of 1.0 percent by weight of total aromatic compounds (hydrocarbon compounds containing one or more benzene rings).
2. Acrolein, acrylonitrile, antimony, benzene, butyl benzyl phthalate, cadmium, di (2-ethylhexyl) phthalate, di-n-butyl phthalate, di-n-octyl phthalate, 1,2-dichlorobenzene, diethyl phthalate, dimethyl phthalate, ethylbenzene, formaldehyde, hexavalent chromium, isophorone, lead, mercury, methyl ethyl ketone, methyl isobutyl ketone, methylene chloride, naphthalene, toluene (methylbenzene), 1,1,1-trichloroethane, vinyl chloride.

E. Sheens: Provide the sheens specified; where sheen is not specified, sheen will be selected later by Architect from the manufacturer's full line.

F. Colors: To be selected from manufacturer's full range of available colors.
1. Selection to be made by Owner after award of contract.
2. In finished areas, finish pipes, ducts, conduit, and equipment the same color as the wall/ceiling they are mounted on/under.

2.03 PAINT SYSTEMS - EXTERIOR

A. Caulk all splits and cracks. Press all caulking into gaps using a finger or appropriate tool. Use the specified patching compound for gaps exceeding ¼ inch. Refer to manufacturer’s printed instructions for further instructions regarding caulking or patching compounds. Caulking shall be carefully completed and, if necessary, trimmed and smoothed to provide a uniform surface.
1. Caulking: Sashco Big Stretch Caulk

B. Paint E-OP - Exterior Type 1: All Exterior Surfaces Indicated to be Painted, Unless Otherwise Indicated: Including concrete and cement board.
1. Preparation as specified by manufacturer; sprayer, brush and roll, min 1.5 mils (4 mils wet)
2. Two top coats and one coat primer recommended by manufacturer.
3. Top Coat(s): Exterior Latex; MPI #10, 11, 15, 119, 214.
4. Satin: MPI gloss level 4; use this sheen at Siding and Trim.
5. Product(s):
a. Rodda 521101X Cover Coat AC909 Exterior Acrylic Latex Satin.

C. Paint WE-OP-3L - Exterior Type 2: Wood, Opaque, Latex, 3 Coat:
1. One coat of latex primer sealer. Spot prime with Rodda 501601 First Coat Acrylic Latex Primer.
2. Semi-gloss: Two coats of latex enamel; Additional coats may be required, min dry film thickness of 1.5 per coat, 4 mils wet per coat..
3. Product(s):
a. Rodda 542001x Unique II Semi-Gloss

D. Paint ME-OP-3L - Exterior Type 3: Ferrous Metals, Unprimed, Latex, 3 Coat:
1. One coat of latex primer. Spot prime exposed metal areas with 708225 Barrier III High Solids Alkyd Metal Primer (solvent based)
2. Semi-gloss: Two coats of latex enamel; Rodda 548901x Multi Master DTM Semi-Gloss.

E. Paint MgE-OP-3L – Exterior Type 4: Galvanized Metals, Latex, 3 Coat:
1. One coat galvanize primer.
2. Semi-gloss: Two coats of latex enamel.

2.04 PAINT SYSTEMS - INTERIOR

A. Paint I-OP - Interior Type 1: All Interior Surfaces Indicated to be Painted, Unless Otherwise Indicated: Including gypsum board, concrete, wood, uncoated steel, shop primed steel, galvanized steel, and aluminum.
1. Two top coats and one coat primer.

2. Top Coat(s): High Performance Architectural Interior Latex; MPI #138-141.
3. Eggshell: MPI gloss level 3; use this sheen at all locations.
4. Primer(s): As recommended by manufacturer of topcoats.

B. Paint I-OP-MD-DT - Interior Type 2: Medium Duty Door/Trim: For surfaces subject to frequent contact by occupants, including wood:
1. Two top coats and one coat primer.
2. Top Coat(s): High Performance Architectural Interior Latex; MPI #139, 140, 141.
3. Product(s):
   a. Primer: Rodda 502001x Unique II Enamel Undercoat.
   b. Finish: Rodda 542001X Unique II Semi-gloss.

C. Paint I-OP-MD-WC – Interior Type 3: Medium Duty Vertical/Overhead: (Walls and Ceilings) Including gypsum board.
1. Two top coats and one coat primer.
2. Top Coat(s): High Performance Architectural Interior Latex; MPI #138-141.
3. Satin: MPI gloss level 4; use this sheen at Walls and Ceilings.
4. Semi-Gloss: MPI gloss level 5; use this sheen at Wet areas (Bathrooms).
5. Product(s):
   a. Primer: Rodda 507801x Scotseal.
   b. Finish: Rodda 523401x Wall Pro Satin.
   c. Zinsser Perma-White Satin, tinted to color choice .
   d. Solar Chemicals - Trimaco, Mildew Control additive

D. Paint I-OP-HD – Interior Type 4: Heavy Duty Vertical and Overhead: Including Millwork and Fiberglass Entry.
1. Semi-Gloss: MPI gloss level 5; use this sheen Fiberglass Entry Door and Millwork.
2. Product(s):
   a. Finish: 2x coats; Rodda 542001x Unique II Semi-Gloss.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin application of coatings until substrates have been properly prepared.

B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

D. Test shop-applied primer for compatibility with subsequent cover materials.

E. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
1. Gypsum Wallboard: 15 percent.
2. Interior Wood: 15 percent, measured in accordance with ASTM D4442.
3. Exterior Wood: 17 percent, measured in accordance with ASTM D4442.
4. Concrete Slab-On-Grade: Perform calcium chloride test over 24 hour period or other acceptable test to manufacturer. Verify acceptable moisture transmission and pH levels.
5. Concrete: 13 percent. Cure minimum 28 days

3.02 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to coating application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Remove or repair existing coatings that exhibit surface defects.

D. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.

E. Seal surfaces that might cause bleed through or staining of topcoat.

F. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

G. Gypsum Board Surfaces to be Painted: Fill minor defects with filler compound. Spot prime defects after repair.

H. Concrete Floors and Traffic Surfaces to be Painted: Remove contamination, acid etch, and rinse floors with clear water. Verify required acid-alkali balance is achieved. Allow to dry.

I. Aluminum Surfaces to be Painted: Remove surface contamination by steam or high pressure water. Remove oxidation with acid etch and solvent washing. Apply etching primer immediately following cleaning.

J. Galvanized Surfaces to be Painted: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.

K. Corroded Steel and Iron Surfaces to be Painted: Prepare using at least SSPC-SP 2 (hand tool cleaning) or SSPC-SP 3 (power tool cleaning) followed by SSPC-SP 1 (solvent cleaning).

L. Uncorroded Uncoated Steel and Iron Surfaces to be Painted: Remove grease, mill scale, weld splatter, dirt, and rust. Where heavy coatings of scale are evident, remove by hand or power tool wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Prime paint entire surface; spot prime after repairs.

M. Shop-Primed Steel Surfaces to be Finish Painted: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Re-prime entire shop-primed item.

N. Interior Wood Surfaces to Receive Opaque Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats. Back prime concealed surfaces before installation.

O. Interior Wood Surfaces to Receive Transparent Finish: Wipe off dust and grit prior to sealing, seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after sealer has dried; sand lightly between coats. Prime concealed surfaces with gloss varnish reduced 25 percent with thinner.

P. Exterior Wood Surfaces to Receive Opaque Finish: Remove dust, grit, and foreign matter. Seal knots, pitch streaks, and sappy sections. Fill nail holes with tinted exterior calking compound after prime coat has been applied. Back prime concealed surfaces before installation.

3.03 APPLICATION

A. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

B. Exterior Wood to Receive Opaque Finish: If final painting must be delayed more than 2 weeks after installation of woodwork, apply primer within 2 weeks and final coating within 4 weeks.

C. Apply products in accordance with manufacturer's instructions.

D. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

E. Apply each coat to uniform appearance.

F. Sand wood and metal surfaces lightly between coats to achieve required finish.

G. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

H. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.04 FIELD QUALITY CONTROL

A. The Owner’s Representative and paint manufacturer shall inspect preparation prior to the application of paint finishes. Contractor will rework surfaces not properly prepared to receive paint finishes to the satisfaction of the either.

B. Owner's representative will provide field inspection.

3.05 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.06 PROTECTION

A. Protect finished coatings until completion of project.

B. Touch-up damaged coatings after Substantial Completion.

END OF SECTION

SECTION 10 28 00 - TOILET, BATH AND CLOSET ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Residential toilet, shower, and bath accessories.

B. Accessories for showers, tubs, and residential bathrooms.

1.02 RELATED REQUIREMENTS

A. Section 06 10 00 - Rough Carpentry: Concealed supports for accessories, including in wall framing and plates and above ceiling framing.

1.03 REFERENCE STANDARDS

A. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2015.

B. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2015.

C. ASTM B456 - Standard Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium; 2011.

D. ASTM C1036 - Standard Specification for Flat Glass; 2011.

E. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2012.

F. ASTM C1503 - Standard Specification for Silvered Flat Glass Mirror; 2008 (Reapproved 2013).

1.04 SUBMITTALS

A. See Division 1 Project Administration for submittal procedures and requirements. Refer to BID PACKAGE for these GENERAL REQUIREMENTS.

B. Product Data: Submit data on accessories describing size, finish, details of function, and attachment methods.

C. Manufacturer's Installation Instructions: Indicate special procedures and conditions requiring special attention.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. See plans for all accessory items.

1. Approved Substitutions: See Division 1 Project Administration for substitution procedures and requirements. Refer to BID PACKAGE for these GENERAL REQUIREMENTS.

2.02 MATERIALS

A. Accessories - General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify exact location of accessories for installation.

3.02 PREPARATION

A. Deliver inserts and rough-in frames to site for timely installation.

B. Provide templates and rough-in measurements as required.

3.03 INSTALLATION

A. Install accessories in accordance with manufacturers' instructions in locations indicated on the drawings.

B. Install plumb and level, securely and rigidly anchored to substrate.

C. Mounting Heights: As required by accessibility regulations, unless otherwise indicated.

3.04 PROTECTION

A. Protect installed accessories from damage due to subsequent construction operations.

END OF SECTION

SECTION 26 00 00 - ELECTRICAL GENERAL CONDITIONS

PART 1 GENERAL

1.01 GENERAL

A. Conform to the General Conditions, Supplementary Conditions, and related work in other Divisions for all work in Division 26. See Division 1 for sequence of work.

1.02 WORK INCLUDED

A. It is the intention of this division of the specifications and the accompanying drawings to describe and provide for the furnishing, installing, testing and placing in satisfactory and successful operation all equipment, materials, devices and necessary appurtenances to provide a complete electrical system, together with such other miscellaneous installations and equipment hereinafter specified and/or shown in the plans. The work shall include all materials, appliances and apparatus not specifically mentioned herein or noted on the plans, but which are necessary to make a complete working installation of all electrical systems shown on the plans or described herein. Equipment and devices furnished and installed under other divisions of this specification (or by the Owner) shall be connected under this division. The drawings and specifications are complementary and what is called for in either is binding as if called for in both.

B. By submitting a bid, the Contractor is acknowledging that he has made a thorough examination of the Contract Documents, existing site and building conditions, and has determined that these documents do sufficiently describe the scope of construction work required under this Contract.

1.03 SCOPE OF BASIC BID

A. Included in Division 26 work is all work and related items necessary to provide all electrical installations except as specifically excluded. In general, this includes all labor, equipment, tools, etc., to complete the electrical work.

1.04 RELATED WORK

A. Temporary Power and Lighting - See Division 1

B. Mechanical Control Wiring – See Division 23

C. Cutting and Patching – See Division 1

1.05 STANDARDS AND REGULATIONS

A. The work shall comply with the latest edition of the applicable Standards and Codes of the following:

ASTM	American Society for Testing and Materials NBFU National Board of Fire Underwriters
NEC	National Electrical Code
---	State Electrical Code
NESC	National Electrical Safety Code
NEMA	National Electrical Manufacturers Association NFPA National Fire Protection Association
U.L.	Underwriters Laboratories Inc.
IPCEA	Insulated Power Cable Engineers Associated CBM Certified Ballasts Manufacturers
---	Federal, State and Local Building Codes
ETL	Electrical Testing Laboratories

B. If any conflict occurs between Government adopted Code Rules and this specification, the codes are to govern. Nothing in these drawings and specifications shall be construed to permit work not conforming with governing codes. Also, this shall not be construed as relieving the Contractor from complying with any requirements of the plans and specifications which may be in excess of, but not in conflict with, requirements of the Governing Codes.

1.06 PERMITS & FEES

A. The Contractor shall obtain and pay for all licenses, permits and inspections required by laws, ordinances and rules governing work specified herein. The Contractor shall arrange for inspection of work by the inspectors and shall give the inspectors all necessary assistance in their work of inspection.

B. The Contractor shall consult with and follow the requirements of the local fire, power, telephone, and television utilities serving the area and shall coordinate his work with them.

C. Utility connection and hook-up charges for power, telephone and television shall be paid by the Owner directly to the utility. The Electrical Contractor is required to provide any and all coordination necessary to support the utility connection, file for application of service (or assist the Owner in filing for application of service) and coordinate dates for service with the utilities.

1.07 DEFINITIONS

A. When "Provide" is used, it shall be interpreted as "furnishing and installing complete in operating condition".

B. When "Drawings" is used, it shall be interpreted as "all Contract Drawings for all Disciplines".

C. When "Contractors" is used, it shall be interpreted as the Electrical Contractor.

D. Owner shall mean King County Housing Authority.

1.08 INTENT OF DRAWINGS

A. The electrical drawings are intended to serve as working drawings for general layout. The equipment layout is diagrammatic and unless specifically dimensioned or detailed, does not indicate all fittings, hardware or appurtenances required for a complete operating installation.

B. Anything shown on the drawings but not covered in the specifications, or anything covered in the specifications but not shown on the drawings, shall be as if covered in both. In case of conflict between the drawings and specifications, the Engineer will select the method to be used. The Contractor shall be responsible for verifying all measurements before proceeding with the work.

C. Wiring diagrams are not intended to indicate the exact course of raceways or exact location of outlets. Raceway and outlet locations are approximately correct and are subject to revision as may be necessary or desirable at the time of installation. Precise location in every case shall be subject to the Engineer's approval.

1.09 PROTECTION

A. The Contractor shall store and guard all equipment before installation and shall protect same, and replace any equipment that has been damaged prior to final acceptance. See Division 1 for detailed requirements.

1.10 HOUSEKEEPING

A. All electrical materials shall be kept stored in an orderly fashion protected from heat, cold, and the weather.

B. All marred surfaces shall be refinished and painted after installation.

C. All debris shall be removed from premises during work, as directed, and at completion of job.

1.11 TEMPORARY USE

A. Temporary or interim use of any and all portions of the electrical system shall be under the supervision of the Electrical Contractor.

B. Temporary power and lighting for use during construction shall be provided per the requirements of the Division 01 specifications.

1.12 AS-BUILT DRAWINGS

A. The Contractor shall maintain, in addition to any reference drawings, an as-built set of prints, on which all deviations from the original design shall be drafted in a neat, legible manner with red colored pencil. This red lined set shall identify all drawing revisions including addenda items, change orders, and Contractor revisions. The Contractor is responsible to revise panel schedules and load calculations as required.

B. Drawings shall show locations of all concealed raceway runs larger than 1", giving the number of conductors and size of raceway. Underground ducts shall be shown with cross section elevations. All pipe, raceway, manholes or lines of other trades shall be included.

C. The Contractor shall update all references to specific products to indicate products actually installed on project. This shall include, but not be limited to, lighting fixtures, baseboard heaters, etc.

D. Upon completion of the Division 26 Work, the Contractor shall deliver the red lined drawings and one set of neatly drafted as-built drawings on electronic media in AutoCAD R-2006 format and mylar to the Engineer for transmittal through the Engineer to the Owner.

1.13 WARRANTY

A. Provide a written warranty that the Division 26 work is free from mechanical and electrical defects. Contractor shall replace and repair, to the satisfaction of the Engineer, any parts of the installation which may fail within a period of 12 months after the certificate of final acceptance, provided that such failure is due to defects in material or workmanship, or failure to follow the specifications and drawings.

1.14 INSTRUCTIONS AND MANUALS

A. Operation and maintenance data shall be submitted in accordance with Division 1 and Section 01 81 13 – Sustainable Building Design.

B. Manuals shall contain shop drawings, wiring diagrams, operating and maintenance instructions, replacement parts lists, and equipment nameplate data for all equipment and systems installed under the project. Signal equipment submittals shall contain step-by-step circuit description information designed to acquaint maintenance personnel with equipment operation in each mode of operation. Manuals shall contain original brochures supplied by manufacturers. Xerox copies of originals will not be accepted.

C. Each type of device provided shall be identified in the O & M Manual using the same identification as shown on the drawings and specifications. The information included must be the exact equipment installed not the complete "line" of the Manufacturer. Where sheets show the equipment installed and other equipment, the installed equipment shall be neatly and clearly identified on such sheets. Parts lists shall give full ordering information assigned by the original parts manufacturer. Relabeled and/or renumbered parts information as reassigned by equipment supplier is not acceptable. The following information shall be provided for each device:
   1. Manufacturer's name, address and phone number.
   2. Local supplier's name, address and phone number.
   3. Complete parts lists including quantities and manufacturer's part numbers.
   4. Installation instructions.
   5. Recommended maintenance items including maintenance procedure and recommended interval of maintenance listed in hours of operation, calendar unity or other similar time unit.

D. The O & M Manual shall be assembled as detailed in Division 1. As a minimum, the following sections shall be broken out:
   1. Light Fixtures
   2. Lamps and Ballasts - referenced to each fixture type

E. Wiring Diagrams for each system shall be complete for the specific system installed under the Contract. "Typical" Line Diagrams will not be acceptable unless properly marked to indicate the exact field installation.

1.15 WORK NOT INCLUDED

A. Indicated motors, controls, and equipment as described in other divisions shall be furnished by other trades, but shall be moved, set and wired to electrical controls and power supply by the Electrical Contractor.

B. Work to be included under this Contract shall be defined on drawings and in these specifications. Any details beyond these limits are meant only to give installation clarity to that portion which is a part of this Contract.

1.16 COMPLETION OF WORK

A. Upon completion of the Division 26 work, the Contractor shall comply with requirements of Division 1 for project closeout.

B. Arrange for and obtain all required inspections and certificates pertaining to the Division 26 work and deliver the certificates to the Engineer in triplicate.

C. Prior to or at the time of final inspection, the Contractor shall, as outlined in detail in the specifications, complete the delivery of all the following items:

1. Wiring diagrams, Maintenance Manuals, Operation Instructions, and Brochures (5 sets minimum)

PART 2 PRODUCTS

2.01 COMPETITIVE PRODUCTS

A. Any reference in the specifications to any article, device, product, material, fixture, form or type of construction by name, make or catalog number shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition. The Contractor, in such cases, may at his option use any article, device, product, material, fixture, form or type of construction which in the judgment of the Engineer, expressed in writing, is equal to that specified. However, any manufacturer not listed as an accepted Bidder for a specific item must be submitted for acceptance in writing with descriptive data verifying equal quality and performance to the Engineer through Owner.

2.02 MANUFACTURER/EQUIPMENT PRIOR APPROVALS

A. Any manufacturer/equipment not listed as an approved substitute for a specified item must be submitted for acceptance in accordance with Division 1, in writing, with detailed information to include:
1. Manufacturer's Catalog Data
2. Complete Physical and Technical Data
3. Wiring Diagrams
4. Detailed reference (written or highlighted) noting compliance with the appropriate Specification Section and all applicable Specification item numbers within that Section
5. Complete type written index cross referencing all proposed substitutes and specified items
6. Detailed reference to specified items (written or highlighted) noting equal quality and performance of proposed substitute equipment
7. Other descriptive data, as required by the Engineer

B. If substitute material is determined to be acceptable by the Engineer, it will be included in a subsequent Addenda prior to bidding. The acceptance of a manufacturer’s name or product by the Engineer does not relieve the Contractor of the responsibility for providing materials and equipment which comply in all details with the requirements of the Contract Documents.

C. Only materials which are specified or published in addenda as acceptable shall be used.

2.03 MATERIALS

A. All materials must be of the quality herein specified. All materials shall be new, of the best quality

and free from defects. They shall be designed to ensure satisfactory operation and operational life in the environmental conditions which will prevail where they are being installed.

B. Each type of material shall be of the same make and quality. The materials furnished shall be standard products of the manufacturers regularly engaged in the production of such equipment and shall be the manufacturer's latest standard design.

C. All materials shall be U.L. or E.T.L. listed for the purpose for which they are used.

D. Equipment in compliance with U.L. standards but not bearing their label is not acceptable. If the manufacturer cannot arrange for labeling of an assembled unit at the factory the unit shall be field evaluated per the Washington State Administrative Code (WAC) and the electrical inspector's requirements.

2.04 COMPLETE SYSTEM

A. All the systems mentioned shall be complete and operational in every detail except where specifically noted otherwise. Mention of certain materials in these specifications shall not be construed as releasing the Contractor from furnishing such additional materials and performing all labor required to provide a complete and operable system.

PART 3 EXECUTION

3.01 GENERAL

A. Careful consideration shall be given to clearances under and over beams, pipes and ducts, to provide proper headroom in all cases. Check drawings to determine heights of all suspended ceilings and size of pipe shafts where raceway and wire-ways shall run. Coordinate installation of Division 26 wiring and equipment with Division 23 and other trades. Where insufficient room for proper installation appears, obtain clarification from Engineer before any installation is begun.

B. Cutting and Patching:
   1. Obtain permission from the Architect and/or Owner's Representative prior to cutting. Locate cuttings so they will not weaken structural components. Cut carefully and only the minimum amount necessary. Cut concrete with diamond core drills except where space limitations prevent the use of such drills.
   2. All construction materials damaged or cut into during the installation of this work must be repaired or replaced with materials of like kind and quality as original materials by skilled labor experienced in that particular building trade.

3.02 COORDINATION

A. The Contractor is responsible for accomplishing Division 26. The work shall coordinate with that of the other Contractors and/or other trades doing work in the building and shall examine all Drawings, including the several Divisions of Mechanical, Structural, Civil and Architectural, for Construction Details and necessary coordination. Specific locations of construction features and equipment shall be obtained from the Contract Documents, field measurements, and/or from the trade providing the material or equipment. No extra costs will be allowed for failure to obtain this information.

B. All conflicts shall be reported to the Owner in writing before installation for decision and correction. Special attention is called to the following items:
   1. Door swings to the end that switches will be located on "Strike" side of the door.
   2. Location of grilles, pipes, sprinkler heads, ducts and other mechanical equipment so that all electrical outlets, lighting fixtures and other electrical outlets and equipment are clear from and in proper relation to these items.
   3. Location of cabinets, counters and doors so that electrical outlets, lighting fixtures and equipment are clear from and in proper relation to these items.
   4. Type and height of ceiling.
   5. All device measurements referenced on drawings or specifications are to be centered of device unless noted otherwise.

C. The Contractor will not be paid for work requiring reinstallation due to lack of coordination or interference with other Contractors or trades. This includes, but is not limited to, removing, replacing, relocating, cutting, patching, and finishing.

3.03 REQUESTS FOR INFORMATION (RFI)

A. It is our intent to provide a timely response for RFIs regarding Division 26 Work. To further expedite this process, where a suggestion can be determined or derived at by the initiator of the RFI, it is required this suggestion be supplied with the submitted RFI. If no suggestion is given where one is possible, the RFI will be returned as incomplete.

3.04 CLEANING AND PAINTING

A. All equipment, whether exposed to the weather or stored indoors shall be covered to protect it from water, dust and dirt.

B. After installing, all metal finishes shall be cleaned and polished, cleaned of all dirt, rust, cement, plaster, grease and paint.

C. All equipment with a primer coat of paint shall be given two (2) or more coats of a finish enamel and scratched surfaces be refinished to look like new. Markings, identification and nameplates shall be replaced.

3.05 EQUIPMENT IDENTIFICATION

A. Provide identifying engraved bakelite nameplate on all equipment, including pull boxes, to clearly indicate its use, area served, circuit identification, voltage, and any other useful data.

B. Each auxiliary system, including communications, shall be clearly labeled to indicate its function.

3.06 DEVIATION

A. Deviation from the shop drawings in construction or installation of equipment shall not be made unless Shop Drawings showing proposed deviations are submitted to and approved by the Engineer. If any equipment is furnished under this or other divisions with current, voltage or phase ratings that differ from those shown on the drawings, the Contractor shall notify the Engineer in writing immediately and shall not connect said equipment until instructed as to required changes by the Architect. No extension of time will be granted as a result of such changes.

3.07 EXCAVATIONS

A. All excavations are to be so conducted so that no walls or footings shall be disturbed in any way.

B. Remove all surplus earth not needed for backfilling and dispose of same as directed.

3.08 WIRING METHODS

A. All low voltage wiring shall be in Raceway with Junction Boxes and Fittings where concealed in walls and in inaccessible ceiling space.

B. Provide access panels as needed for pull boxes and equipment located above ceiling or behind walls.

C. Multiple feeder runs shall be rod hung, using a strut type channel with individual one hole clamps, back plates and machine screws.

D. Any low voltage cables that are not terminated at both ends shall be tagged and labeled per code.

3.09 PENETRATIONS OF FIRE RATED ELEMENTS

A. Must be made such as to retain that rating.

3.10 HANGERS AND SUPPORTS

A. Provide hangers, brackets, and suspension rods and supplementary steel to support equipment.

B. Hangers provided under other divisions shall not be used for support of Division 26 equipment unless permitted by Architect/Engineer.

3.11 CHASES AND OPENINGS

A. Provide to the masonry and concrete trades all templates and details of chases, openings in floors and walls as required for Division 26 equipment installation.

3.12 PAINTING

A. Painting in general will be covered under another division of this specification, except items furnished under Division 26 that are scratched, marred in shipment or installation, shall be

refinished by the Division 26 Contractor.

3.13 WORKMANSHIP AND OBSERVATION

A. Workmanship shall be of the best quality and none but competent workers shall be employed under the supervision of a competent foreman. All completed work shall represent a neat and workmanship like appearance.

B. All work and materials shall be subject to observation at any and all times by representatives of the Engineer.

3.14 MISCELLANEOUS

A. Provide complete seismic anchorage and bracing for the lateral and vertical support of conduit and electrical equipment, as required by the International Building Code.

B. Conduits that cross seismic separations shall be installed with flexible connection suitable to accommodate conditions. Secure raceways on each side of a separation and provide a minimum of 36” length of flexible conduit to span separation.

3.15 CABLE AND WIRING ROUTED UNDERGROUND OR UNDERSLAB

A. All cables and conductors, both line voltage and low voltage, routed underground or underslab shall be U.L. listed for installation in wet locations per NEC and WAC codes.

END OF SECTION 26 00 00

SECTION 26 00 05 - ELECTRICAL – EXISTING SYSTEMS

PART 1 GENERAL

1.01 WORK INCLUDED

A. Portions of the existing electrical lighting, power and signal systems are to be removed as detailed on the drawings.

PART 2 PRODUCTS

2.01 EXISTING MATERIALS

A. Existing materials which are a part of the building shall remain the property of the Owner.

2.02 EXISTING MATERIALS RE-INSTALLED

A. Existing materials and equipment that are removed as a part of the work or stored in surplus may be re-installed as a part of the new system subject to approval of condition suitability by the Owner. The requirements of the specifications (i.e. installation, warranty, testing, etc.) shall apply as if the materials were new, supplied by the Contractor.

2.03 EXISTING MATERIALS NOT TO BE RE-INSTALLED

A. In coordination with the Owner, these materials shall be made available for his inspection and decision as to whether the Owner will retain possession. Items selected for retention shall be delivered to a location on the premises selected by the Owner and turned over to him. Take reasonable care to avoid damage to this material. If the Contractor fails to conform to this requirement, he shall purchase and turn over to the Owner replacement materials of like kind and quality.

B. All material not selected for retention by the Owner and debris shall be disposed of by the Contractor. This shall include, but not be limited to, removal of PCB type ballasts and fluorescent lamps which shall be disposed of in accordance with EPA requirements.

PART 3 EXECUTION

3.01 EXISTING CONDITIONS

A. Examine the structure, building, and conditions under which Division 26 work is to be installed for conditions detrimental to proper and timely completion of the work. Do not proceed with work until deficiencies encountered in installation have been corrected. Report any delay or difficulties encountered in installation of Division 26 work which might be unsuitable to connect with work by other divisions of this specification. Failure to report conditions shall constitute acceptance of other work as being fit and proper for the installation of Division 26 work.

B. Maintain continuity of existing circuits of equipment to remain. Existing circuits of equipment shall remain energized. Circuits which are to remain but were disturbed during demolition shall have circuits, wiring, and power restored back to original condition.

3.02 DEMOLITION

A. Switchboards, panelboards, signaling systems, other electrical equipment free standing (or surface mounted), raceway (exposed) and conductors no longer in service as a result of this Contract shall be removed. Unused raceways or sleeves shall be cut flush at ceiling, floor or wall and filled with grout.

3.03 NEW DEVICES IN REMODEL AREAS

A. Provide surface mounting for devices on existing walls. Where existing boxes are indicated to be reused, extend box as necessary and provide new devices and plates.

3.04 EXISTING PANELBOARD

A. Any modifications made to existing panels must be incorporated into the existing circuit index on the panel. If more than three circuits are modified a new typewritten index incorporating the changes to the existing index shall be installed in the existing panel.

B. Listing shall match circuit breaker arrangements, typically with odd numbers on the left and even numbers on the right. Room numbers used shall be final room numbers used in the building as verified with the Owner.

END OF SECTION 26 00 05

SECTION 26 05 19 - WIRES AND CABLES

PART 1 GENERAL

1.01 WORK INCLUDED

A. Provide all wire, cable, and terminations complete.

1.02 RELATED SECTIONS

A. Section 26 05 34 – Metal Clad Cable (Type MC) and Fittings.

PART 2 PRODUCTS

2.01 WIRE AND CABLE (COPPER, 600-VOLT)

A. Interior and Above Grade: All wires to be Type THW or RHW. Type THWN/THHN or XHHW wire may be utilized at Contractors option, subject to code requirements. Wire and cables shall be brought to project in original containers bearing the underwriters label. Provide Type AVA wire where conductors are subject to temperature above 167 Degrees F.

B. Underground: All conductors to be type USE. Increase Raceway size when necessary to accommodate conductors per code. Exception: Underground conductors completely contained in code recognized Raceway and boxes may be Type THW, THWN or XHHW.

C. Metal Clad (Type MC) Cable may be used at the Contractor’s option subject to all code requirements, the local AHJ and specifications contained herein.

D. Non-metallic sheathed cable (Romex) may be used at the Contractor’s option subject to all code requirements and the local AHJ.

2.02 SPLICES

A. Above Grade: Solderless type only. Preinsulated "twist-on" type (limited to size #10 and smaller). Bolt on compression type with application of preformed insulated cover, heat shrinkable tubing or plastic insulated tape acceptable for all sizes.

B. Below Grade: Splices below grade shall be in handholes and shall be made watertight with epoxy resin type splicing kits similar to Scotchcast.

2.03 TERMINATIONS

A. Compression set, bolted or screw terminal.

B. Conductors #12 and smaller shall utilize eye or forked tongue type compression set terminator when termination is to a bolted or screw set type terminal block or terminal cabinet.

2.04 PLASTIC CABLE TIES

A. Nylon or Equivalent, locking type.

PART 3 EXECUTION

3.01 GENERAL

A. Install all wiring in Raceway unless shown or specifically authorized otherwise.

3.02 WIRE SIZE

A. No. 12 AWG minimum for power and lighting circuits.

B. Provide solid wire for No. 10 AWG and smaller, and stranded conductors for No. 8 AWG and larger (600) volts.

3.03 TESTS

A. In addition to the factory testing of all equipment and cable, the Contractor shall test all wiring connections for continuity and ground before any fixtures or other loads are connected. Tests shall be made with a 500V. Minimum DC "Megger" type tester. If tests indicate faulty insulation (less that 2 megohms), such defects shall be corrected and tested again. Contractor shall provide all apparatus to make tests and shall bear all expenses of required testing. Routine operation tests shall be made on all pieces of equipment to demonstrate that working parts are in operating condition. Results of all tests shall be recorded and submitted to the Architect. The Contractor shall immediately replace all parts, which fail to pass the test.

B. All circuits both in and out of the building shall test out free of grounds, short circuits and other defects.

C. Check and record catalog number and ampere size of controller overload heaters installed, nameplate full-load amperes, and actual operating amperes of each motor. **IMPORTANT**: Submit recorded data in triplicate to the Engineer. Check proper load balance on the electrical system, direction of rotation, lubrication, and overload protection of all motors before placing in operation.

D. Provide a log of ampere reading for all panels from phase to neutral for 4 wire panels and from phase to phase for 3 wire panels. These readings shall be taken with all loads activated.

E. The final test of all equipment shall be made on dates designated by the Architect/Engineer and all readings shall be made in his presence.

F. Feeders shall be checked to ensure all phases are energized before connecting to their respective motors. Each motor shall rotate in the proper direction for its respective load. Prior to rotation test, all bearings shall be inspected for proper lubrication.

G. Minimum megger test for equipment shall be as follows:

Equipment Maximum Voltage Rating	Minimum Test Resistance
1,000-Volts or less	2 Megohms

H. Provide certification of torque values for feeder and service entrance conductors per equipment manufacturer's recommendation.

3.04 CONDUCTOR SIZES, REFERENCED ON PLANS

A. Copper, type THW or RHW unless noted.

3.05 PULLING

A. Use no mechanical means for pulling No. 8 AWG conductors and smaller. Powdered soap stone or approved spray cream shall be the only lubricant used.

3.06 STRIPPING INSULATION

A. Do not ring the cable, always pare or pencil.

3.07 TAPING

A. If used shall be half lapped synthetic tape.

3.08 CONDUCTORS IN PANELS AND SWITCHBOARDS

A. Conductors in panels, switchboards, and terminal cabinets shall be neatly grouped and formed in a manner to "Fan" into terminals with regular spacing.

3.09 CABLE SUPPORTS

A. Provide conductor support devices as required by code in vertical cable runs.

3.10 RACEWAY SIZES REFERENCED ON DRAWINGS

A. Raceways are sized for copper, type THW, unless otherwise noted. Size all Raceways per code unless specifically noted to be larger on the drawings.

3.11 NON-METALLIC SHEATHED CABLE PROTECTION

A. Install non-metallic sheathed cable in at least a 2 ¾" deep chase as measured from the finished wall surface per WAC requirements.

B. Provide a steel plate recessed in the cavity, covered with plaster, adobe or similar finish between the finished wall surface and the cable if the cable cannot be recessed at least 2 ¾" deep.

END OF SECTION

SECTION 26 05 26 -GROUNDING

PART 1 GENERAL

1.01 WORK INCLUDED

A. A grounding system shall be provided for neutral ground and equipment ground as required by code.

PART 2 PRODUCTS

2.01 GROUNDING CONDUCTORS

A. Copper, code size, with physical protection where subject to damage. Bare or green insulated.

PART 3 EXECUTION

3.01 GENERAL

A. Provide all grounding for electrical systems and equipment as required by codes and as specified herein.

3.02 SIZE OF GROUND WIRE

A. As required by code. Where ground wire is exposed to physical damage or is used outside of building or underground, protect with rigid non-metallic conduit.

3.03 GROUND CONNECTION OF WATER PIPING

A. Metal internal piping shall be grounded, as part of this Contract. This includes jumpers for dielectric fittings.

3.04 CONNECTION TO THE GROUND BUS

A. Provide connections in accordance with the codes; including but not limited to conduit system, switchboard frame, service neutral and electrically operated equipment and devices. No device or equipment shall be connected for electrical service which has a neutral conductor connected to a grounding conductor or to the frame within the device or equipment.

3.05 METHOD OF CONNECTION

A. Make all ground connections and ground cable splices by thermal welding. Grounding lugs, where provided as standard Manufacturer's items on equipment furnished, may be used.

3.06 FLEXIBLE RACEWAY

A. Shall not be used for grounding. Install separate ground conductor in all flexible raceway.

3.07 PVC RACEWAY

A. Install separate ground conductor in all PVC raceway as required per code.

END OF SECTION

SECTION 26 05 32 - OUTLET AND PULL BOXES

PART 1 GENERAL

1.01 WORK INCLUDED

A. Provide outlet and pull boxes to enclose devices, permit the pulling of conductors and for wire splices and branches.

PART 2 PRODUCTS

2.01 INTERIOR WIRING

A. General: Outlet and pull boxes shall be pressed drawn steel, zinc coated with plaster ring where applicable. Welded boxes not allowed. Four-inch size minimum. Large pull boxes shall be fabricated sheet steel, zinc coated or baked enamel finish, with return flange and screw retained cover. Non-metallic boxes may be used within dwelling units as permitted by code.

B. Surface Metal Raceway: Boxes of same Manufacture and to match Raceway. Boxes to accommodate standard devices and device plate.

C. Concrete and Masonry: Boxes for casting in concrete or mounting in masonry walls shall be the type specifically designed for that purpose.

D. Install pull boxes so as to be accessible after completion of building construction.

E. Ceiling outlet boxes shall be galvanized octagonal 4 inch, 1-1/2 inch deep (without fixture stud), 2-1/8 inches deep (with fixture stud).

2.02 EXTERIOR WIRING

A. Above Grade: Outlet and junction boxes shall be cast or malleable iron or shall be cast of corrosion resistant alloy compatible with Raceway to which it is connected. Pull boxes shall be fabricated of heavy gauge steel and hot dipped galvanized. All boxes shall have gasketed covers.

B. Below Grade: Where exposed to earth, boxes (handholes) shall be constructed of precast concrete with size, configuration, cover, grates and reinforcing as required by the particular installation. Manufacturer: Similar to Utility Vault 3030LA with base or Fogtite J11 Type 2 with base. Lid shall be H-20 rated where installed in traffic areas. Where not exposed to earth shall comply with Paragraph 2.02A above.

C. Exterior outlet boxes shall be weather resistant and rain tight, with appropriate covers, gaskets and screws.

PART 3 EXECUTION

3.01 ANCHORING

A. All boxes shall be firmly anchored directly or with concealed bracing to building studs or joints. Boxes must be so attached so that they will not "Rock" or "Shift" when devices are operated.

3.02 FLUSH MOUNTING

A. Except for surface mounted boxes or boxes above accessible ceilings, all boxes shall have front edge (box or plaster ring) even with the finished surface of the wall or ceiling.

3.03 ELECTRICAL OUTLETS

A. General: Coordinate the work of this section with the work of other sections and trades. Study all Drawings that form a part of this Contract and confer with various trades involved to eliminate conflicts between the work of this section and the work of other trades. Check and verify outlet locations indicated on Architectural Drawings, door swings, installation details, layouts of suspended ceilings and locations of all plumbing, heating and ventilating equipment.

B. Centered on Built-In Work: In the case of doors, cabinets, recessed or similar features, or where outlets are centered between such features, such as between a door jamb and a cabinet, make these outlet locations exact. Relocate any outlets which are located off center.

C. Vertical and Horizontal Relationships: Where more than one outlet is shown or specified to be at the same elevation or one above the other, align them exactly on centerlines horizontally or vertically. Relocate as directed all such outlets (including lighting, receptacle, power signal and thermostat outlets) which are not so installed, at no additional cost to Owner.

D. Device Outlet Height: Measure from the finished floor to the top of the rough-in box, unless otherwise noted.

Switches	4 Feet to top of rough-in box, Set Vertically
Receptacles & Telephone	18 Inches to center, Set Vertically or as Indicated
Other	As Noted or as Directed by Architect

E. Ceiling Location: For acoustical material locate outlet either at the corner joint or in the center of a panel, whichever is closer to the normal spacing. Locate all outlets in the same room in the same panel location.

F. Installed In Sound Walls: Boxes installed in sound walls shall not be installed back to back. All boxes shall be separated by one stud space and shall be interconnected with flex conduit with a 90° loop.

3.04 ELECTRICAL WORK IN COUNTERBACKS, MILLWORK AND CASEWORK

A. Provide as shown and/or specified. Provide templates, where required, to other trades for drilling and cutting to insure accurate location of electrical fixtures (outlets and devices) as verified with the Architect. Provide all wiring, devices, plates and connections required by said fixture.

3.05 CONNECTION TO EQUIPMENT

A. For equipment furnished under this or other Divisions of the Specifications, or by others. Provide outlet boxes of sizes and at locations necessary to serve such equipment. An outlet box is required if the equipment has pigtail wires for external connection, does not have space to accommodate circuit wiring used. Study equipment details to assure proper coordination.

3.06 BLANK COVERS

A. Provide blank covers or plates over all boxes not covered by equipment.

3.07 JUNCTION OR PULL BOXES

A. Pull and junction boxes shall be installed as shown, and to facilitate pulling of wire and to limit the number of bends within code requirements. Boxes shall be permanently accessible and shall be placed only at locations approved by the Architect.

B. In suspended ceiling spaces, boxes shall be supported from the structure independently from ceiling suspension system.

C. The Drawings do not necessarily show every pull or Junction Box required. The Contractor is permitted to provide boxes deemed necessary by him for his work when installed in accordance with these Specifications.

3.08 BOXES CONTAINING MULTIPLE DEVICES

A. Boxes containing emergency and normal devices are permitted only with steel barriers Manufactured especially for the purpose of dividing the box into two completely separate compartments.

B. Device Boxes Containing Multiple Devices and Wiring Rated Over 150 Volts to Ground and Over 300 Volts Between Conductors are permitted only with steel barrier manufactured especially for the purpose of dividing the box into separate compartments for each device having exposed live parts.

3.09 BOXES IN EARTH

A. Provide for all wire splices and as required to pull conductors. Boxes (handholes) shall be set in place on a 3" sand bed. Coverplates shall be flush to, and match the slope of, the final surface grade.

END OF SECTION

SECTION 26 05 33 - RACEWAY

PART 1 GENERAL

1.01 WORK INCLUDED

A. Provide Raceway System complete.

PART 2 PRODUCTS

2.01 GALVANIZED RIGID STEEL CONDUIT (GRS)

A. General: Hot dipped galvanized.

B. Fittings: Galvanized malleable iron or noncorrosive alloy compatible with galvanized conduit. Erickson couplings, watertight split couplings (O.Z. type or equivalent) permitted. Running thread or set screw type fittings not approved.

2.02 INTERMEDIATE METAL CONDUIT (IMC)

A. General: Hot Dipped galvanized.

B. Fittings: Galvanized malleable iron or noncorrosive alloy compatible with galvanized conduit. Erickson couplings, watertight split couplings (O.Z. type or equivalent) permitted. Running thread or set screw type fittings not approved.

2.03 ELECTRICAL METALLIC TUBING (EMT)

A. General: Hot dipped galvanized.

B. Fittings: Raintight; steel or malleable iron type using a split corrugated compression ring and tightening nut or stainless steel locking disc. Steel set screw fittings are acceptable. Indenter, drive-on and pressure cast or die cast type set screw are not acceptable.

2.04 FLEXIBLE METAL CONDUIT

A. Dry Locations:
   1. General: Galvanized flexible steel for dry locations.
   2. Fittings: Malleable iron or steel, Thomas and Betts "squeeze" type or equal.

B. Damp and Wet Locations:
   1. Liquid Tight: Polyvinyl chloride (PVC) weatherproof cover over flexible steel conduit.
   2. Fittings: Thomas and Betts "Super-Tite" or equal.

2.05 SURFACE METAL RACEWAY

A. Formed steel or aluminum type. Standard factory finish. Where color choice is available, consult Owner for selection prior to ordering.

2.06 RIGID NON-METALLIC CONDUIT (PVC)

A. Schedule 40 rigid polyvinyl chloride type unless otherwise noted.

PART 3 EXECUTION

3.01 GENERAL

A. Install Raceway concealed in construction unless noted otherwise on the Drawings or specifically approved in writing by the Owner.

B. Cut Raceway ends square, ream and extend maximum distance into all couplings and connectors.

C. Provide and install manufactured end caps on all Raceway ends during construction to prevent the entrance of water or dirt. Tape, as a cover, not permitted.

D. Swab out all Raceways before pulling wires.

E. All elbows for GRS and PVC Raceway shall be factory elbows. For all other Raceway, use factory ells for bends of 1-1/4" and larger diameter.

F. Raceway shall not penetrate sheet metal ducts unless permission is granted by Owner. All sleeves shall be provided for Raceway installation.

G. Provide 2 - 3/4" C.O. stub into accessible ceiling space from all recessed panelboards or systems terminal boxes.

3.02 GALVANIZED RIGID STEEL CONDUIT

A. All Connections shall be watertight. Install for all Raceways in concrete or where subject to damage.

3.03 INTERMEDIATE METAL CONDUIT

A. Intermediate metal conduit is permitted as a substitute for galvanized rigid steel conduit except where GRS is required by code.

3.04 ELECTRICAL METALLIC TUBING

A. Install for wiring in masonry, frame construction, furred ceilings and above suspended ceilings. May be used for exposed work in unfinished areas where not subject to damage. Where construction involves masonry work, surface cut masonry units wherever such masonry units are to remain unplastered or uncovered in complete construction.

3.05 RACEWAYS UNDERGROUND

A. Galvanized rigid steel conduit - painted with two coats of bitumastic paint - or galvanized rigid steel conduit with 15 mil. polyvinyl chloride (PVC) jacket (repair abrasions with PVC base paint or PVC)

B. PVC Raceways may be used for underground runs when permitted by code. Field bends, when necessary, shall be formed only with factory recommended heater. Penetrations through floor and walls shall be galvanized rigid steel conduit. PVC, if used, shall be increased in size from that shown to include code required ground wire. Bends in excess of 10 degrees shall be GRS.

C. Arrange and slope Raceways entering building to drain away from building.

D. Ground wires shall be provided in all PVC Raceway.

3.06 INSERTS, SHIELDS AND SLEEVES

A. Furnish and set in place, in advance of pouring slabs and walls, all inserts and sleeves needed to execute Division 16 equipment installation.

B. Where supports in slabs are required after wall has been poured, use a drilled-in threaded insert, installed as recommended by Manufacturer.

C. Sleeves shall be provided for all wall penetrations.

3.07 RACEWAYS THAT STUB UP THROUGH FLOOR

A. Install at such depth that the exposed Raceway is vertical and no curved section of the elbow is visible.

B. PVC Raceway shall not be stubbed through floors.

3.08 SEALING OF RACEWAY PENETRATIONS

A. Exterior Wall Surfaces Above Grade: Seal around all penetrations with caulking approved by Engineer. For concrete construction above ground level, cast Raceway in wall or core drill wall and hard pack with a mixture of equal parts of sand and cement.

B. Exterior Surfaces Below Grade: Cast Raceway into wall (or floor) or use manufactured seal assembly (such as O.Z. type "FSK") cast in place.

C. Roofs: Provide mopped, lead, roof jack where Raceway penetrates roof membrane.

D. Fire Rated Floors, Walls, Ceiling/Roofs: Concrete or masonry, seal around Raceway penetration with Dow Corning 3-6548 silicone RTV foam or approved equal. Plaster or gypsum wallboard, seal around Raceway penetration with plaster, fire tape per local Fire Marshal's requirements.

3.09 SEALING OF RACEWAYS

A. Seal interior of all Raceways which pass through buildings roofs or through outside walls of the building, above or below grade. Seal on the end inside the building using duct sealing mastic, non-hardening compound type, specially designed for such service. Pack around the wires in the Raceways.

3.10 HANGARS FOR RACEWAYS

A. In suspended ceiling spaces Contractor may, at his option, attach 1/2" or 3/4" EMT Raceways to the ceiling suspension system where such system is structurally suitable; in which case, provide clips manufactured for the purpose.

B. When more than two Raceways will use the same routing, group together on a patented channel support system (such as Unistrut).

3.11 SURFACE METAL RACEWAY

A. Install parallel to building surface (i.e., wall, ceiling, floor). Fasten to surface as recommended by Manufacturer. Mount so Raceway is in the least obvious location.

3.12 FLEXIBLE CONDUIT

A. Flexible conduit shall be used **only** for connection to motors and equipment subject to vibration with 90 degrees loop minimum to allow for isolation and for lay-in fluorescent fixtures above T-Bar ceilings. For fixture installations, one end of flex must terminate in rough-in junction box. Flex conduit shall not be installed over 6' long or used to connect from fixture to fixture. Use liquid tight for pumps, equipment which is regularly washed down, and equipment in damp locations. Provide ground wire when required by code.

3.13 PULL CORDS

A. Nylon type shall be included in all installed empty Raceway.

END OF SECTION

SECTION 26 05 34 - METAL CLAD CABLE (TYPE MC) AND FITTINGS

PART 1 GENERAL

1.01 WORK INCLUDED

A. Provide Metal Clad (Type MC) Cable for power, control and lighting systems.

B. Provide wiring connections and terminations.

1.02 REGULATORY REQUIREMENTS

A. UL 1569. Products shall be tested, approved and labeled/listed by Underwriters Laboratories, Inc.

1.03 USES PERMITTED

A. MC Cable is permitted to be used for 20amp lighting and power circuits where routing is above grade, concealed and the installation meets the requirements of NEC 330.

B. MC Cable shall NOT be used for HVAC equipment.

PART 2 PRODUCTS

2.01 CABLE ASSEMBLY

A. Metal clad cable assemblies shall consist of 2, 3 or 4 current carrying conductors and an equipment ground conductor.

B. Conductors: Solid Copper conductor, No. 12 AWG minimum or No. 10 AWG maximum. Installation methods shall be as specified under Part 3 - Execution.

C. Insulation: Conductor insulation shall be rated 600 volt, Type THHN, 90°C dry.

D. Fillers: Fillers shall be non-hygroscopic and non-wicking.

E. Binder: Core binder shall be corrugated polyester.

F. Sheath: The metal sheath shall be galvanized steel or aluminum. The metal sheath shall be extruded onto the cable or applied longitudinally, then wrapped and welded. The sheath shall then be corrugated for greater flexibility.

G. Jacketing: When PVC jacketing is required, the jacket shall be flame-retardant PVC with a temperature range of -40°C to 90°C.

H. Equipment Grounding Conductor: The equipment ground wire shall be of the same construction as specified in 2.02.A and 2.02.B and be at a minimum the same size as the current carrying conductors. The insulation color shall be green.

2.02 FITTINGS

A. Fittings shall be UL listed and identified for such use with metal clad continuous corrugated sheath cable, with or without PVC jacketing, as is appropriate for the installation.

B. Connectors shall be of steel or malleable iron and shall be a squeeze type clamp connector with a locknut for non-jacketed metal clad cable. Compression gland type connectors shall be used for jacketed metal clad cable.

PART 3 EXECUTION

3.01 INSTALLATION – POWER AND LIGHTING SYSTEMS WIRING

A. All wiring shall be installed in compliance with the latest version of the National Electrical Code and all other applicable codes and standards as indicated elsewhere in these specifications.

B. Use of metal clad cable shall be permitted only for lighting, equipment and receptacle branch circuits. Metal clad cable shall not be permitted in locations designated to be hazardous Class I, II or III.

C. Metal clad cable shall be permitted only for motor circuits where the motor being served is less than ½ HP and rated for 120V, single phase. Metal clad cable is not permitted for HVAC equipment and controls.

D. Metal clad cable shall only be installed concealed within walls and above ceiling interstitial spaces. Where there is no ceiling interstitial space, metal clad cable may not be used.

E. Bends in corrugated sheath metal clad cable shall be made so that the cable will not be damaged. The radius of the curve of the inner edge of any bend shall not be less than seven (7) times the diameter of the metallic sheath.

F. Metal clad cable is not permitted to connect branch circuits to fumehoods, gas storage cabinets, or chemical storage cabinets.

G. No metal clad cable shall be installed in ventilation ducts or plenums.

H. Conductors in Enclosures: Provide neat and workmanlike installation with conductors tied with T&B Ty-Rap, Virginia Plastics, or equal, nylon wire ties in terminal cabinets, gutters and similar locations.

3.02 FITTINGS

A. Fittings used for connecting metal clad cable to boxes, light fixtures or other equipment shall be UL listed and identified for such use.

B. Cable preparation for installation of fittings shall follow manufacturer's instructions. The manufacturer's specialized tools shall be used for preparing cable ends for installation of fittings.

C. The cable end shall be cut square to ensure flush seating of the cable into the fitting. Fitting securement screws shall be properly torqued. Cable ends shall be fitted with insulating bushings intended for the type of metal clad cable being installed.

D. For jacketed metal clad cable, the outer jacket shall be removed to the length specified by the fitting manufacturer's instructions. Remove oils or solvent by-products from the outer jacket of the cable. The cable end shall be cut square to ensure flush seating of the cable into the fitting. The fitting gland nut shall be properly torqued to the manufacturer's specifications.

3.03 ARRANGEMENT AND SUPPORT

A. Metal clad cables shall be run parallel with walls or structural elements. Vertical runs shall be plumb; horizontal runs level and parallel with structure, as appropriate. Groups shall be racked together neatly with both straight runs and bends parallel and uniformly spaced.

B. Metal clad cables shall be securely fastened in place at intervals of not more than six feet, with suitable clamps or fasteners of approved type, and all vertical conduits shall be properly supported to present a mechanically rigid and secure installation.

C. Metal clad cable installed parallel to framing members, such as studs, joist, or rafters, shall be supported so that the nearest outside surface of the cable is not less than 1-1/4 inches from the nearest edge of the framing member. Where this distance cannot be maintained, the cable shall be protected by a steel plate, sleeve, or equivalent that is at least 1/16-inch thick.

D. Maintain at least 6-inch clearance between metal clad cables and other piping systems. Maintain 12-inch clearance between metal clad cables and heat sources such as flues, steam pipes, and heating appliances.

E. No metal clad cable shall be fastened to other conduits or pipes or installed so as to prevent the ready removal of other pipes or ducts for repairs.

F. Individual metal clad cables hung from roof structure or structural ceiling shall be supported by split-ring hangers and wrought-iron hanger rods. Where three (3) or more metal clad cables are suspended from the ceiling in parallel runs, use steel channels, Kindorf, Unistrut or equal, hung from 1/2-inch rods to support the conduits. The conduit on these channels shall be held in place with metal clad cable clamps designed for the particular channel that is used.

G. Secure metal clad cable support racks to concrete walls and ceilings by means of cast-in-place anchors; die-cast, rustproof alloy expansion shields; or cast flush anchors. Wooden plugs, plastic inserts, or gunpowder driven inserts shall not be used as a base to secure conduit supports.

H. Metal clad cable shall be supported immediately on each side of a bend and not more that one (1) foot from an enclosure where a run of metal clad cable ends.

I. Use of cable tray:
   1. The sum of the cross-sectional areas of all cables shall not exceed the maximum allowable cable fill area allowed by NEC Tables 392.9, 392.9(E) and 392.9(F).
   2. Cables shall be installed in a single layer with a maintained spacing of not less than one cable diameter between cables.
   3. Ampacity of cables installed in cable tray shall meet the requirements of NEC 392.11.

3.04 INSPECTION AND TESTS

A. General: The electrical installation shall be inspected and tested to ensure safety to building occupants and operating personnel and conformity to Code.

B. Measure and record insulation resistance of all power and control wiring including insulation resistance of all equipment:
   1. The insulation resistance of each circuit phase-to-phase and phase-to-ground shall be measured. For circuits rated less than 600 volts, the resistance shall not be less than 2 megohms.
   2. Systems rated above 240 volts shall be tested with a 1000-volt Megohmeter. Circuits rated 240 volts and below shall be tested with a 500-volt Megohmeter. The D.C. potential shall be applied for thirty (30) seconds.

C. The contractor shall record test readings and submit certified test to the Engineer for review and acceptance approval before energizing respective circuits.

END OF SECTION

SECTION 26 27 26 - SWITCHES AND RECEPTACLES

PART 1 GENERAL

1.01 WORK INCLUDED

A. Provide all wiring devices and plates.

B. No push-in terminals allowed.

C. All devices color shall be white, unless otherwise noted.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Hubbell

B. Pass & Seymour

C. Leviton

D. Cooper

E. Or approved equal

2.02 SWITCHES

A. "Specification Grade", quiet type, rated 277 volt, 20 amp, unless noted, with plastic handle. Single pole, double pole, 3-way, or locking type as required. Meets Fed. Spec. WS-896 Provide matching styles and colors in other devices as required for the conditions of installation. Hubbell CSB120, Eaton CSB120, Leviton 1221, and P&S 20AC1

B. Interchangeable type shall be rated same as above.

C. Motor rated switches: Switches serving as motor disconnecting means shall be horsepower rated with overload relays and meet requirements as stated above. See manual starters in Section 26 24 19, ‘Manual Starters’.

D. Combination AFCI/Switch: 15 amp rated, 20-amp feed-through, 125 Volt outlet branch circuit combination AFCI/Switch; back and side wired. Leviton AFSW1.

E. Device plates shall be Hubbell, Leviton, or Cooper; nylon, white or color to match device.

2.03 RECEPTACLES

A. In All Non-occupyable spaces: Provide " Specification Grade", Duplex NEMA 5-20R configuration (20-Amp, 120-Volt) unless shown otherwise. Must have “rivetless ground” contact manufactured as an integral component of the external ground screw terminal. Meets Fed Spec. WC-596 Hubbell HBL5362, Cooper 5362, P&S 5362A, and Leviton 5362.

B. Tamper resistant, Duplex NEMA 5-20R configuration. Hubbell BR20ITR, Leviton 5362-SGI, and Cooper TR8300.

C. Tamper resistant, Self-Testing Ground-Fault Circuit-Interrupter Duplex Receptacles: 20A. 125V AC; 2-pole, 3 wire grounding; 10,000 amps current interrupting; green light indicator when power is ‘on’; red light indicator when device is in the tripped position; Red “EOL” (end of life) indicator with rapid flash when the unit has reached end of life and/or cannot provide GFCI protection. Provide GFI receptacles where required by code.

D. AFCI Tamper-Resistant Duplex Receptacles: 15 Amp. 125 volt; 20-amp feed-through, tamper resistant, AFCI; back and side wired. Leviton AFTR1.

E. Switched Receptacles: Switched receptacles shall match as specified elsewhere, nylon face with one controlled face split circuit hot tab, permanently marked for use with control systems, back and side wired.

F. Tamper Resistant, Weather Resistant (WR) / Ground Fault Circuit-Interrupter (GFCI) Outdoor Duplex Receptacles: NEMA 5-20R. Leviton GFWT2 or equal, for 20 Amp, 125-Volt AC.

G. Special Purpose Receptacles: For special purpose receptacles, see drawings for voltage, amperage, and phase. Provide with matching plug delivered to the Owner.

2.04 DEVICE PLATES

A. Interior: Plates for recessed boxes shall be Hubbell, Cooper or Leviton; nylon, white, or color to match device. Attachment screws shall match finish of plate. Plates for surface mounted boxes shall be of ivory nylon with size to fit exactly the box used.
   1. Where a duplex receptacle is indicated next to a USB receptacle, provide a dual-gang faceplate and mount both devices in the same backbox under the same faceplate.

B. Exterior: Intermatic # WP1010MC, for vertical mount and # WP1010HMC for horizontal mount, or equivalent for receptacles. Metal cover shall be raintight while-in-use.

2.05 LABELING

A. For receptacles other than NEMA 5-20R, the coverplate shall have ampere rating, voltage and phase engraved on a phenolic label and attached to the cover plate.

2.06 MULTIOUTLET ASSEMBLY (WHEN SHOWN)

A. Provide assemblies complete, including necessary fittings and hardware with circuits as indicated on Plans and outlet spacing as indicated. All assemblies shall contain ground wire. Wiremold or equal.

PART 3 EXECUTION

3.01 MOUNTING

A. Rigidly fasten each device to the outlet box at proper position with the wall to bring receptacle flush with plate or switch handle the proper distance through the plate.

3.02 ORIENTATION

A. Set switches vertical with handle operating vertically, up position "ON" at +48" above finished floor.

B. Set Receptacles vertical with ground slot down at +18" above finished floor.

C. Set Exterior Receptacles horizontal at +18" above finished grade.

3.03 DEVICE PLATES

A. Shall be stainless steel for each new wiring device and for each telephone and signal equipment outlet, except where equipment mounted thereon covers the outlet box completely.

B. Provide new covers on existing outlet boxes being reused.

3.04 DIMMER SWITCHES

A. Provide a separate neutral for each phase.

B. Fluorescent dimmer switches require a 4 square backbox per switch.

3.05 RECEPTACLE GROUNDING

A. Provide bare bonding wire between receptacle grounding terminal and box. Plaster ear screws connecting frame to the box will not be acceptable for grounding.

B. Provide green insulated grounding conductor in all branch circuits supplying ground-fault circuit-interrupter type receptacles.

3.06 HANDICAPPED ACCESS

A. Comply with requirements of Washington State Handicapped Access Code.

END OF SECTION

SECTION 26 50 00 - LIGHTING

PART 1 GENERAL

1.01 WORK INCLUDED

A. Provide the lighting system complete and operational.

B. Recessed fixtures installed in fire-resistive ceiling construction shall have the same fire rating as the ceiling or shall be provided with fireproofing boxes having materials of the same fire rating as the ceiling.

1.02 FIXTURE SCHEDULE MANUFACTURER'S SERIES NUMBERS

A. Are a design series reference and do not necessarily represent the number, size, wattage or the type of lamp, ballast or special requirements as specified hereinafter.

1.03 SUBMITTALS

A. Shall be neatly and clearly marked to indicate the fixtures, lamps and ballasts fully comply with contract documents. When substitute fixtures are submitted (if permitted) the data shall clearly cross reference (written or highlighted) that the substitute fixture complies with every detail of the specified fixture. Fixtures not fully complying with contract documents are not permitted.

PART 2 PRODUCTS

2.01 METAL PARTS

A. Interior Fixtures: Steel or aluminum with 300°F, baked enamel finish, brushed aluminum with baked acrylic clear lacquer finish, or stainless steel with a brushed finish, manufacturer's standard color unless specified otherwise.

B. Exterior Fixtures: Corrosion resisting metal, a (non-ferrous, stainless steel or special finish) and in all cases suitable for outdoor service without tarnishing or other damage due to exposure; manufacturer's standard colors unless specified otherwise; cadmium plate all metal parts concealed by canopies, including screws, plates and brackets. All exposed fasteners shall be tamperproof.

C. Recessed Type: Recessed fixtures shall be IC rated for direct contact with insulation.

2.02 LIGHT TRANSMITTING COMPONENTS

A. Virgin acrylic or polycarbonate plastic (0.125-inch thick overall minimum), UV stabilized or glass. Shall be contained in a captive metal frame that remains attached to the fixture when door is in open position.

2.03 SPECIAL PARTS

A. Adapters, Plates, Brackets and Anchors: Provide where required by construction features of the building to suitably mount lighting fixture. All such appurtenances and mounting methods shall be approved by the Architect/Engineer prior to fabrication and installation.

B. Low Voltage Transformers: Provide and install where required to power individual or linear runs of low voltage light fixtures.

2.04 LAMPS

A. Solid-State Lighting: Fixtures shall have a lumen maintenance life expectancy (L_{70}) of > 50,000 hours, a CRI of > 82, and a CCT of 3500K. Each solid-state fixture model shall be tested in accordance with IES LM-79.

2.05 LED DRIVERS/POWER SUPPLIES

A. The LED drivers/power supplies shall meet the following criteria:
   1. Drive mode: Constant Current or Constant Voltage depending on the LED configuration for the light fixture.
   2. Output currents: 250 mA – 1000 mA
   3. Output voltages: 6VDC – 48VDC

4. Input voltages: 110 to 277 VAC; 50/60 Hz.
5. Power factor at >0.90 @ full load
6. Line regulation accuracy: +/- 2%
7. Load regulation accuracy: +/- 3%
8. Greater than 80% efficient
9. Output over-voltage, output over-current and output short circuit protection with auto recovery
10. Limited power source output to allow for class 2 wiring.
11. Flicker Free 0-10V Dimmable to 10% light output.
12. Minimum of 50,000 hour rated life.
13. IP66 rated
14. 5 Year Warranty.
15. Acceptable Manufacturer: Advance Xitanium or approved equal.

2.06 HANGING FOR PENDANT FIXTURES

A. Rigid type, with not less than 5 thread engagement at each end, consisting of iron pipe, with brass or aluminum tubing casing, or painted tubing not less than 0.040 inches thick.

B. Provide a canopy for each fixture hanger except where fixture conceals the outlet box directly without a canopy.

C. Provide a safety chain for all glass pendant fixtures and for all fixtures mounted in gymnasiums.

D. Aircraft cable, stainless steel, sized appropriately by manufacturer for weight and seismic zone.

PART 3 EXECUTION

3.01 LIGHTING FIXTURES - GENERAL

A. Size and mounting height from finished floor to bottom of fixture as indicated on the drawings. Verify mounting provisions prior to the ordering of fixtures. Fixtures shall be UL listed for the location, and application in which they are installed.

B. Ceiling fixtures shall be coordinated with and suitable for installation in, on or from the ceiling as shown. Installation and support of fixtures shall be in accordance with NFPA 70 and manufacturer's recommendations.

3.02 DIFFUSERS AND ENCLOSURES

A. Install lighting fixture diffusers only after construction work, painting and clean up are completed. Prior to final acceptance, remove all lamps, reflectors and diffusers, wash, rinse and reinstall.

3.03 ADJUSTMENT OF FIXTURES

A. Make all final spotlight and adjustable light settings under the direction of the Architect/Engineer during a scheduled period of time prior to the completion of the project. Include costs for all equipment and personnel expenses required for adjustment.

B. For fixtures with indirect lighting, notify Engineer prior to installation of any circumstance where the fixture lamp source will be within 12" of ceiling.

3.04 SUPPORT OF LIGHT FIXTURES

A. Recessed Downlight Type: Mount in frames suitable for the ceiling, with the recessed portion of the fixture securely supported from the ceiling framing. For fixtures supported by a ceiling suspension system, provide two safety chains secured to structural members above suspended ceiling.

B. Surface and Pendant Mounted Type:
   1. Where mounted on accessible ceilings, hang from structural members by means of hanger rods through ceiling or as approved.
   2. Where ceiling is of insufficient strength to support weight of lighting fixture, provide additional framing to support as required. Fixtures shall be supported from structure with seismic bracing independent of ceiling.

3. For Pendant Mount Type: Provide a unistrut channel for mounting fixtures entire fixture length unless light fixture is designed specifically for supporting itself. Provide 3/8-inch thread rod secured to structural members for support of unistrut channel.
4. Continuous Runs of Fixtures: Straight when sighting from end to end, regardless of irregularities in the ceiling. Where fixtures are so installed, omit ornamental ends between sections.

3.05 LOCATION

A. Mount to the dimensions shown on the drawings. Mount at quarter points where no dimensions appear. Architect shall specify mounting locations where no dimensions appear and quarter point mounting is impractical or not indicated on the drawings.

B. Refer to details, mechanical drawings, and coordinate with mechanical Contractor for equipment and ductwork mounted in ceilings to prevent conflict with light fixtures prior to installation. If conflicts cannot be resolved with the Mechanical Contractor, notify Architect/Engineer.

3.06 SPARE PARTS

A. Drivers/Ballasts: Provide (10) or 10% spare (whichever is less) of each replaceable LED driver.

3.07 FIXTURE TENTING

A. Contractor shall coordinate ceiling types with architectural drawings and specifications and provide equivalent fire rated enclosures above all light fixtures which penetrate rated ceilings. E.Z. barrier fire-rated recessed light enclosure.

END OF SECTION

City of Bellevue

Development Services
Building Permit Cover Sheet

VERY IMPORTANT

A PRINTED COPY OF ALL APPROVED DOCUMENTS MUST REMAIN ON THE JOB SITE AND BE AVAILABLE AT ALL TIMES FOR INSPECTORS.

BUILDING

CITY OF BELLEVUE
DEVELOPMENT SERVICES DEPARTMENT
BUILDING DIVISION
APPROVED AS CORRECTED
SUBJECT TO FIELD INSPECTION
OVERSIGHT OR VIOLATIONS OF CITY ORDINANCES ARE NOT INCLUDED IN THIS APPROVAL.

DATE APPROVED: 02/13/2023
APPROVED BY: Violeta Tihova
425-452-4259
vtihova@bellevuewa.gov

IMPORTANT
ANY ALTERATION OR REVISIONS TO THESE PLANS REQUIRES A SEPARATE REVIEW OR OTHER WRITTEN APPROVAL

BEFORE YOU START WORK
SCHEDULE YOUR PRECONSTRUCTION MEETING WITH THE BUILDING INSPECTOR BY CALLING 425-452-6875 OR LOG INTO www.mybuildingpermit.com.
(use "200 precon/jobcon" on the automated IVR inspection request phone line)

The City of Bellevue requires a WABO certified special inspection agency to be retained by the owner to perform the required special inspections.
Provide the name and contact info of the special inspection agency.

Otto Rosenau & Associates, Inc.
6747 M.L. King Way South
Seattle, WA 98118
Phone: 206-725-4600

SEPARATE APPROVALS & PERMITS
REQUIRED FOR REVIEW OR INSPECTION OF
ELECTRICAL - MECHANICAL- PLUMBING - SIGNAGE ITEMS

BUILDING ADDRESS
TO BE LEGIBLE AND VISIBLE FROM STREET FRONT DURING AND AFTER CONSTRUCTION PER IBC SEC. 501.2 & IRC SECTION R319.1

PEDESTRIAN PROTECTION SHALL BE IN PLACE PRIOR TO DEMOLITION OR CONSTRUCTION OF ANY PROJECT.
IBC SECTIONS 3303.2 & 3306.1

CLEARING & GRADING

Additional erosion control may be required by the Clearing and Grading Inspector

TREE PROTECTION IS REQUIRED FOR ALL TREES TO REMAIN IN THE VICINITY OF THE WORK AREA

Earthwork within tree driplines must be performed under the supervision of an arborist to minimize damage to tree roots.

Erosion Control is required for all trenches for Utilities and Dry Utilities Installation

BEFORE YOU START ANY WORK
CALL 425-452-6875 TO SCHEDULE YOUR PRECONSTRUCTION MEETING WITH THE CLEARING & GRADING INSPECTOR.
Use "100 precon/jobcon" on the automated IVR inspection request phone line.

CITY OF BELLEVUE
DEVELOPMENT SERVICES DEPARTMENT
CLEARING & GRADING PERMIT

APPROVED
AS CORRECTED

Subject to field inspection. Approval is for erosion control and clearing & grading provisions only. Permit approval shall not be construed as approval for violation of any code or ordinance.
Prior to beginning construction, schedule and complete the required preconstruction conference/inspection. Refer to the permit document for instructions on scheduling inspections.

Approved Date:02/23/2023
Approved by: SUzunow

A log book must be maintained on-site that includes a record of the implementation of the CSWPPP, and updates to the CSWPPP or ESC Plan, installation and maintenance of BMPs, site inspections, and the results of any stormwater quality monitoring.

Pipes for footing drains must be smooth wall polyethylene (PE) meeting ASTM F810 or a more durable standard, or smooth wall polyvinyl chloride (PVC) meeting ASTM D2729 or a more durable standard. Pipes must be a minimum of 4 inches in diameter with cleanouts at 50' intervals, and at all changes of direction totaling 135 degrees or more.
Use of corrugated HDPE pipe is not permitted.

FIRE

CITY OF BELLEVUE
BELLEVUE FIRE DEPARTMENT
APPROVED AS CORRECTED
SUBJECT TO FIELD INSPECTION
OVERSIGHT OR VIOLATIONS OF CITY ORDINANCES ARE NOT INCLUDED IN THIS APPROVAL.

DATE APPROVED: 03/21/2023
APPROVED BY:SJin

CONDITIONS OF FIRE APPROVAL:

1. Demolition and construction shall conform to the requirements of International Fire Code (IFC) Chapter 33.
2. Garage is to contain only electric golf carts per Architect Notes on Sheet A 1.1 and contain no more than 5-gallons of miscellaneous combustible or flammable liquids used in vehicle maintenance, such as engine oil. No diesel or gasoline to be stored. Additional permits and protection will be required if this changes.

LAND USE

CITY OF BELLEVUE
DEVELOPMENT SERVICES DEPARTMENT
LAND USE APPROVAL
APPROVED AS CORRECTED
OVERSIGHT OR VIOLATIONS OF CITY ORDINANCES ARE NOT INCLUDED IN THIS APPROVAL.

DATE APPROVED: 02/01/2023
APPROVED BY:Amy Tarce
(425)452-2896
atarce@bellevuewa.gov

CONSTRUCTION NOISE
1. Do not operate any diesel, pneumatic, or gasoline-powered equipment that is not properly muffled or silenced.
2. Sounds created by construction activity are limited to the hours between 7 a.m. to 6 p.m. on weekdays and 9 a.m and 6 p.m. on Saturdays and prohibited on Sundays and other legal holidays. (See BCC 9.18)

TRANSPORTATION

CITY OF BELLEVUE
DEVELOPMENT SERVICES DEPARTMENT
TRANSPORTATION
APPROVED AS CORRECTED
SUBJECT TO FIELD INSPECTION
OVERSIGHT OR VIOLATIONS OF CITY ORDINANCES ARE NOT INCLUDED IN THIS APPROVAL.
CALL 425-452-6875, TWO (2) BUSINESS DAYS PRIOR TO BEGINNING CONSTRUCTION TO SCHEDULE REQUIRED PRE-CONSTRUCTION CONFERENCE.

DATE APPROVED: 12/15/2022
APPROVED BY: INisbet

UTILITIES

CITY OF BELLEVUE
UTILITIES DEPARTMENT
ENGINEERING DIVISION
APPROVED

DATE APPROVED 11-21-2022
APPROVED BY:
JAMES E. HENDERSON
Senior Engineering Tech
425 452-7889
jehenderso@bellevuewa.gov

PERMIT NUMBER: 22-127651 BW
PROJECT NAME: Sanpiper - Cabana Office Addition
SITE ADDRESS: 1312 139th Ave NE

Check Permit Status
https://PermitSearch.MyBuildingPermit.com

Share your feedback!
On your plan review experience: https://bellevuewa.gov/IssuedSurvey
On your Inspection experience: https://bellevuewa.gov/InspectionSurvey

Request an Inspection
By phone: (425) 452-6875
On line: https://Inspection.MyBuildingPermit.com

City of Bellevue

Construction Noise Control

This notice shall be posted at the property line in a location visible from the point of access to the job site.

The Noise Control Ordinance applies to all commercial and multifamily construction, and new single-family homes.

Construction noise outside the allowable hours is prohibited per BCC 9.18.040. To be considered a violation, the construction-related noise must be audible across a property line or at least 75 feet from the source. Any violation is a civil noise infraction and the City may assess a monetary penalty to the individual creating the noise.
The penalty is:

- **A citation will be issued and a $250 fine imposed on the first infraction.**

Construction-related noise is allowed:

- **7 a.m. to 6 p.m. on weekdays**
- **9 a.m. to 6 p.m. on Saturdays**

Construction-related noise is not allowed:

- **Outside of allowable hours**
- **Sundays or the following holidays:**

New Years Day	Labor Day
Martin Luther King Day	Veteran's Day
President's Day	Thanksgiving Day
Memorial Day	Day after Thanksgiving
4th of July	Christmas Day

Call 911 to report construction-related noise violations.

Issued 04/12/2023

GENERAL NOTES

1. Contractor shall comply with the building codes as noted on drawings.
2. Contractor shall be responsible for providing all work and materials in accordance with all applicable city, county, and local building and fire codes as required.
3. Contractor shall obtain and pay for all necessary permits other than the building permit. Additionally, pay for all other charges, fees or costs associated with the work and charged by the municipality, utilities, or private companies
4. Contractor shall visit job site and verify all existing conditions and field dimensions prior to commencing work. Notify Architect if site conditions and/or Building Department require any modifications to these drawings.
5. Contractor is responsible for maintaining a safe and clean construction site.
6. Contractor is responsible for providing temporary bracing as required until all permanent structural assemblies and connections are secured.
7. Contractor shall establish an agreement with the Owner regarding allowable days and hours of work. Contractor shall not permit any construction activity to commence, or allow employees to cause noise on site, outside of the agreed-upon work periods.
8. Contractor shall coordinate all equipment or systems to be salvaged and given to the Owner, with the Owner. The Owner shall direct the Contractor as to the location of a storage area for salvaged items. The Contractor will be responsible for removing from the building and the construction site all construction debris and/or items not retained by the owner's representative.
9. No storage or use of flammable or combustible liquids, torch cutting or welding operations, open flame work, grinding that produces sparks, roofing operations, or use of flammable gas for temporary heating or drying shall be conducted on any construction site without first having obtained a specific permit from the City Fire Department for these hazardous activities. This includes demolition work. Please call the Fire Department permit information and application.
10. Egress, separation, fire protection systems, and emergency access shall meet the requirements of 2018 International Fire Code (IFC) chapter 33 during construction. Contractor materials and activities shall not block any exit, restrict emergency access, or impair fire separation in any building while the building is occupied. This includes demolition work and also applies to neighboring areas, spaces, and buildings.
11. The existing fire safety (fire alarm/sprinkler) system(s) shall remain online in the building(s) during the remediation project.
12. Deferred submittals may be required for any modification of the existing fire sprinkler and/or fire alarm system(s). Any and all proposed modifications must meet NFPA 13 and Municipal Code requirements.
13. If any of the fire safety (fire alarm/sprinkler) systems are offline during the course of the project, then a fire watch shall be posted while the system(s) are offline.

EXISTING BUILDING CODE

Existing Building Code Compliance: The work shall be in accordance with 2018 International Existing Building Code (IEBC), Chapter 7 & 8, Alteration Level 2 (Chapter 8) and Addition (Chapter 11) 4

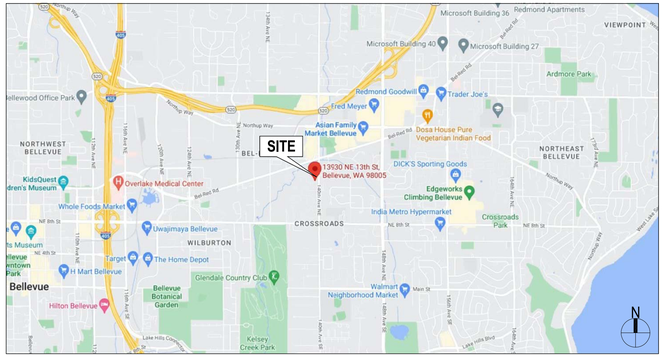
CONSTRUCTION TYPE (assumed): Type V-B per 2018 IBC
1-story (2216 sf plus mezzanine 920 sf), non-sprinklered, occupancies A-3 and B 4

2018 WSEC ENERGY CREDITS:
Windows/Doors to be U = 0.25 [per credit 1.4 from Table 406.3 - 2018 WSEC]
Energy Star rated gas or propane water heater with a minimum UEF of 0.91 [per credit 5.3]
Washer/Dryer machine to be Energy Star rated, ventless dryer with a minimum CEF rating of 5.2 [per credit 7.1] 2
3 Additional efficiency credits required for the office addition - enhanced envelope performance C406.10 4

CITY OF BELLEVUE
DEVELOPMENT SERVICES DEPARTMENT
LAND USE APPROVAL
APPROVED AS CORRECTED
OVERSIGHT OR VIOLATIONS OF CITY ORDINANCES ARE NOT INCLUDED IN THIS APPROVAL.
BY: Amy Tarce
(425)452-2896
atarce@bellevuewa.gov

CONSTRUCTION NOISE
1. Do not operate any diesel, pneumatic, or gasoline-powered equipment that is not properly muffled or silenced.
2. Sounds created by construction activity are limited to the hours between 7 a.m. to 6 p.m. on weekdays and 9 a.m and 6 p.m. on Saturdays and prohibited on Sundays and other legal holidays. (See BCC 9.18)

VICINITY PLAN



IMPERVIOUS CALCULATION

Lot size:	424,473 SF
Existing Impervious surfaces:	
Existing Buildings:	32,672 SF
Parking/Hardscaping:	65,450 SF
Existing Cabana:	1,945 SF
Proposed:	
ADA Ramp:	132 SF
Office Addition:	192 SF
Total Impervious Surfaces:	100,391 / 424,473 SF = **24%** < 65% Allowed 2

Additional erosion control may be required by the Clearing and Grading Inspector

TREE PROTECTION IS REQUIRED FOR ALL TREES TO REMAIN IN THE VICINITY OF THE WORK AREA

Earthwork within tree driplines must be performed under the supervision of an arborist to minimize damage to tree roots.

Erosion Control is required for all trenches for Utilities and Dry Utilities Installation

1 **SITE PLAN (FOR REFERENCE ONLY)**
SCALE: 1" = 30' - 0"

N

PROJECT DATA

PROJECT DESCRIPTION: Proposed office (183 SF) addition to the South of the existing cabana, which includes new entry door and new windows. Proposed new garage(265 SF) addition to the North of the existing cabana, which includes new roll-up door and man door. Existing pool to be decommissioned, and filled with gravel and covered with vapor barrier and slab.

PROPERTY ADDRESS:	1312 139th Ave NE Bellevue, WA 98005 3
PARCEL NUMBER:	272505-9014
LEGAL DESCRIPTION: LESS	N 1/2 OF S 1/2 OF NE 1/4 OF SW 1/4 CO RD
Q-S-T-R:	SW-27-25-5
LOT SIZE:	424,473 sq. ft. (9.74 Acres)
YEAR BUILT:	1974
BUILDINGS:	30 (no change)
DWELLING UNITS:	224 (no change)
STORIES:	2 (no change)
ZONING:	R-20 (no change)
USE:	Multiple Family (Low-Rise) (352) (no change)
JURISDICTION:	City of Bellevue
CLASS:	V - Wood Frame (no change)

SHEET INDEX

PROJECT TEAM

CLIENT / OWNER
KING COUNTRY HOUSING AUTHORITY (Main office)
600 Andover Park W.
Tukwila, WA 98188
t - 206.574.1100
f - 206.574.1104

ARCHITECT
KILBURN ARCHITECTS, LLC
135 Lake Street South, Suite 250
Kirkland, WA 98033
contact: H Todd Kilburn, AIA
todd@kilburnarchitects.com
t - 206.682.5211

STRUCTURAL ENGINEER
DIBBLE ENGINEERS, INC.
1029 Market St #200
Kirkland, WA 98033
contact: Robb Dibble, PE
robb@dibbleengineers.com
t - 425.828.4200

GENERAL CONTRACTOR
TBD

BUILDING ENCLOSURE DOCS. STATEMENT

The undersigned has provided building enclosure documents that in my professional judgment are appropriate to satisfy the requirements of RCW 64.55.005 through 64.55.090.

7302 REGISTERED ARCHITECT
H. TODD KILBURN
STATE OF WASHINGTON

BUILDING ENCLOSURE INSPECTOR

Kilburn Architects, LLC will fulfill the role of the qualified building enclosure inspector required per RCW 64.55.03 statement below:

"All multiunit residential buildings shall have the building enclosure inspected by a qualified inspector during the course of initial construction and during rehabilitative construction."

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7302 REGISTERED ARCHITECT
H. TODD KILBURN
STATE OF WASHINGTON

Sandpiper East -

New Garage & New Office Addition to Cabana

1312 139th Ave NE
Bellevue, WA 98005

Release	Date
permit	11. 2. 2022
REV. 1	12.12.2022
REV. 2	01.12.2023
REV. 3	01.30.2023
REV. 4	02.15.2023

Cover and Site Plan

A-0.1

BMP LEGEND : NOTE: VEGETATION RESTORATION/PEMANENT STABILIZATION FOR THE DISTURBED AREAS REQUIRED

- DIRECTION OF DRAINAGE
- CLEARING LIMITS — PRESERVATION OF NATURAL VEGETATION BMP C101 — HIGH VISIBILITY FENCE BMP C103
- CONSTRUCTION ACCESS — STABILIZE CONSTRUCTION ENTRANCE/EXIT BMP C105
- CONTROL FLOW RATES — *NONE NEEDED (FLAT GRADE/NO SLOPE)*
- SEDIMENT CONTROLS — WATTLES BMP C235 — *- NEAR STORM DRAINS OR WHERE APPROPRIATE (FLAT GRADE/NO SLOPE)*
- STABILIZE SOILS — MULCHING BMP C121
- PROTECT SLOPES — *NONE NEEDED - FLAT GRADE/NO SLOPE*
- PROTECT DRAIN INLETS — STORM DRAIN INLET PRETECTION BMP C220
- STABILIZE CHANNELS AND OUTLETS — *NONE NEEDED - NO DRAINS NEARBY (FLAT GRADE/NO SLOPE)*
- CONTROL POLLUTANTS — MATERIAL DELIVERY, STORAGE AND CONTAINMENT BMP C153
- CONTROL DEWATERING — *NONE NEEDED - EXISTING SITE (FLAT GRADE/NO SLOPE)*
- PROTECT LOW IMPACT DEVELPMENT (LID) BMP's — HIGH VISIBILITY FENCE BMP C103

4

NOTES:
1. Verify all conditions in the field.

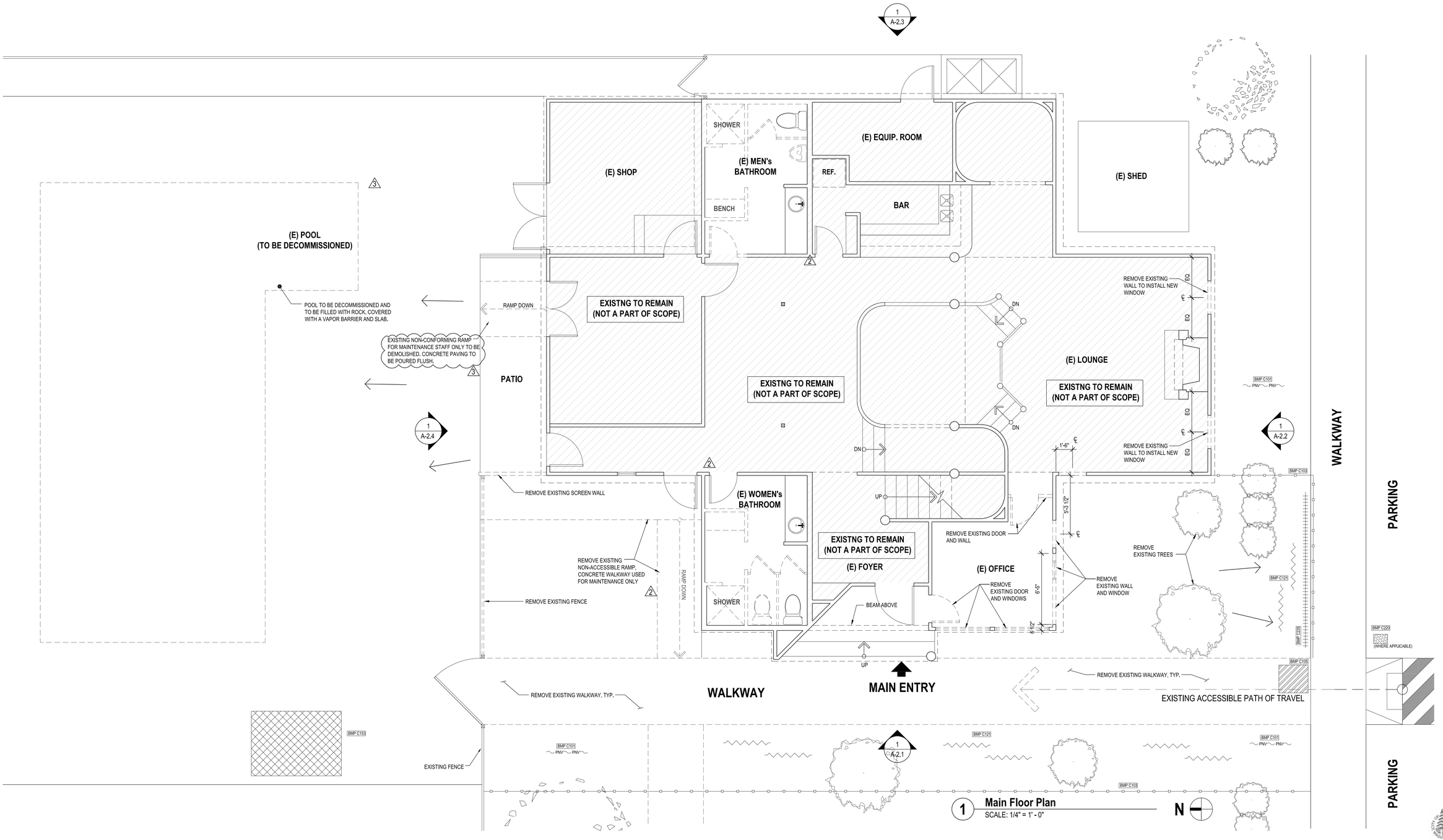
WALL KEY:
- DEMO (E) WALL
- EXISTING WALL TO REMAIN

Additional erosion control may be required by the Clearing and Grading Inspector

TREE PROTECTION IS REQUIRED FOR ALL TREES TO REMAIN IN THE VICINITY OF THE WORK AREA

Earthwork within tree driplines must be performed under the supervision of an arborist to minimize damage to tree roots.

Erosion Control is required for all trenches for Utilities and Dry Utilities Installation



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REV. 4	02.15.2023

Existing Floor Plan

AB-1.1

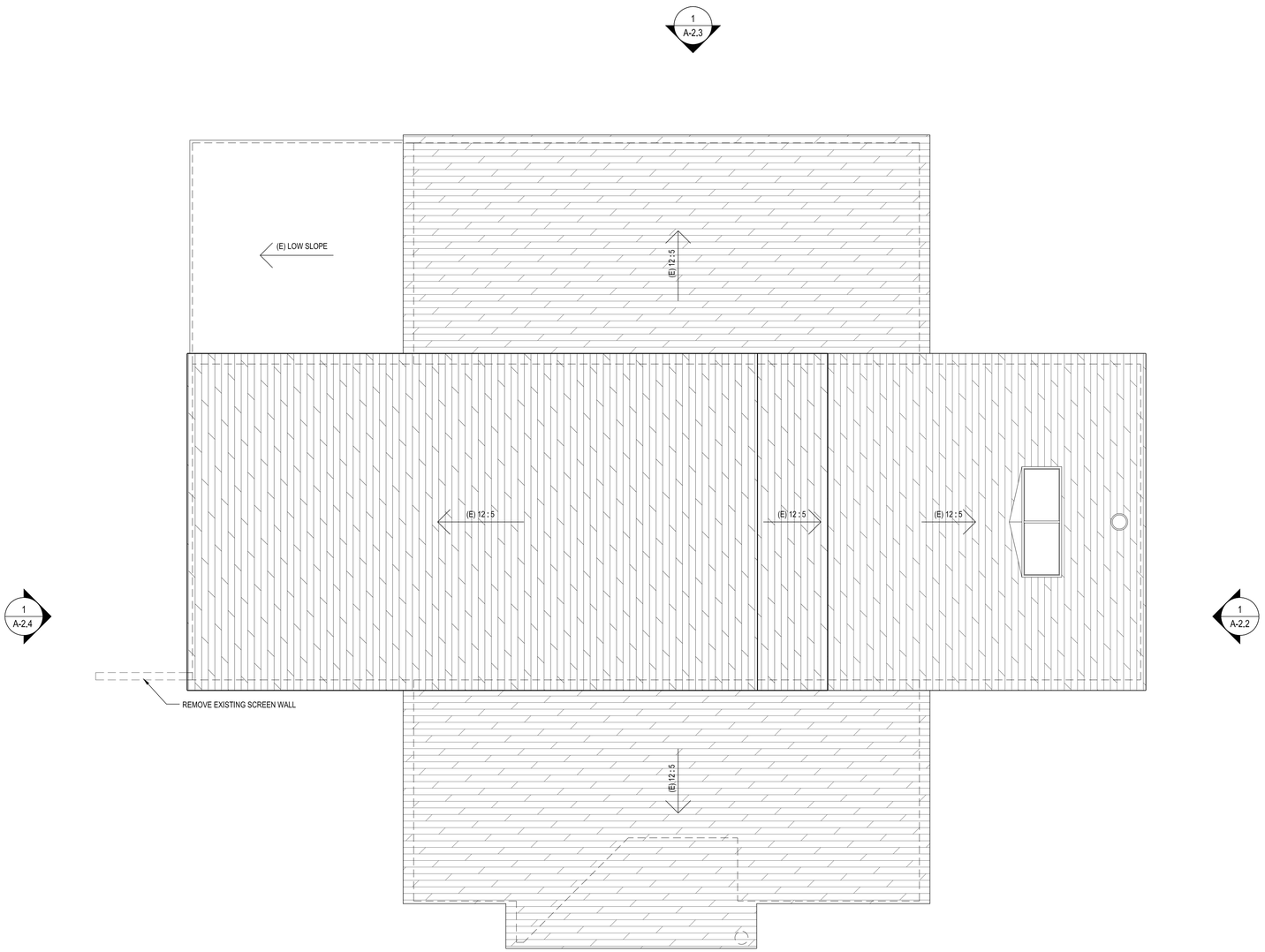
Issued 04/12/2023

NOTES:
1. Verify all conditions in the field.

WALL KEY:

DEMO (E) WALL

EXISTING WALL TO REMAIN



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

N

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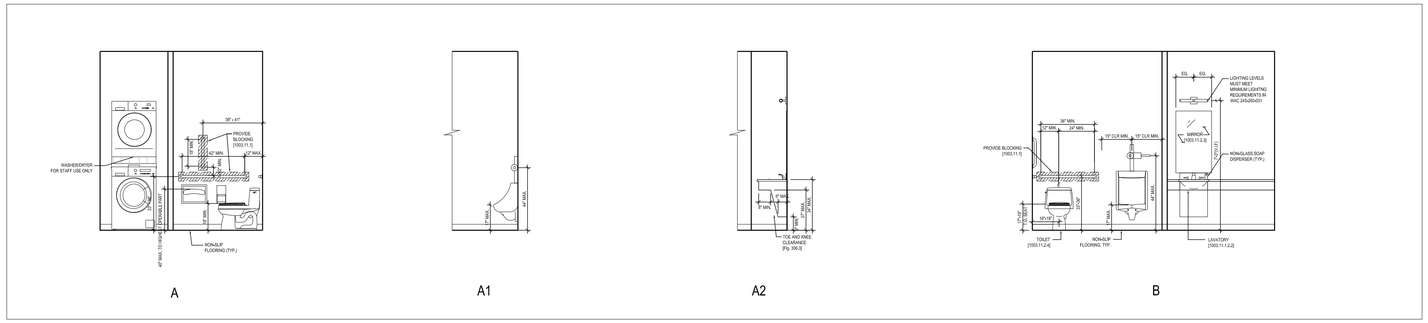
Bellevue, WA 98005

Release	Date
permit	11. 2. 2022

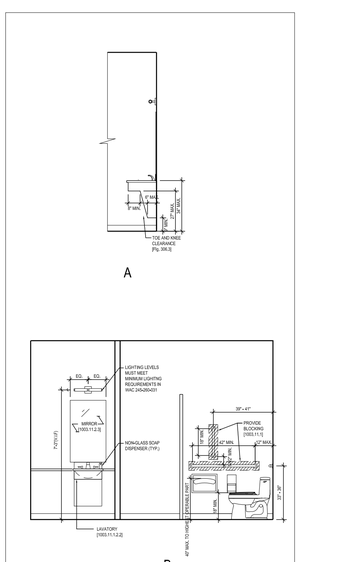
Existing Roof Plan

AB-1.2



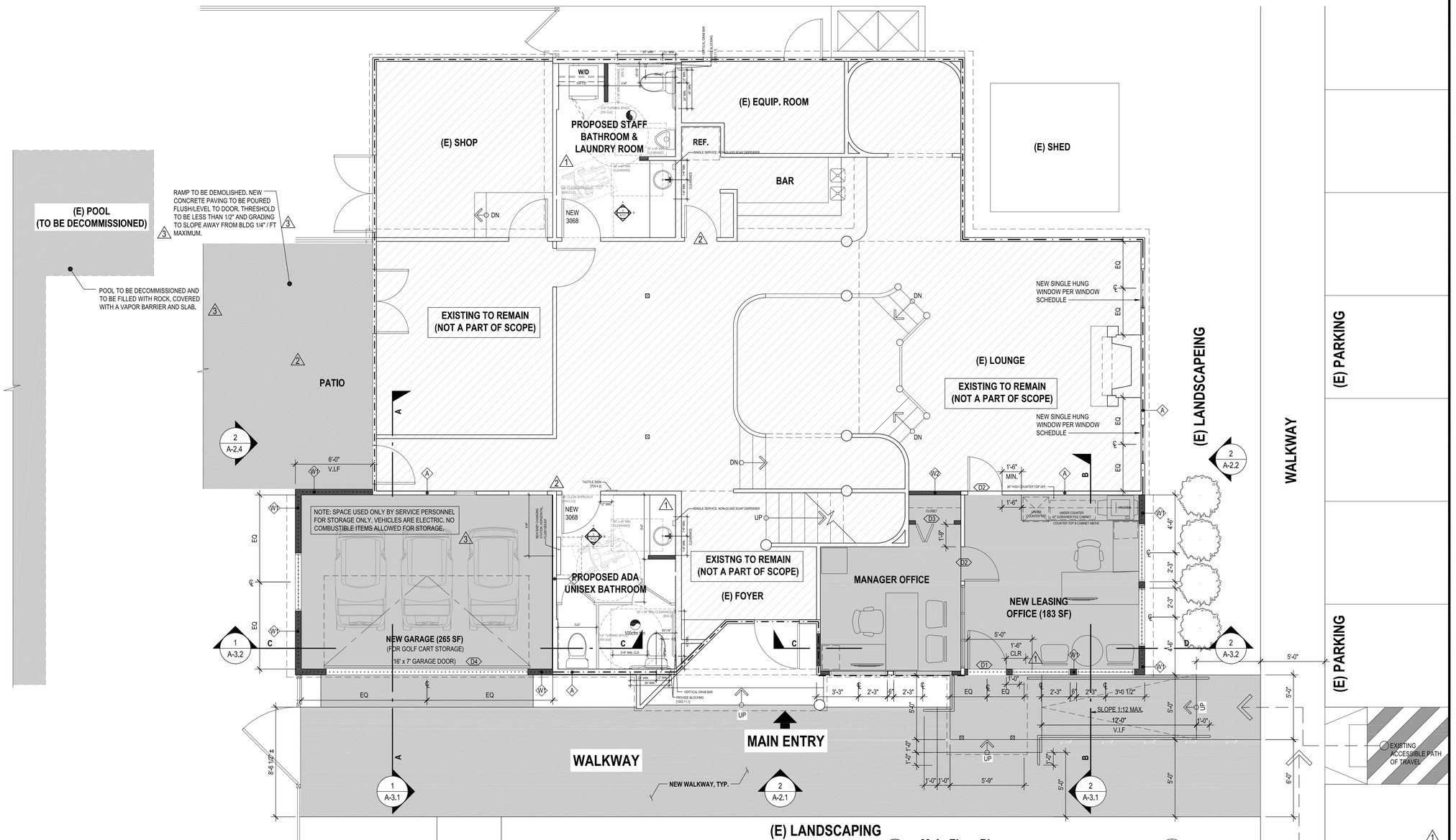
3 Interior Elevations - Staff Bathroom

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



2 Interior Elevations - Unisex Bathroom

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



2018 WSEC ENERGY CREDITS:
Windows/Doors to be U = 0.25 [per credit 1.4 from Table 406.3 - 2018 WSEC]
Energy Star rated gas or propane water heater with a minimum UEF of 0.91 [per credit 5.3]
Washer/Dryer machine to be Energy Star rated, ventless dryer with a minimum CEF rating of 5.2 [per credit 7.1]

1 Main Floor Plan

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

N

NOTE: CABANA CLOSED TO PUBLIC AFTER HOURS.
IN CASE OF A SPECIAL EVENT, ACCESS WILL BE GIVEN THROUGH THE OFFICE WHEN RESERVED FOR AFTER HOURS.

NOTES:
1. Verify all conditions in the field.

WALL KEY:
- EXISTING WALL TO REMAIN
- PROPOSED NEW WALL

LEGEND:
- PROPOSED AREAS OF WORK
- RETROFIT (E) WALL PER STRUCTURAL
- NEW 1-HOUR FIRE RATE WALL
- EXISTING 1-HOUR FIRE RATE WALL

NOTES:
NON-SEPARATED OCCUPANCIES A-3/S-2 AND B PER IBC 508.
ALL EXTERIOR WALLS WITH FIRE SEPARATION DISTANCE . 20'
NO FIRE RATED CONSTRUCITON IS REQUIRED FOR THIS PROJECT

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REV. 4	02.15.2023

Proposed Floor Plan

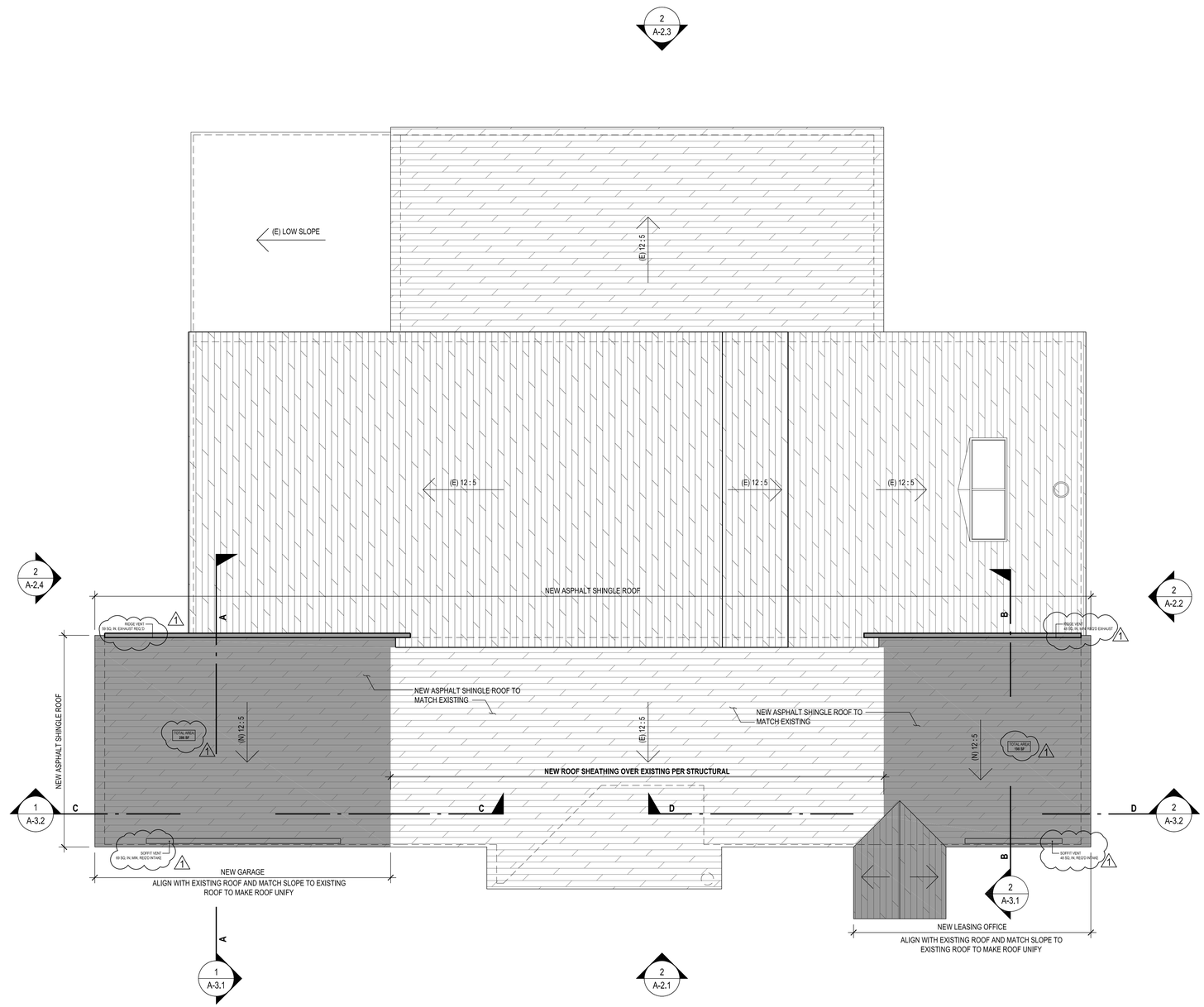
A-1.1

Issued 04/12/2023

NOTES:
1. Verify all conditions in the field.

LEGEND:

PROPOSED WORK



1 **Roof Plan**
SCALE: 1/4" = 1' - 0"

N

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Proposed Roof Plan

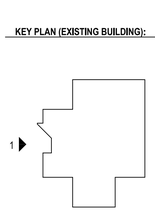
A-1.2

NOTES:
1. Verify all conditions in the field.

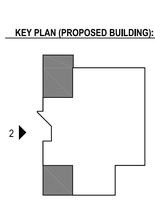
LEGEND:

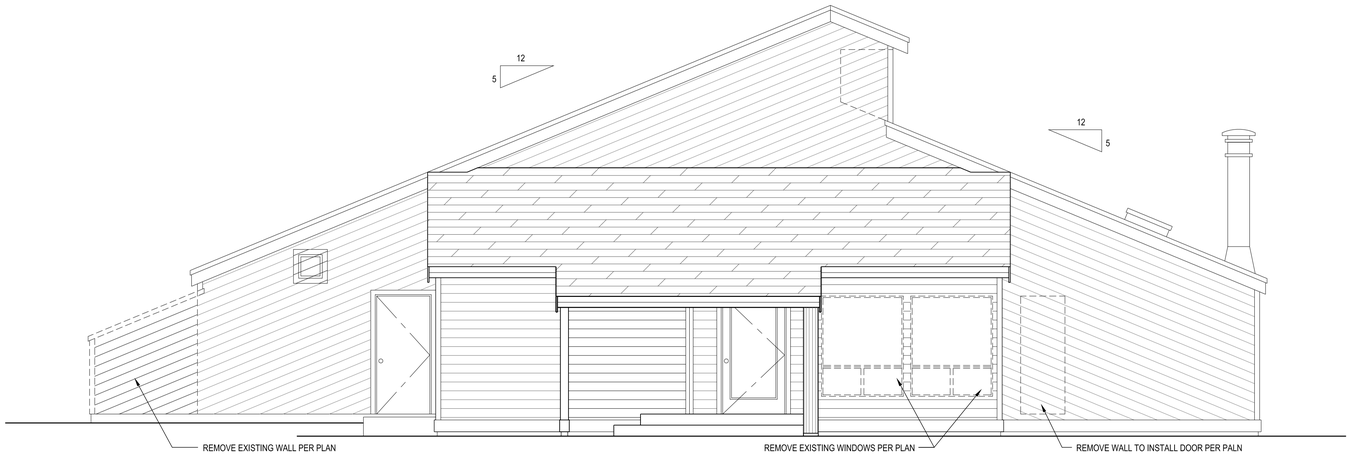
SHADED AREA INDICATES PROPOSED WORK

KEY PLAN (EXISTING BUILDING):

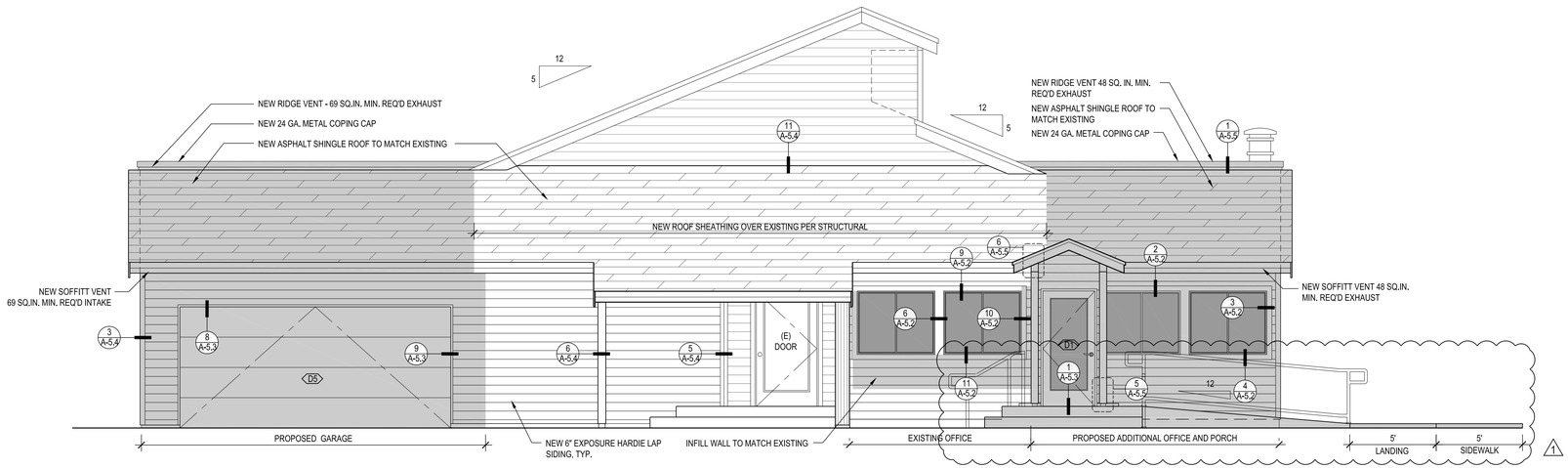


KEY PLAN (PROPOSED BUILDING):





1 Existing West Elevation
SCALE: 1/4" = 1' - 0"



2 Proposed West Elevation
SCALE: 1/4" = 1' - 0"

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West Elevations

A-2.1

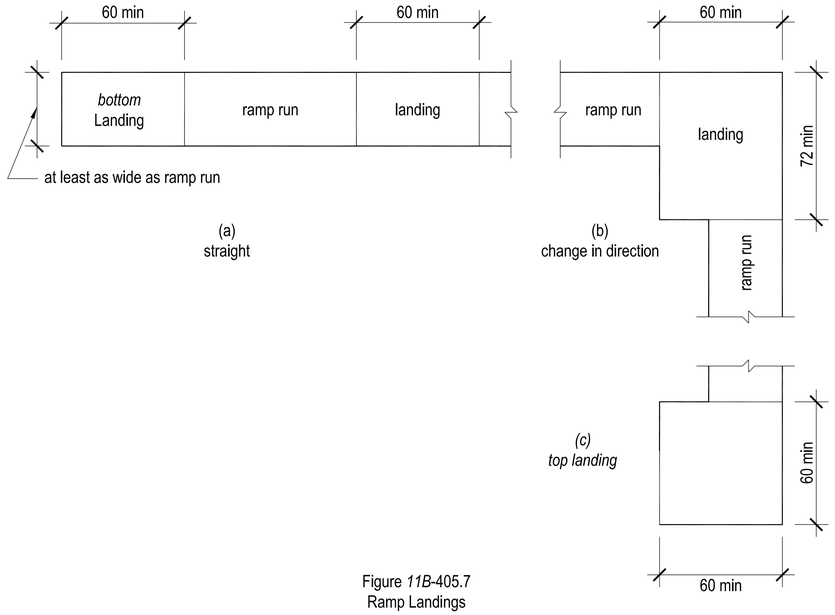
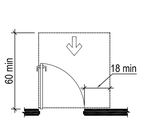
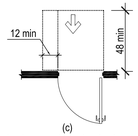


Figure *11B*-405.7
Ramp Landings





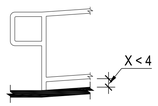


Figure *11B*-405.9.2
Curb or Barrier Edge Protection

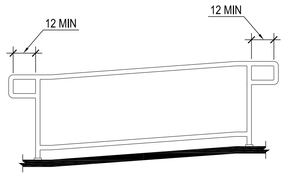
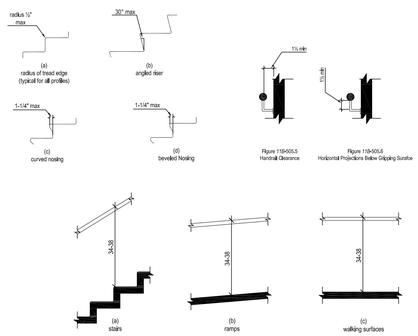


Figure *11B*-505.10.1
Top and Bottom Handrail Extension at Ramps



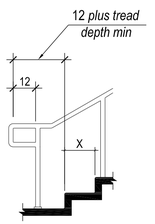


Figure *11B*-505.10.3
Bottom Handrail Extension at Stairs

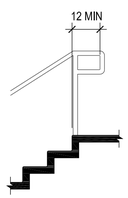
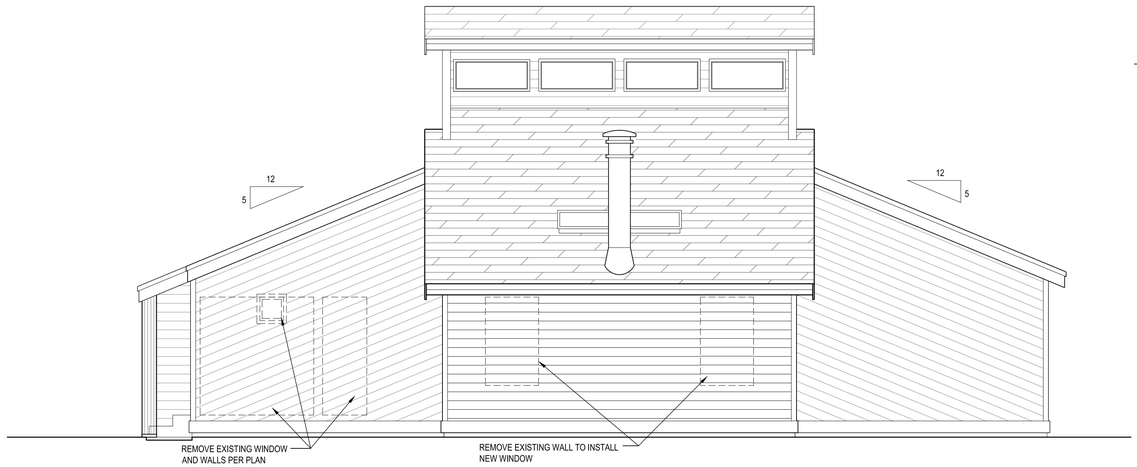


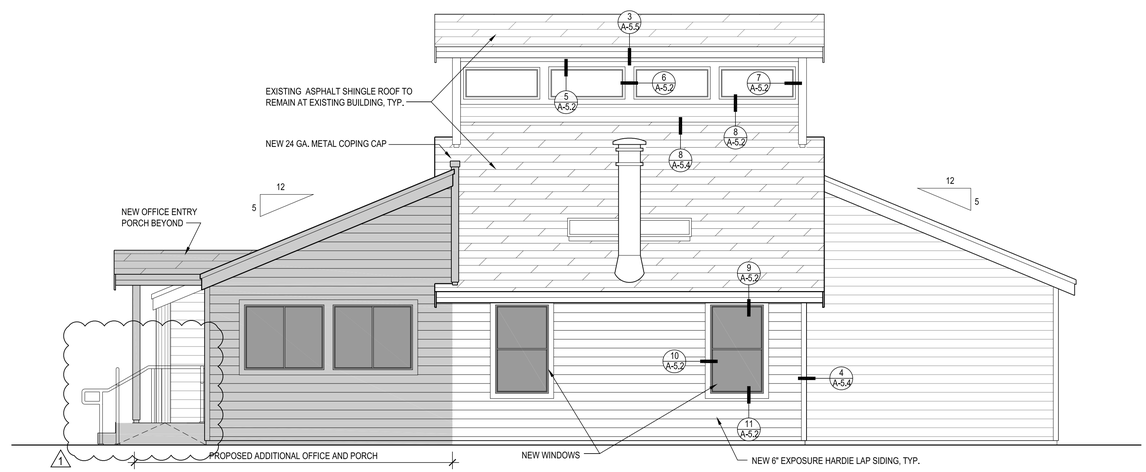
Figure *11B*-505.10.2
Top Handrail Extension at Stairs

1

3 **ADA Requirements**
N.T.S.



1 **Existing South Elevation**
SCALE: 1/4" = 1' - 0"



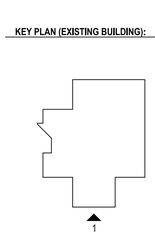
2 **Proposed South Elevation**
SCALE: 1/4" = 1' - 0"

NOTES:
1. Verify all conditions in the field.

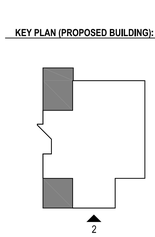
LEGEND:

SHADED AREA INDICATES PROPOSED WORK

KEY PLAN (EXISTING BUILDING):



KEY PLAN (PROPOSED BUILDING):



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permit	11. 2. 2022
REV. 1	12.12.2022

South Elevations

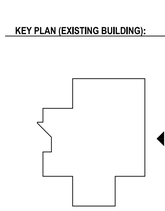
A-2.2

NOTES:
1. Verify all conditions in the field.

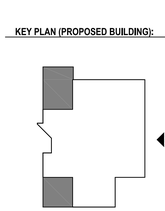
LEGEND:

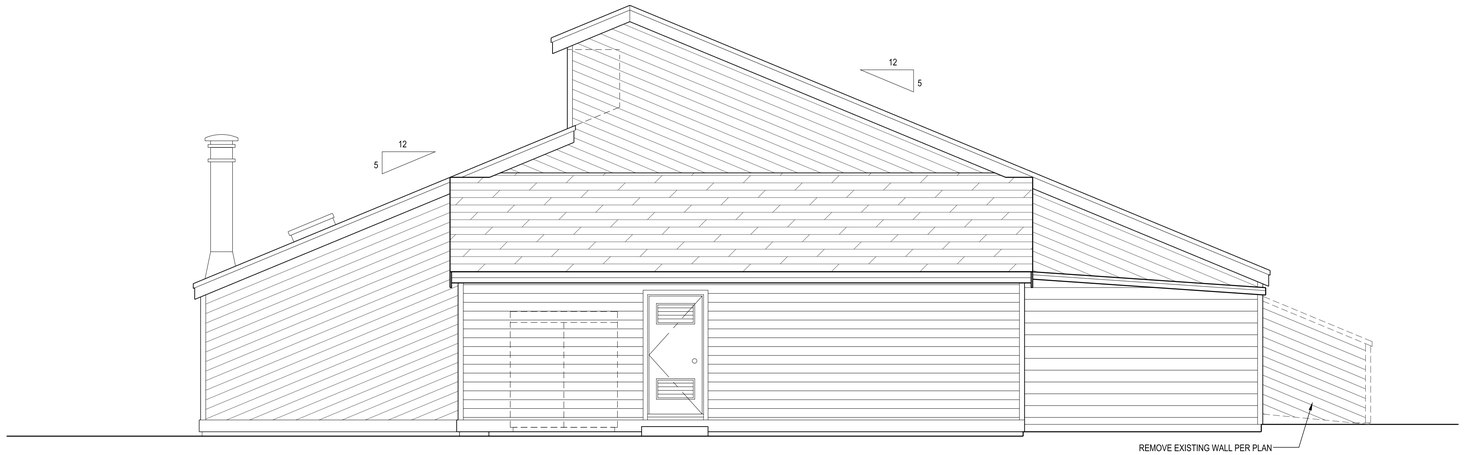
SHADED AREA INDICATES PROPOSED WORK

KEY PLAN (EXISTING BUILDING):

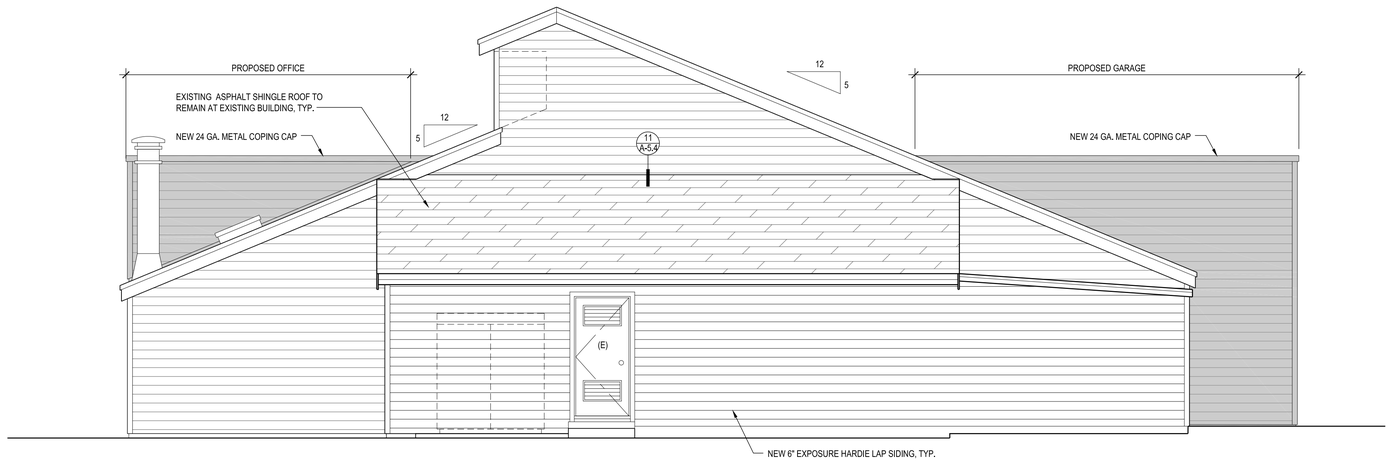


KEY PLAN (PROPOSED BUILDING):





1 Existing East Elevation
SCALE: 1/4" = 1' - 0"



2 Proposed East Elevation
SCALE: 1/4" = 1' - 0"

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permit	11. 2. 2022

East Elevations

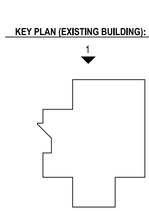
A-2.3

NOTES:
1. Verify all conditions in the field.

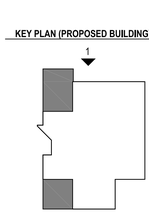
LEGEND:

SHADED AREA INDICATES PROPOSED WORK

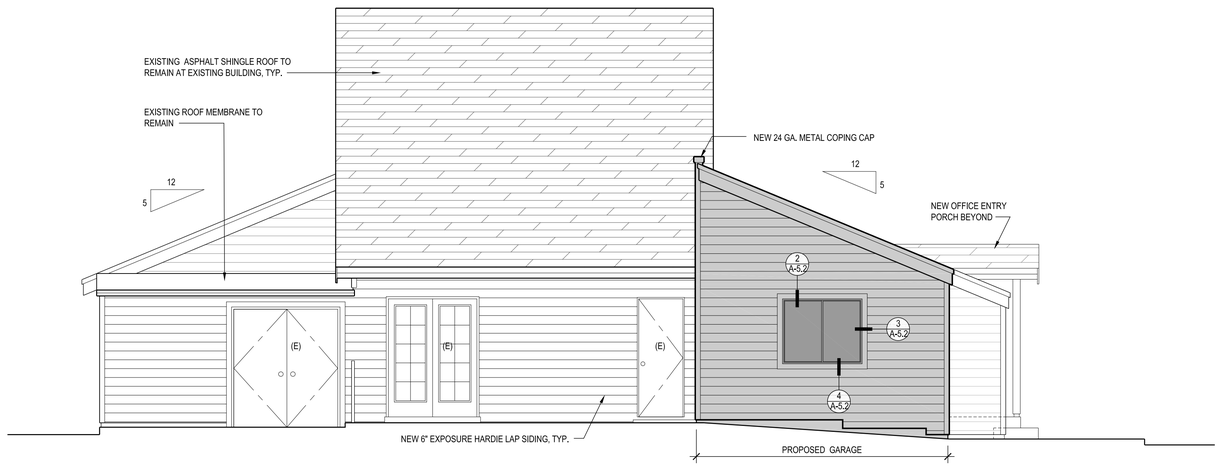
KEY PLAN (EXISTING BUILDING):



KEY PLAN (PROPOSED BUILDING):



1 Existing North Elevation
SCALE: 1/4" = 1' - 0"



2 Proposed North Elevation
SCALE: 1/4" = 1' - 0"

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STATE OF WASHINGTON

Sandpiper East -

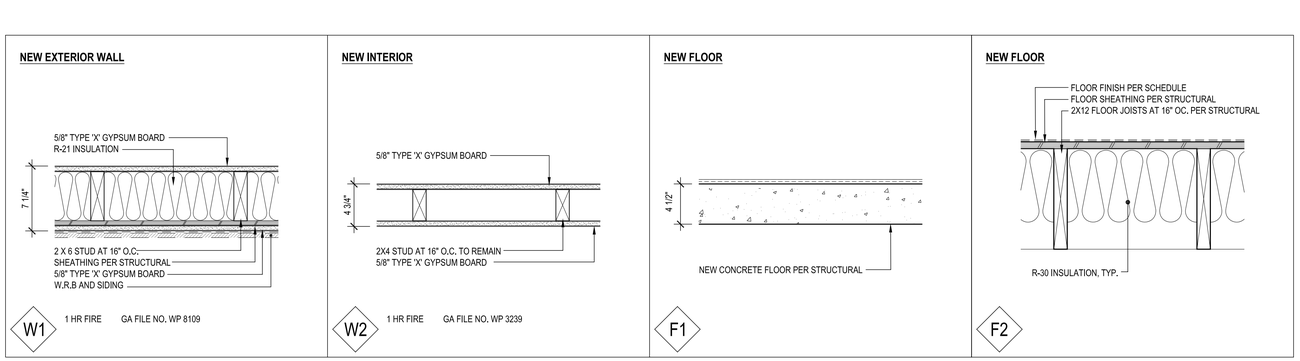
New Garage & New Office Addition to Cabana

1312 139th Ave NE
Bellevue, WA 98005

Release	Date
permit	11. 2. 2022

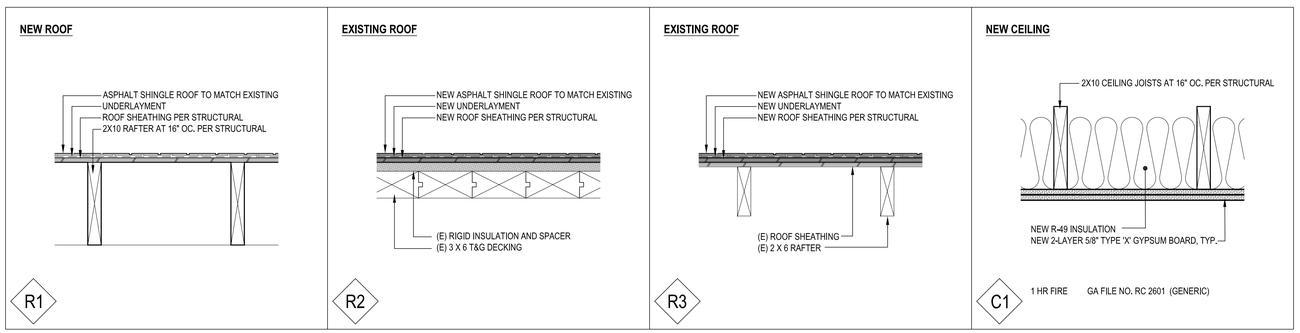
North Elevations

A-2.4



1 Wall & Floor Assembly

SCALE: 1 1/2" = 1' - 0"



2 Roof and Ceiling Assembly

SCALE: 1 1/2" = 1' - 0"

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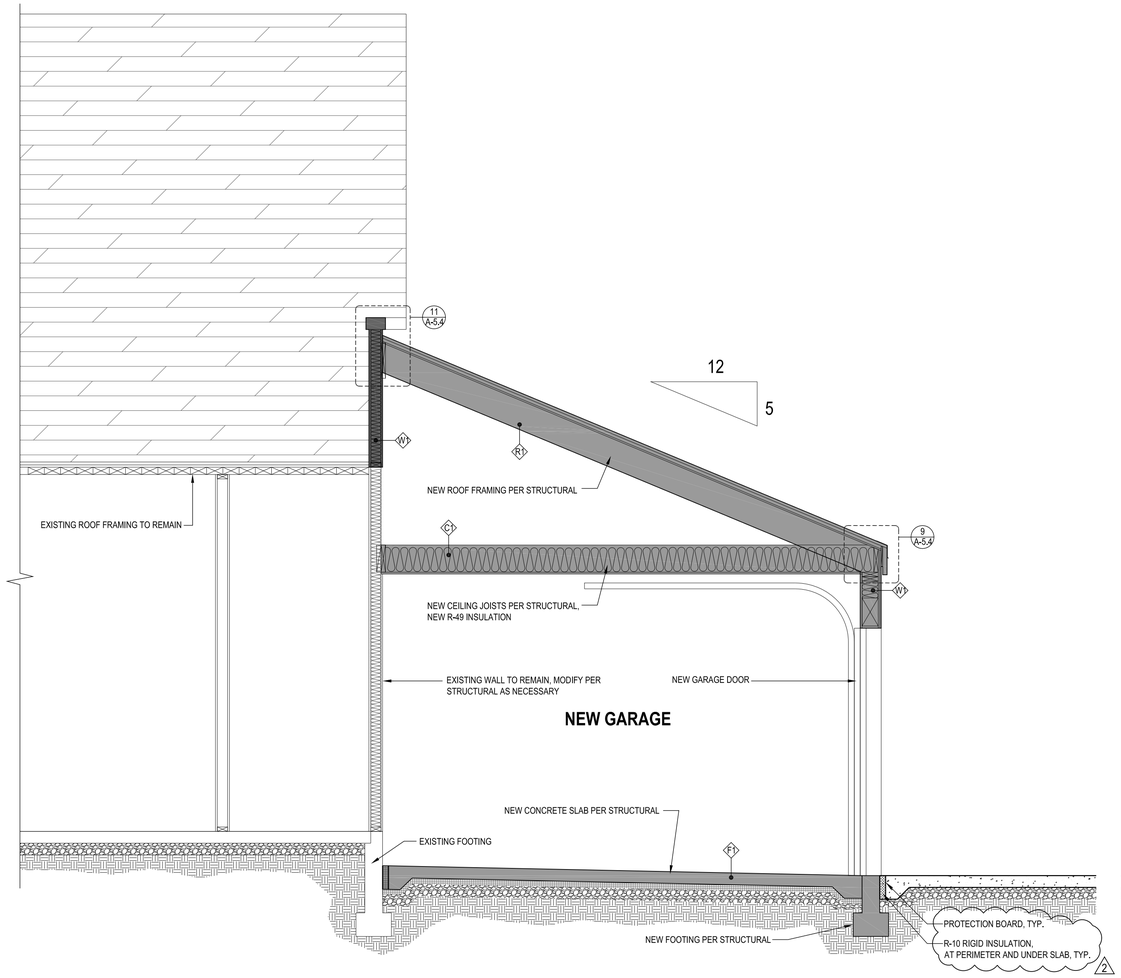
Wall, Floor, Roof, & Ciling Assembly

A-3.0

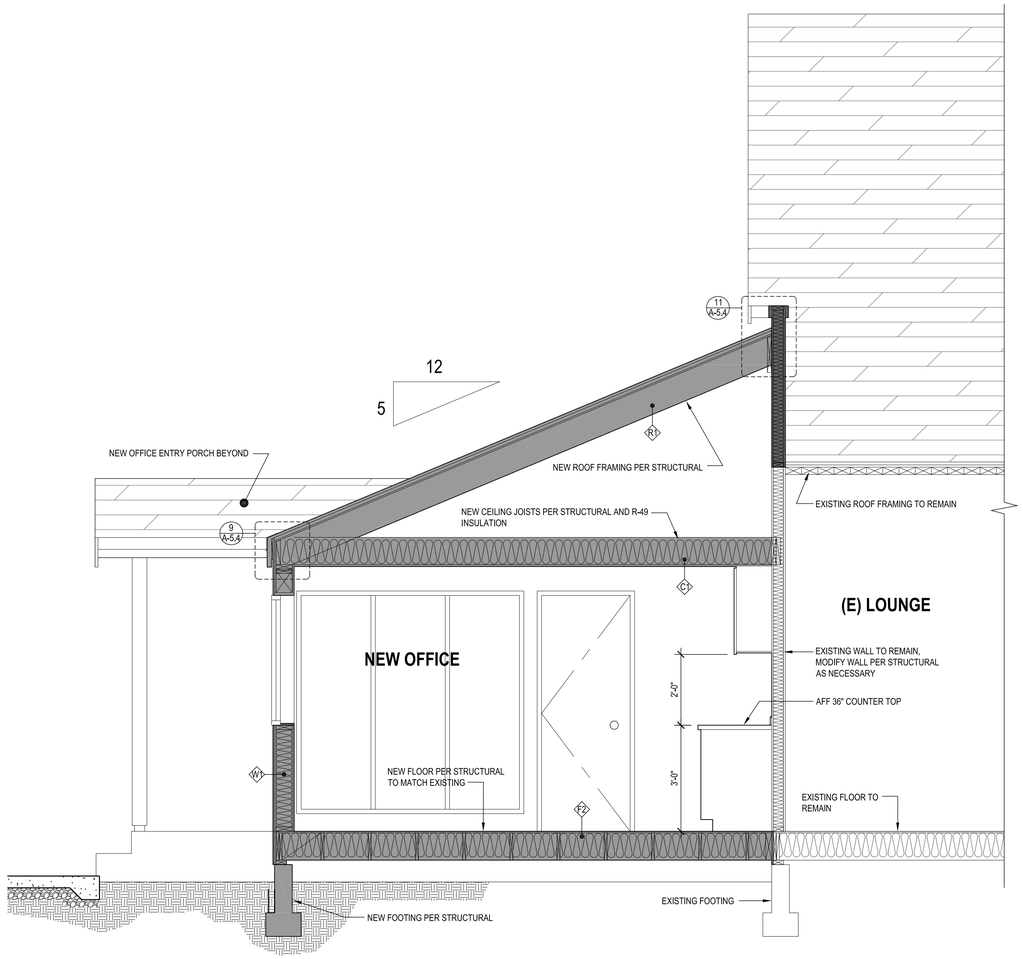
NOTES:
1. Verify all conditions in the field.

LEGEND:

SHADED AREA INDICATES PROPOSED WORK



1 Section A-A
SCALE: 1/2" = 1' - 0"



2 Section B-B
SCALE: 1/2" = 1' - 0"

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REV. 1	12.12.2022
REV. 2	01.12.2023

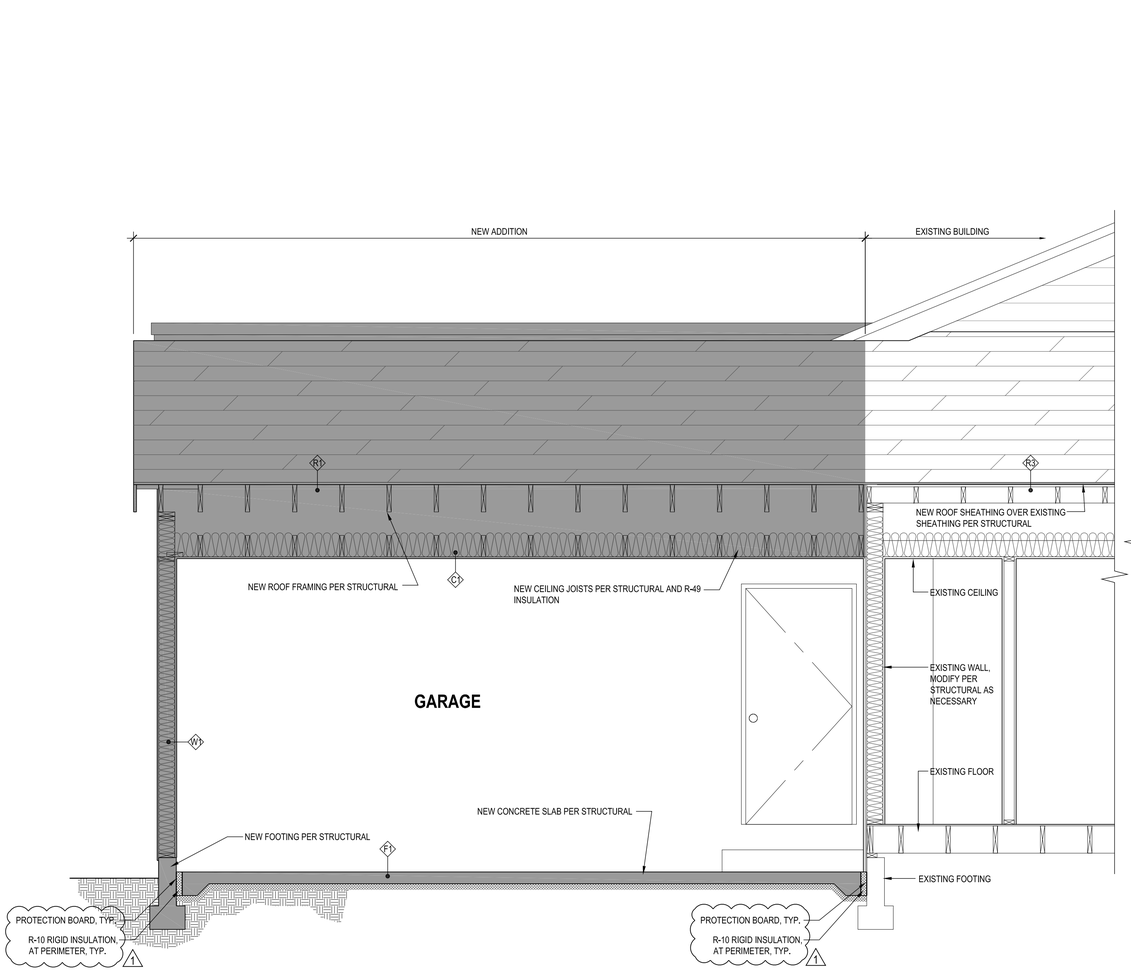
Building Sections

A-3.1

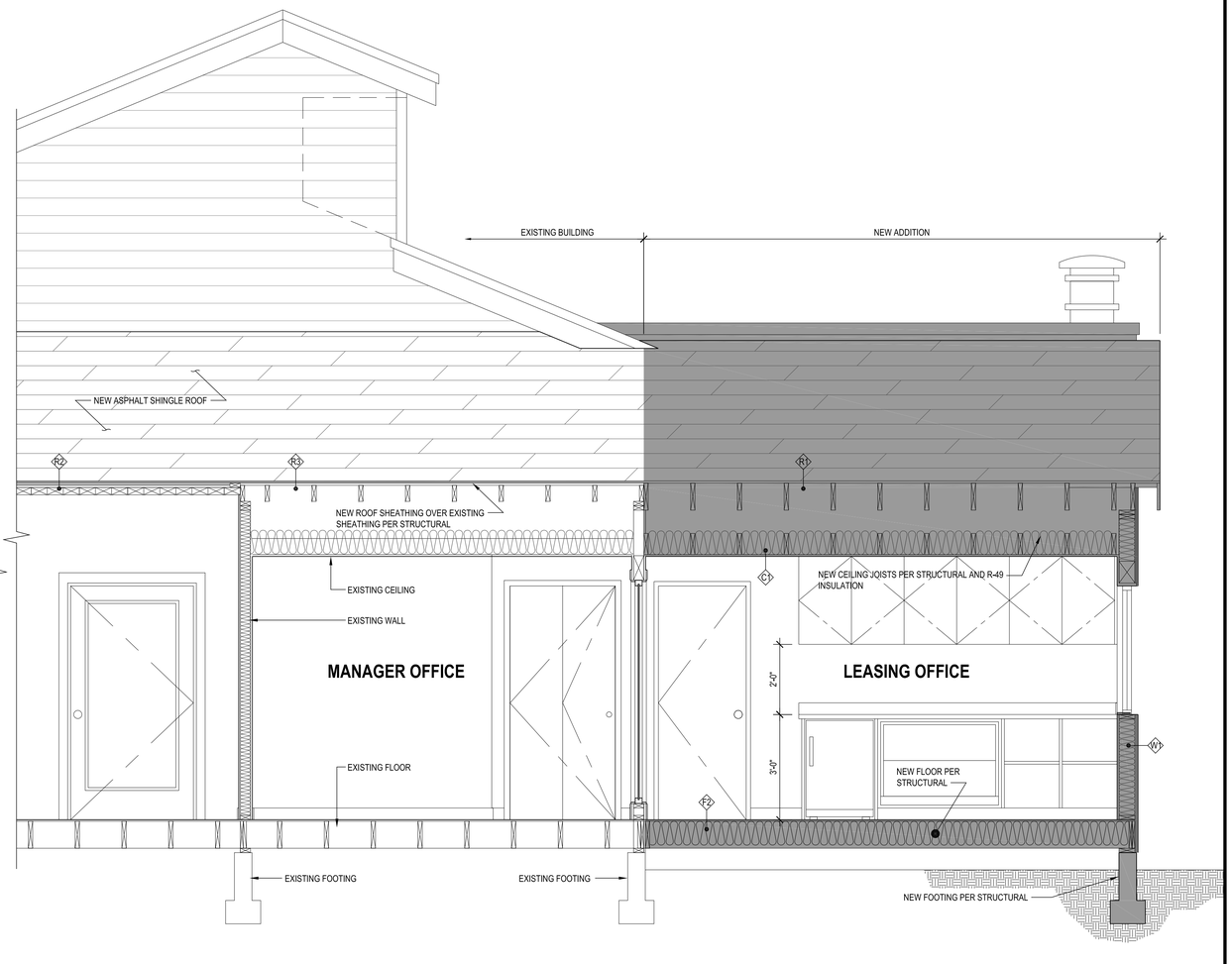
NOTES:
1. Verify all conditions in the field.

LEGEND:

SHADED AREA INDICATES PROPOSED WORK



1 **Section C-C**
SCALE: 1/2" = 1' - 0"



2 **Section D-D**
SCALE: 1/2" = 1' - 0"

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REV. 1	12.12.2022

Building Sections

A-3.2

WINDOW SCHEDULE

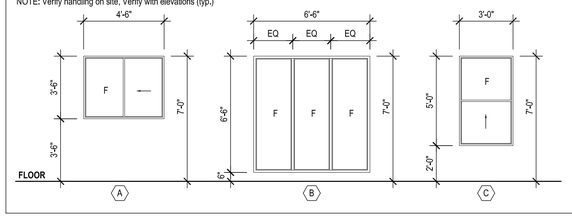
ITEM	LOCATION(S)	DESCRIPTION	SIZE (WIDTH X HEIGHT)	MANUFACTURER	SERIES - MODEL	CONSTRUCTION	DECORATIVE GRID	COLOR	EGRESS WINDOW	SHGC	U-VALUE	LOW E	ARGON FILLED	REMARKS
A	OFFICE, GARAGE	HORIZONTAL SLIDER	4'-6" X 3'-6"	VPI	ENDURANCE	VINYL	NO	WHITE	NO	0.35 MAX	0.30 OR BETTER	YES	YES	
B	OFFICE	FIXED	6'-6" X 6'-6"	VPI	ENDURANCE	VINYL	NO	WHITE	NO	0.35 MAX	0.30 OR BETTER	YES	YES	
C	LOUNGE	VERTICAL SLIDER	3'-0" X 5'-0"	VPI	ENDURANCE	VINYL	NO	WHITE	NO	0.35 MAX	0.30 OR BETTER	YES	YES	

WINDOW SCHEDULE NOTES

1. VERIFY ALL CONDITIONS IN FIELD.
2. GLAZING IN HAZARDOUS LOCATIONS SHALL BE TEMPERED.
3. ALL EXTERIOR OPENINGS ARE SECURITY OPENINGS. PROVIDE WINDOW LOCKS.
4. PROVIDE INSECT SCREENS AT ALL OPENABLE WINDOWS.
5. ALL WINDOWS AND GLAZING SHALL COMPLY WITH LATEST EDITION OF THE IBC AS WELL AS ALL APPLICABLE CODES AND REGULATIONS.
6. PROVIDE STOPS AT ALL OPENABLE WINDOWS.
7. WHERE THE OPENING OF THE SILL PORTION OF AN OPERABLE WINDOW IS LOCATED MORE THAN 72 INCHES ABOVE THE FINISH GRADE OR OTHER SURFACE BELOW, THE LOWEST PART OF THE CLEAR OPENING OF THE WINDOW SHALL BE A MINIMUM OF 36 INCHES ABOVE THE FINISHED FLOOR SURFACE OF THE ROOM IN WHICH THE WINDOW IS LOCATED. GLAZING BETWEEN THE FLOOR AND THE HEIGHT OF 36 INCHES SHALL BE FIXED OR SHALL NOT PERMIT OPENINGS THAT ALLOW PASSAGE OF A 4-INCH DIAMETER SPHERE.
8. EGRESS WINDOWS: CLEAR OPENING OF 5.7 SF AND A MINIMUM NET CLEAR OPENING HEIGHT DIMENSION OF 24 INCHES AND OPENING WIDTH DIMENSION OF 20 INCHES. [1029.2]
9. VERIFY IN FIELD ALL WINDOW DIMENSIONS PRIOR TO ORDERING.
10. EXISTING DOORS TO REMAIN
11. REVIEW ALL EXISTING WINDOWS FOR EXISTING WINDOW FRAME TRICKLE VENTS. AT A MINIMUM, PROVIDE TRICKLE VENTS IN ALL REPLACEMENT WINDOWS TO MATCH EXISTING.

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

NOTE: Verify handling on site, Verify with elevations (typ.)



DOOR SCHEDULE

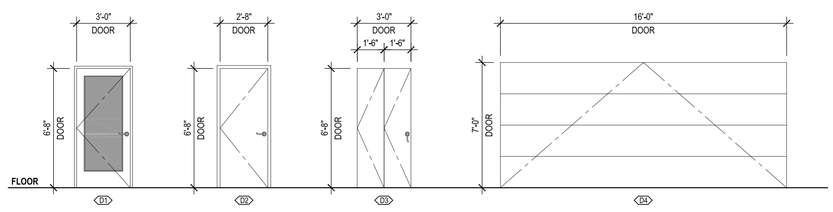
DOOR #	DESCRIPTION	SIZE (WIDTH X HEIGHT)	CONSTRUCTION	FINISH / COLOR	LOCATION(S)	MANUFACTURER	MODEL	EXTERIOR / EGRESS / FIRE DOOR	GLAZING	U-VALUE	SHGC	LOW E	ARGON FILLED	SELF-CLOSING & LATCHING	AUTOMATIC SENSOR	FULL WEATHER STRIP	LOCKSET	BARRIER FREE HARDWARE	PANIC HARDWARE
D1	SWING DOOR (EXTERIOR)	3'-0" X 6'-8"	SOLID CORE AND TEMPERED GLASS	WHITE	OFFICE	TRIMLITE	6'8" SF20F	EXTERIOR	TEMPERED	0.31 (0.30 OR BETTER)	0.21 (0.23 OR BETTER)	YES	YES	X		X	X	X	
D2	SWING DOOR (INTERIOR)	2'-8" X 6'-8" (DOOR)	SOLID CORE	WHITE	OFFICE	TRIMLITE	2868138PRI8402	INTERIOR	-	-	-	-	-			-	X	X	
D3	BI-FOLD (INTERIOR)	3'-0" X 6'-8"	MDF	WHITE	MANAGER OFFICE	TRIMLITE	3068138PRI8402BF	INTERIOR	-	-	-	-	-					X	
D4	GARAGE DOOR	16'-0" X 7'-0"	METAL AND INSULATED	-	GARAGE	-	-	EXTERIOR	-	-	-	-	-			X	X	X	1
										0.32 OR BETTER	0.25	-	-			1			

DOOR SCHEDULE NOTES

1. VERIFY ALL CONDITIONS IN FIELD.
2. VERIFY IN FIELD ALL DOORS DIMENSIONS PRIOR TO ORDERING.

DOOR TYPE (Scale : 1/4" = 1' - 0")

NOTE: Verify handling on site.



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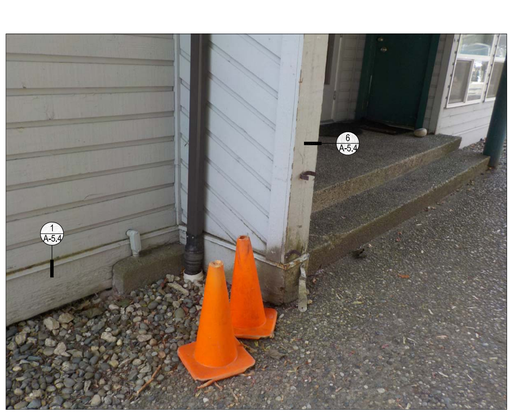
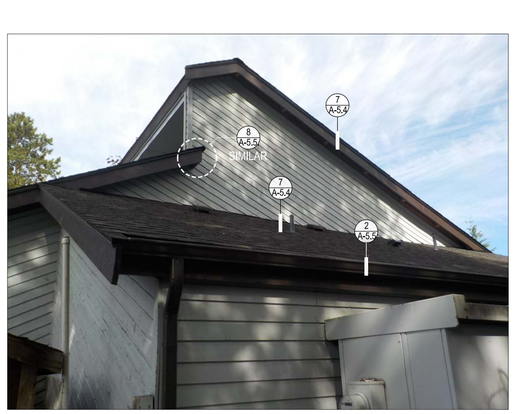
REV. 1	12.12.2022

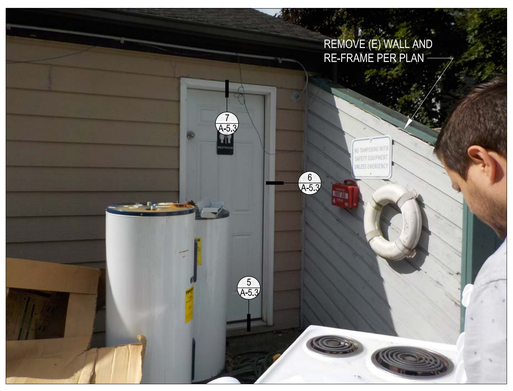
Window & Door Schedule

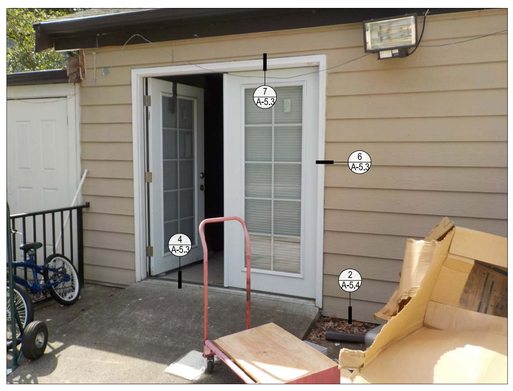
A-4.1

Issued 04/12/2023









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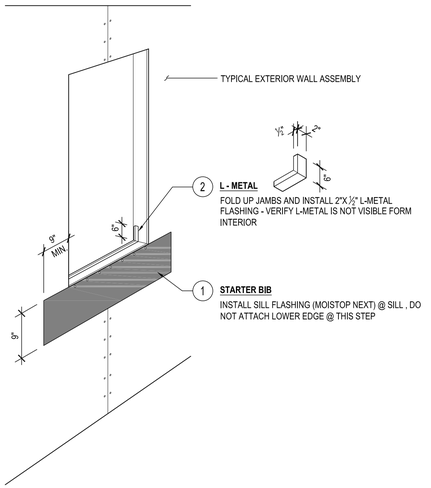
Key Photos

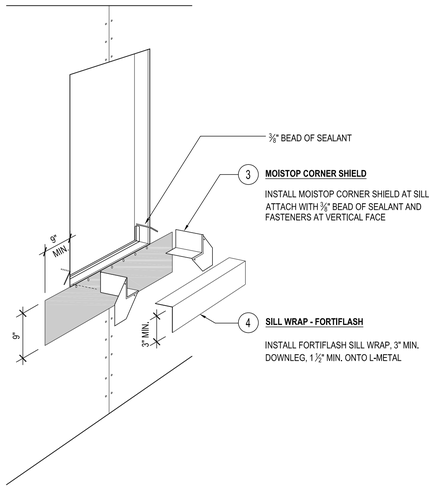
A-5.0



2 **L - METAL**
FOLD UP JAMBS AND INSTALL 2"X ½" L-METAL FLASHING - VERIFY L-METAL IS NOT VISIBLE FORM INTERIOR

1 **STARTER BIB**
INSTALL SILL FLASHING (MOISTOP NEXT) @ SILL , DO NOT ATTACH LOWER EDGE @ THIS STEP

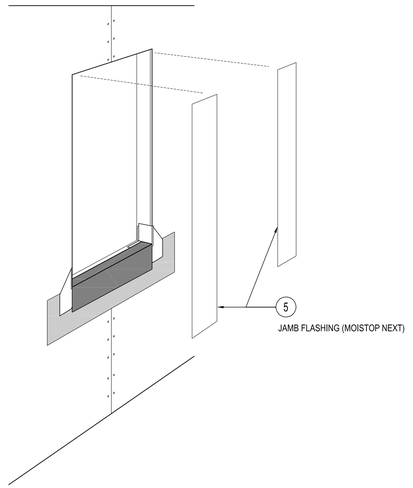
1 Window Sequence 1 of 8
N.T.S.



3 **MOISTOP CORNER SHIELD**
INSTALL MOISTOP CORNER SHIELD AT SILL ATTACH WITH ⅜" BEAD OF SEALANT AND FASTENERS AT VERTICAL FACE

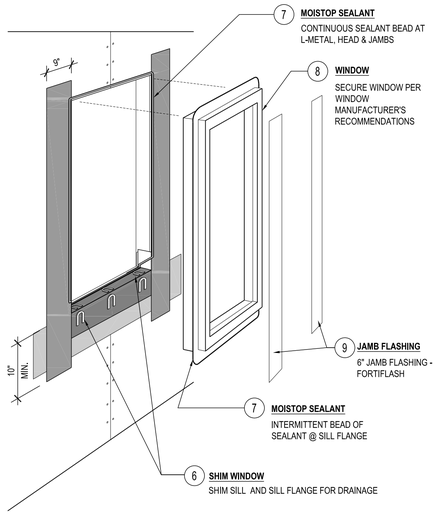
4 **SILL WRAP - FORTIFLASH**
INSTALL FORTIFLASH SILL WRAP, 3" MIN. DOWNLEG, 1½" MIN. ONTO L-METAL

2 Window Sequence 1 of 8
N.T.S.



5 JAMB FLASHING (MOISTOP NEXT)

3 Window Sequence 3 of 8
N.T.S.



7 **MOISTOP SEALANT**
CONTINUOUS SEALANT BEAD AT L-METAL, HEAD & JAMBS

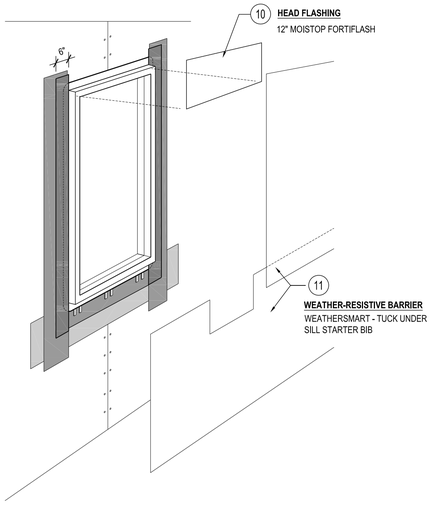
8 **WINDOW**
SECURE WINDOW PER WINDOW MANUFACTURER'S RECOMMENDATIONS

9 **JAMB FLASHING**
6" JAMB FLASHING - FORTIFLASH

7 **MOISTOP SEALANT**
INTERMITTENT BEAD OF SEALANT @ SILL FLANGE

6 **SHIM WINDOW**
SHIM SILL AND SILL FLANGE FOR DRAINAGE

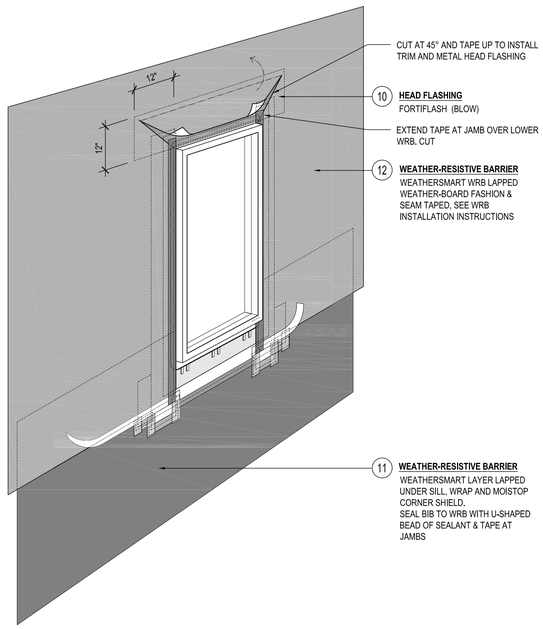
4 Window Sequence 4 of 8
N.T.S.



10 **HEAD FLASHING**
12" MOISTOP FORTIFLASH

11 **WEATHER-RESISTIVE BARRIER**
WEATHERSMART - TUCK UNDER SILL STARTER BIB

5 Window Sequence 5 of 8
N.T.S.



CUT AT 45° AND TAPE UP TO INSTALL TRIM AND METAL HEAD FLASHING

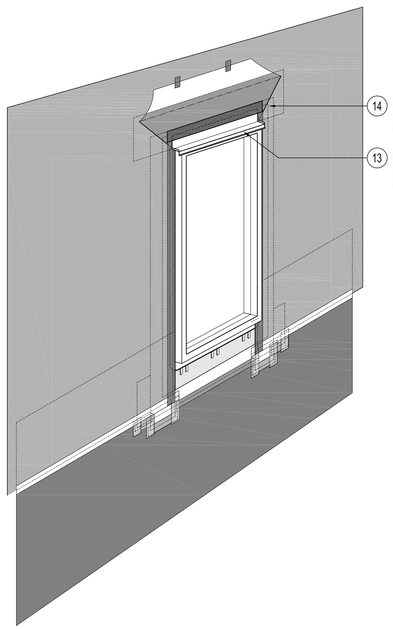
10 **HEAD FLASHING**
FORTIFLASH (BLOW)

EXTEND TAPE AT JAMB OVER LOWER WRB, CUT

12 **WEATHER-RESISTIVE BARRIER**
WEATHERSMART WRB LAPPED WEATHER-BOARD FASHION & SEAM TAPED, SEE WRB INSTALLATION INSTRUCTIONS

11 **WEATHER-RESISTIVE BARRIER**
WEATHERSMART LAYER LAPPED UNDER SILL, WRAP AND MOISTOP CORNER SHIELD, SEAL BIB TO WRB WITH U-SHAPED BEAD OF SEALANT & TAPE AT JAMBS

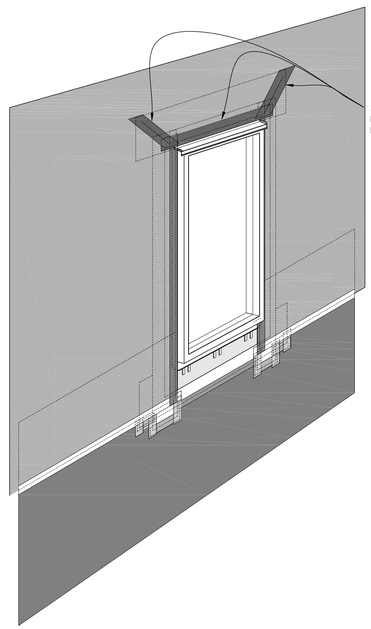
6 Window Sequence 6 of 8
N.T.S.



14 **SELF ADHESIVE FLASHING**
4" MIN. SELF-ADHESIVE FLASHING - FORTIFLASH BUTYL

13 **METAL HEAD FLASHING**
24GA. METAL HEAD FLASHING (REFER TO WINDOW FLASHING AT HEAD DETAILS)

7 Window Sequence 7 of 8
N.T.S.



APPLY SHEATHING TAPE AT DIAGONAL CUTS AND TOP OF METAL FLASHING

8 Window Sequence 8 of 8
N.T.S.

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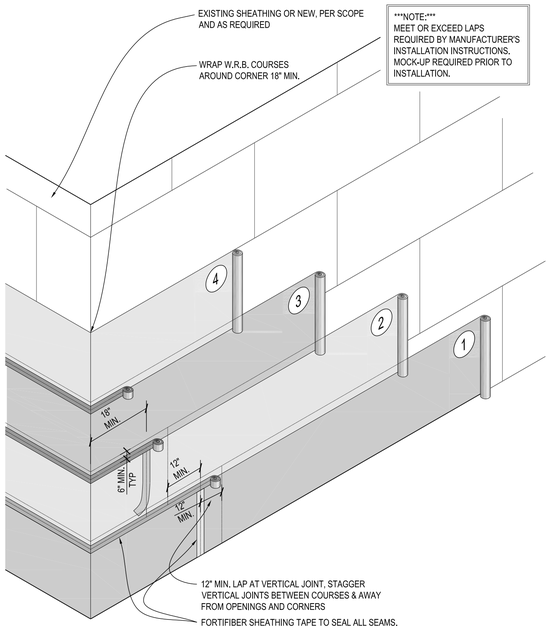
Detail - Window Opening Flashing

A-5.1



INSTALLATION NOTES:

STEP 1. PENETRATIONS

1. PRE-FLASH PENETRATIONS AS DETAILED. DISTANCE FROM PENETRATION TO EDGE OF WRB "SKIRT" MINIMUM 12".

2. SEAL TOP OF HEAD FLASHING TO SHEATHING AS DETAILED.

STEP 2. INSTALLATION

1. STARTING AT BASE OF WALL, UNROLL WRB HORIZONTALLY ACROSS WALL. PLACE A CONTINUOUS BEAD OF NONSKINNING BUTYL SEALANT ON FOUNDATION WALL AND SEAL WRB TO IT.

2. EXTEND 18" MINIMUM OVER STARTING CORNER.

3. FASTEN AT TOP AND BOTTOM OF ROLL WIDTH WITHIN 2" FROM EDGE OF WRB TO CENTER OF FASTENER.

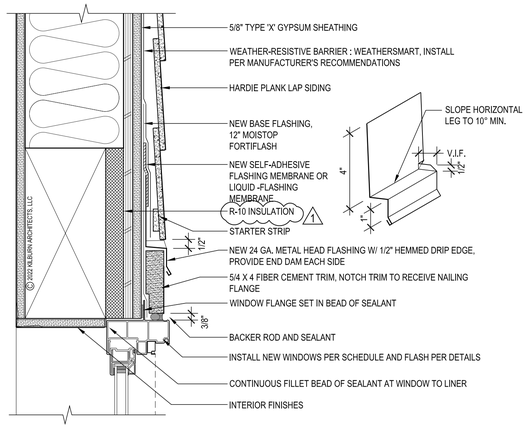
4. FASTEN AT MAXIMUM 2'-0" ON CENTER

5. SHINGLE NEXT LAYERS OF WRB ENSURING MINIMUM 6" HORIZONTAL AND MINIMUM 12" VERTICAL LAPS. DO NOT PLACE VERTICAL LAPS ABOVE OR BELOW WINDOWS OR WITHIN 12" OF VERTICAL LAP IN LAYER BELOW OR 18" OF CORNER.

6. TAPE ALL VERTICAL AND HORIZONTAL SEAMS, APPLY TAPE IN WEATHERBOARD FASHION BOTTOM TO TOP

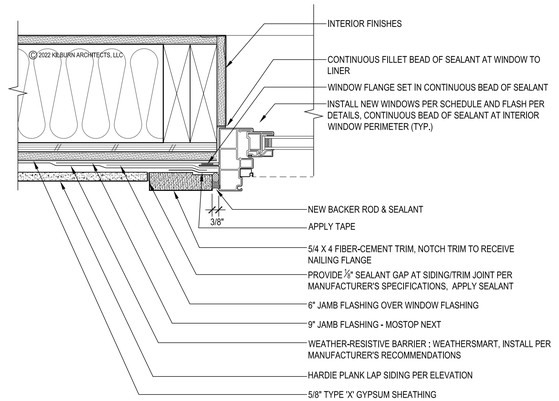
7. FOR DELAYED INSTALLATION OF SIDING/MASONRY DETERMINE FASTENERS AND REDUCED FASTENER SPACING FOR WIND EXPOSURE(I.E. CAP NAILS, BRICK TIES, OR BATTENS)

1 Weather Resistive Barrier Installation
N.T.S.

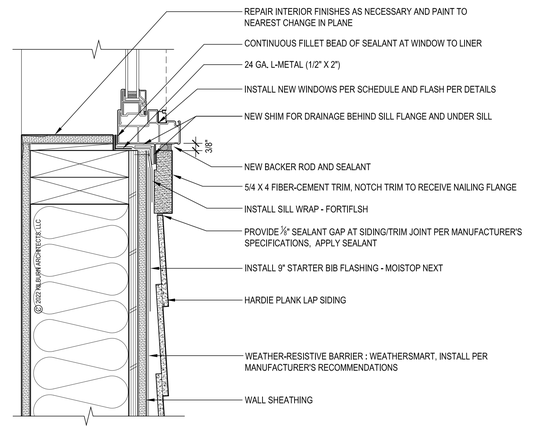


NOTE:
1. DO NOT CUT OR PUNCTURE FLASHING AT FOLD. CONFIRM THERE IS NO CONFLICT BETWEEN NEW FLASHING WITH NEW WINDOW OPERATION.

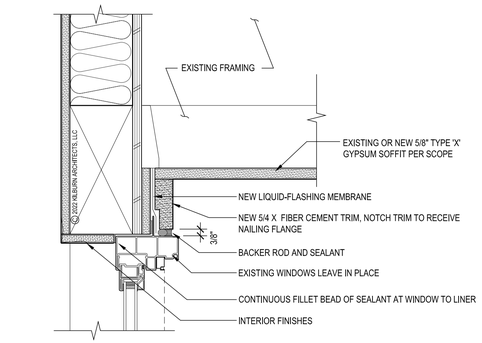
2 Window Head Flashing - at New Wall
Scale: 3" = 1' - 0"



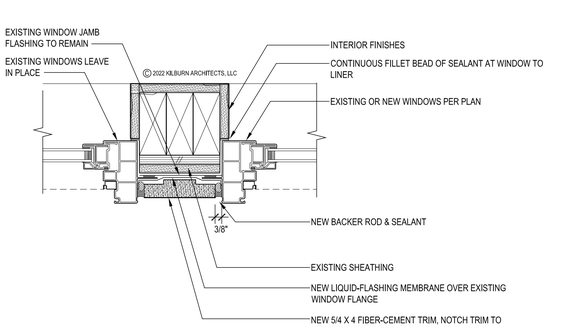
3 Window Jamb Flashing - at New Wall
Scale: 3" = 1 '- 0"



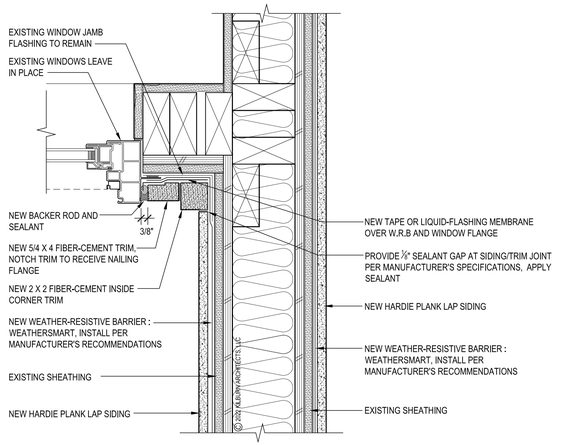
4 Window Sill Flashing - at New Wall
Scale: 3" = 1 '- 0"



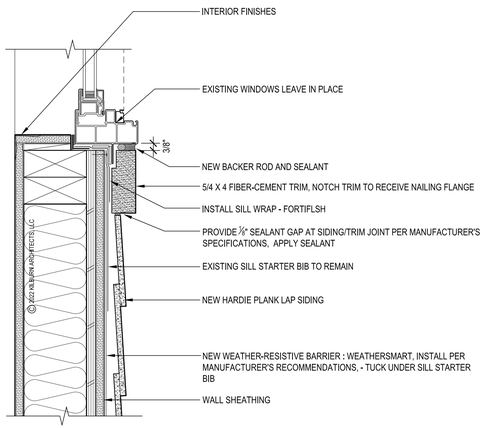
5 Window Head Flashing - (E) Window to Remain
Scale: 3" = 1' - 0"



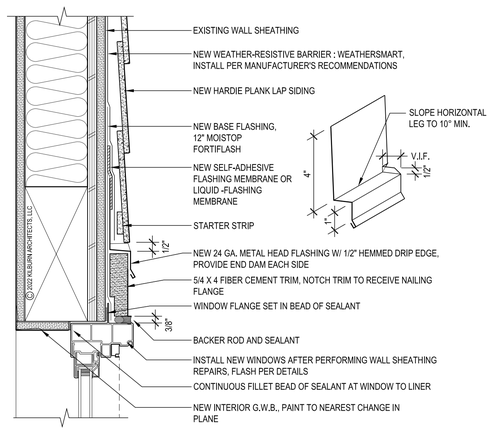
6 Window to Window - (E) Window to Remain
Scale: 3" = 1' - 0"



7 Window Jamb Flashing at Inside Corner - (E) Window to Remain
Scale: 3" = 1' - 0"

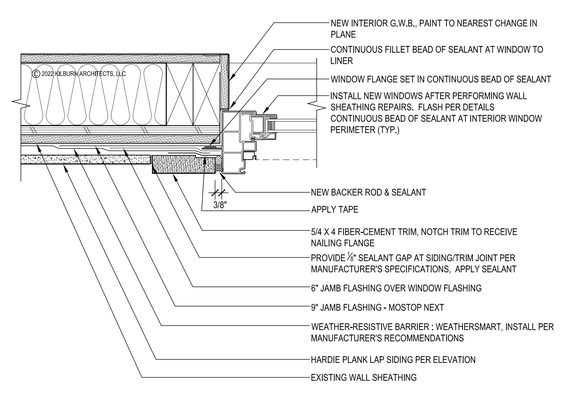


8 Window Sill Flashing - (E) Window to Remain
Scale: 3" = 1'-0"

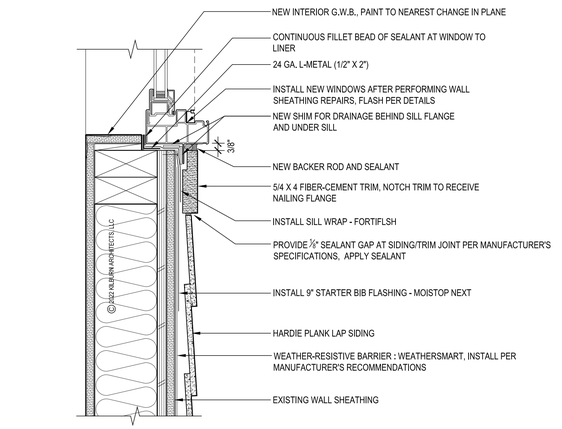


NOTE:
1. DO NOT CUT OR PUNCTURE FLASHING AT FOLD. CONFIRM THERE IS NO CONFLICT BETWEEN NEW FLASHING WITH NEW WINDOW OPERATION.

9 Window Head Flashing - New Window at (E) Wall
Scale: 3" = 1'-0"



10 Window Jamb Flashing - New Window at (E) Wall
Scale: 3" = 1'-0"



11 Window Sill Flashing - New Window at (E) Wall
Scale: 3" = 1'-0"

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H. TODD KILBURN
STATE OF WASHINGTON

Sandpiper East -

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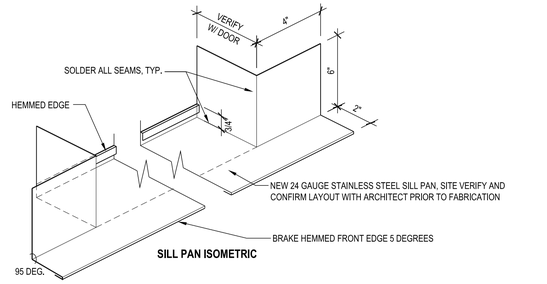
Bellevue, WA 98005

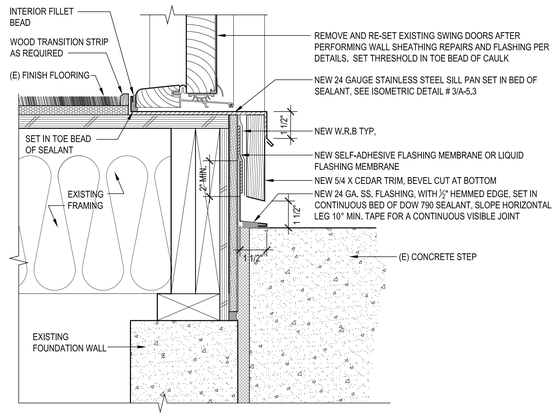
Release	Date
permit	11. 2. 2022
REV. 1	12.12.2022

Details

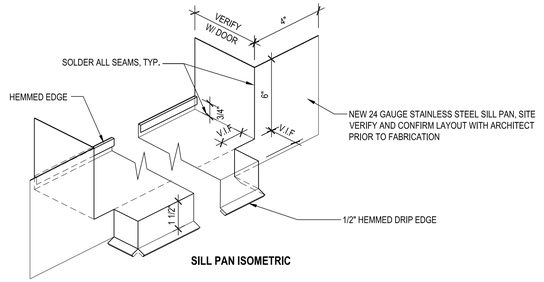
A-5.2



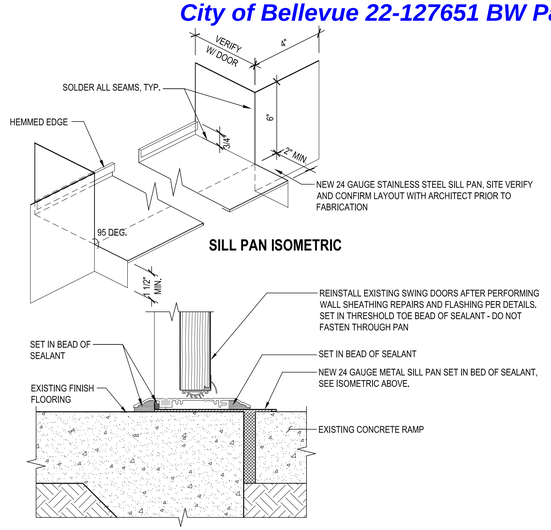
1 Swing Door Sill Pan Flashing at Entry
Scale: 3" = 1'-0"



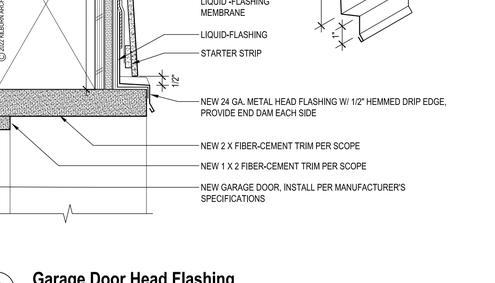
2 Swing Door Sill Pan Flashing at Equip.
Scale: 3" = 1'-0"



3 Sill Pan Flashing Detail
Scale: N.T.S

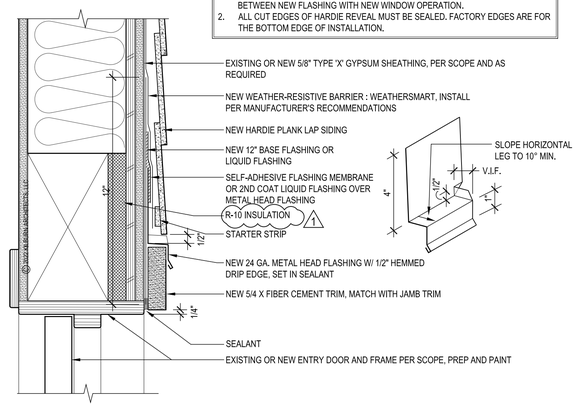


4 Swing Door Sill Pan Flashing
Scale: 3" = 1 '- 0"

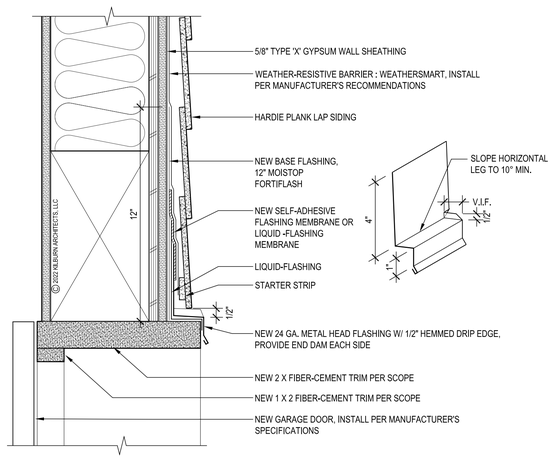


5 Swing Door Sill Pan Flashing
Scale: 3" = 1' - 0"

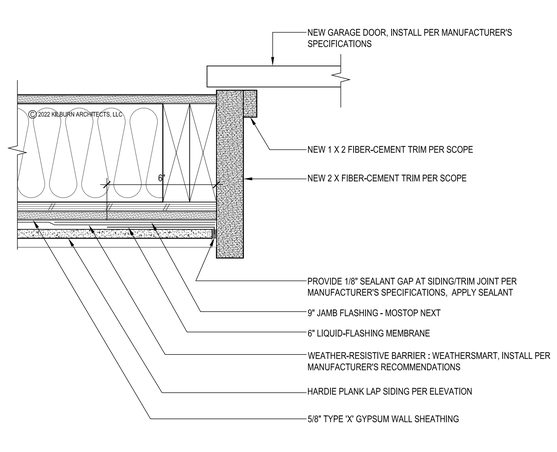
6 Swing Door Jamb Flashing
Scale: 3" = 1' - 0"



7 Swing Door Head Flashing
Scale: 3" = 1' - 0"



8 Garage Door Head Flashing
Scale: 3" = 1'-0"



9 Garage Door Jamb Flashing
Scale: 3" = 1'-0"

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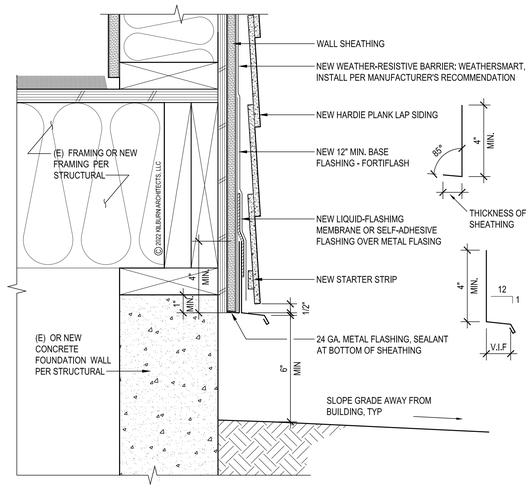
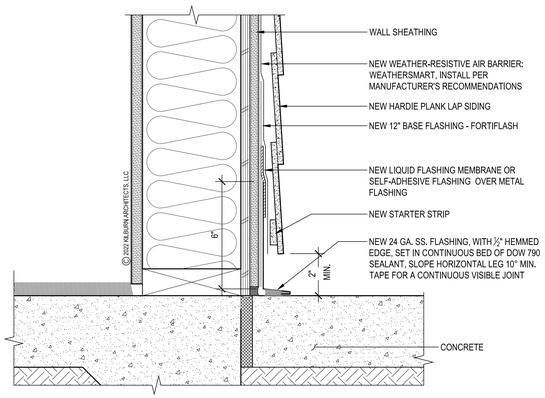
REV. 1	12.12.2022

Details

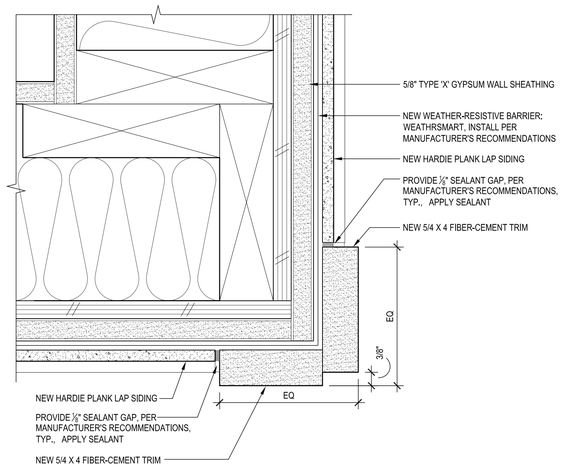
A-5.3



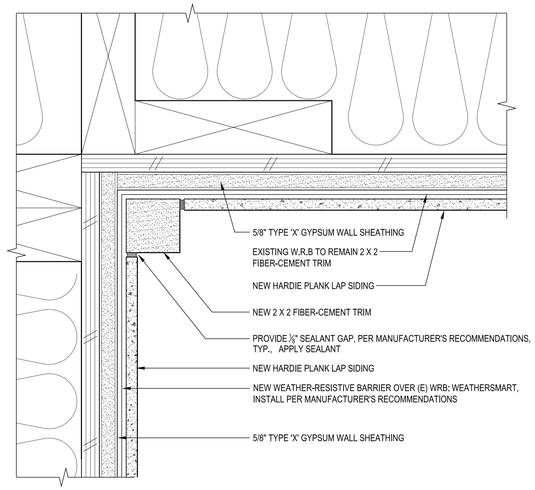
1 Siding Termination at Foundation Wall
Scale: 3" = 1' - 0"



2 Siding Termination at Concrete Slab
Scale: 3" = 1' - 0"



3 Siding Outside Corner
Scale: 6" = 1 '- 0"



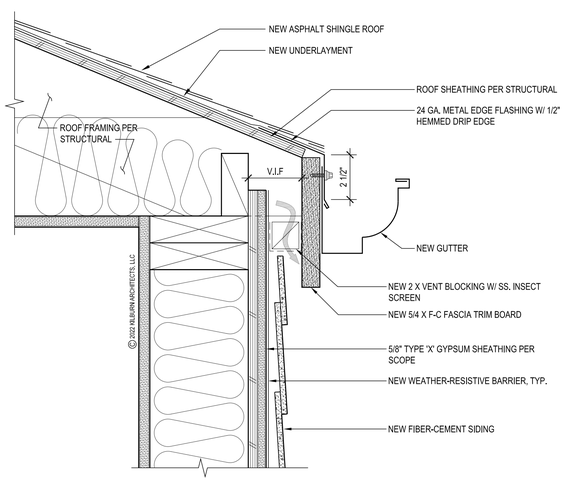
4 Siding Inside Corner
Scale: 6" = 1 '- 0"

5 Siding Inside Corner
Scale: 6" = 1' - 0"

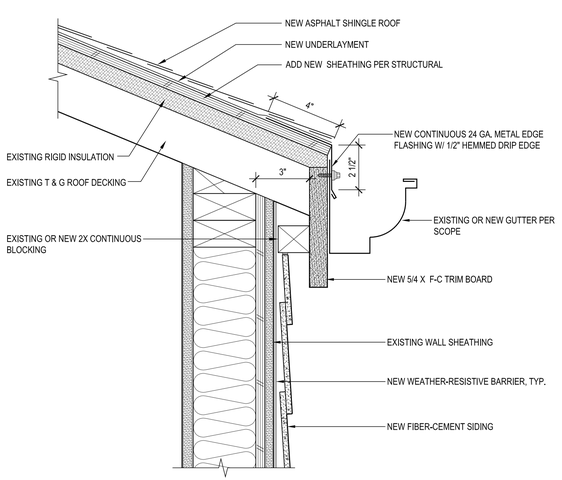
6 Trim at End Wall
Scale: 6" = 1' - 0"

7 Siding Terminatin at Roof Rake
Scale: 3" = 1' - 0"

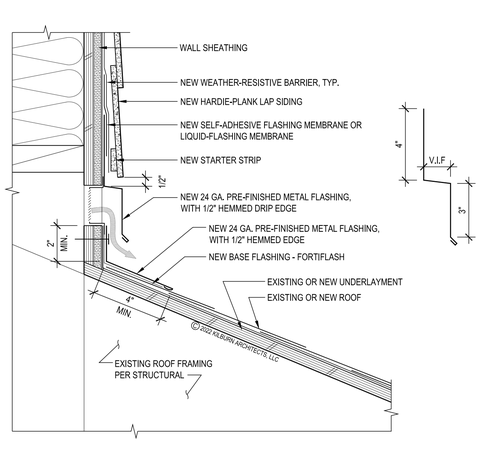
8 Siding Termination at Roof Rake
Scale: 3" = 1' - 0"



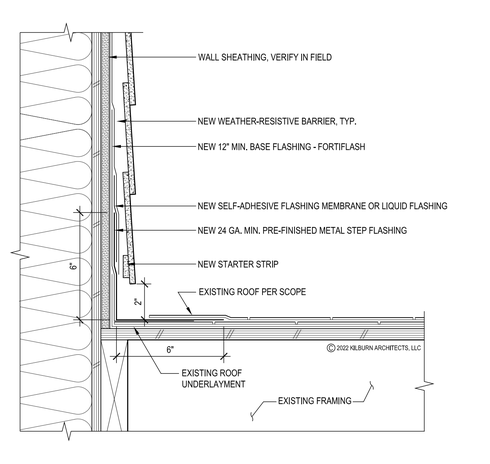
9 Siding Termination at Eave
Scale: 3" = 1'-0"



10 Siding Termination at Eave - Existing Roof
Scale: 3" = 1'-0"



11 Siding Termination at Roof to Wall
Scale: 3" = 1'-0"



12 Window Sill Flashing - New Window at (E) Wall
Scale: 3" = 1'-0"

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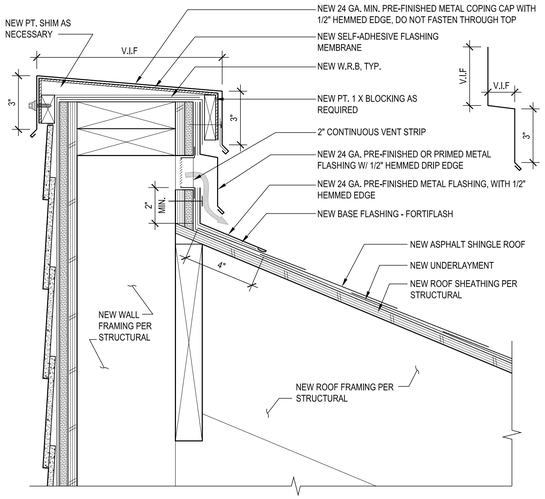
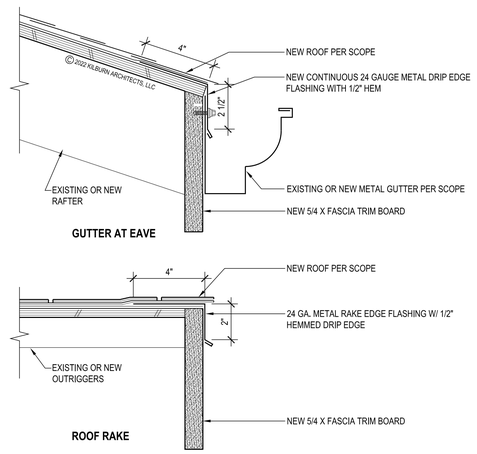
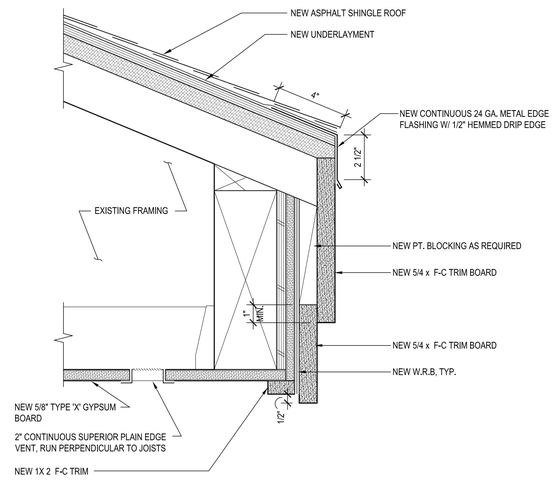
A-5.4



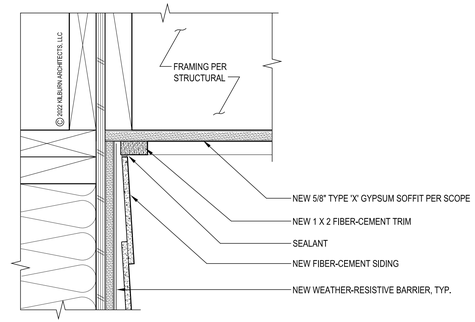
1 **Siding Termination at**
Scale: 3" = 1'-0"



2 **Typical Roof Eave and Rake**
Scale: 3" = 1'-0"



3 **Fascia Trim Board at Eave**
Scale: 3" = 1'- 0"



4 **Siding Termination at Soffit**
Scale: 3" = 1 '- 0"

2-PIECE FLASHING ISOMETRIC

5 **Column Base**
Scale: 3" = 1'- 0"

6 **Column & Beam Wrap**
Scale: 3" = 1 '- 0"

NOTE:
- 24 GA. FULLY SOLDERED METAL FLASHING
- SADDLE FLASHING AT ROOF INTERSECTION WITH ADJACENT WALL
- VERIFY DIMENSION IN FIELD, MOCK UP FOR APPROVAL

7 **Saddle Flashing - Isometric**
Scale: N.T.S

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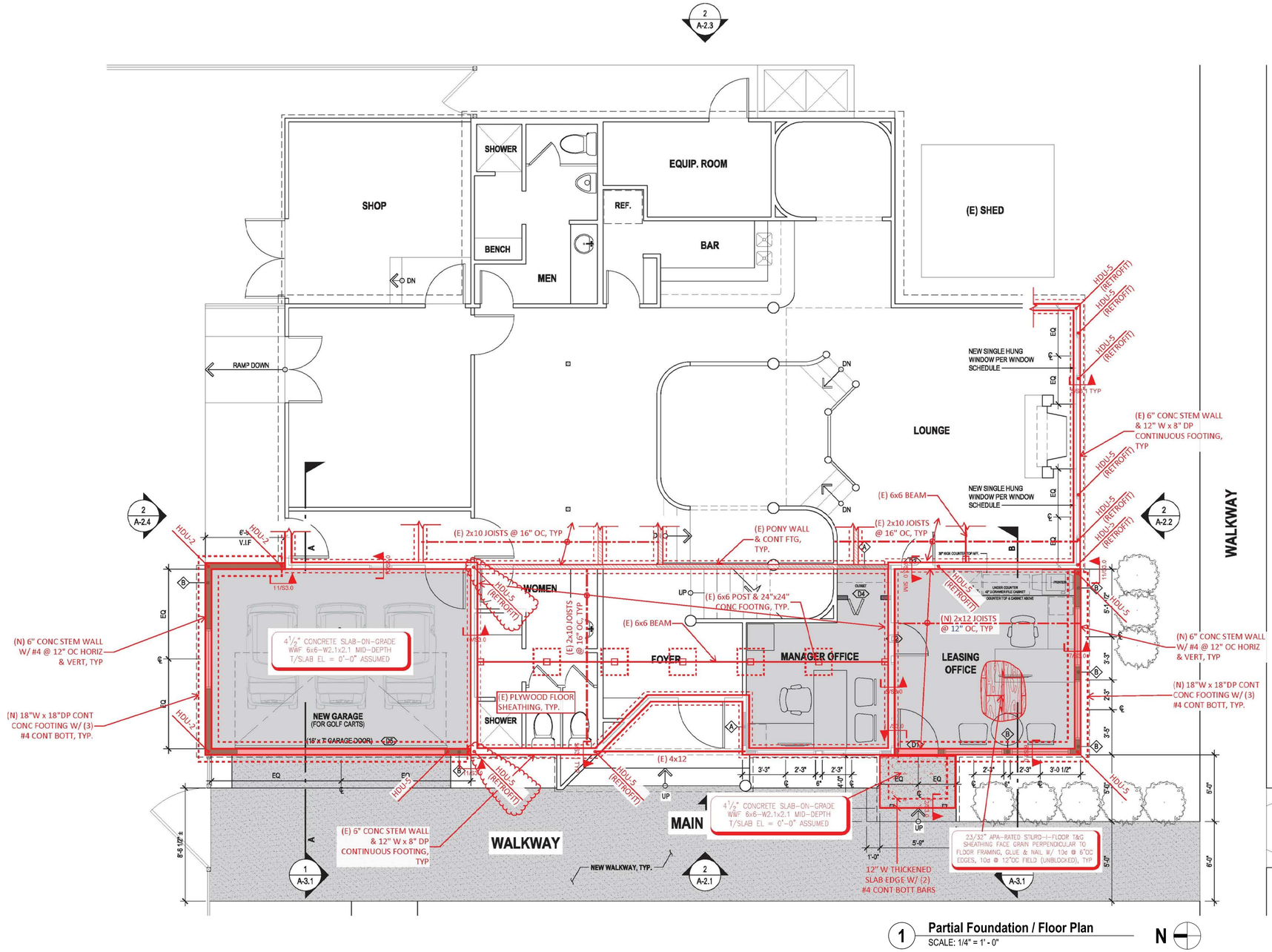
Details

A-5.5

NOTES:

1. PROVIDE PANEL EDGE NAILING AT ALL HOLDOWNS, POSTS/BUNDLED STUDS.
2. THE BOTTOM OF ALL FOOTINGS SHALL BE 18-" MINIMUM BELOW GRADE AND BEAR UPON FIRM, UNDISTURBED SOIL OR ENGINEERED COMPACTED BACK-FILL.
3. FULLY BLOCK FLOOR CAVITY AT ALL POINT LOADS. POINT LOADS SHALL BE SUPPORTED CONTINUOUSLY THROUGH FLOORS TO THE FOUNDATION.
4. ALL WOOD IN CONTACT WITH WEATHER-EXPOSED CONCRETE OR WITHIN 8" OF FINISHED GRADE SHALL BE PRESSURE-TREATED.



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Foundation / Floor Plan

S0.1

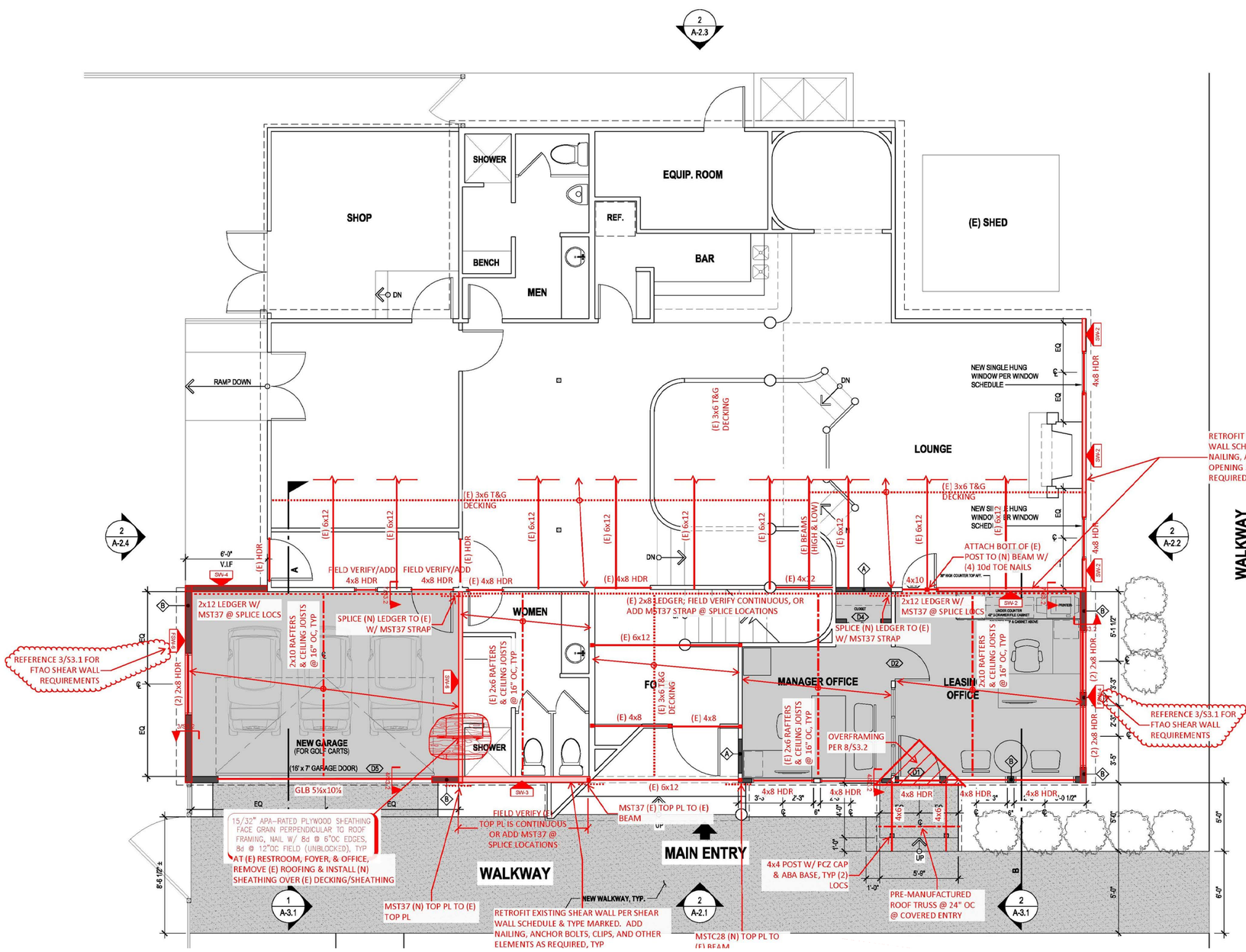
NOTES:

1 SW-# INDICATES WOOD FRAMED SHEAR WALL. REFER TO 12/S3.1 FOR SHEAR WALL SHEATHING AND FASTENING REQUIREMENTS. REFERENCE STRUCTURAL GENERAL NOTES FOR WOOD GRADE. ALL EXTERIOR WALLS TO BE SW-6, UNO. REFER TO 12/S3.1 FOR TYPICAL SCHEDULES.

2 FSW-# INDICATES FTAO SHEAR WALL PER 3/S3.1 & 4/S3.1.

3. PROVIDE (2) TRIM AND (1) KING STUD AT EACH END OF EACH SAWN LUMBER BEAM OR HEADER, UNO. AT GLULAM & MANUFACTURED LUMBER BEAMS, PROVIDE (3) TRIM AND (2) KING STUDS AT EACH END, UNO.

4. PROVIDE SHEATHING & FASTENERS PER SHEAR WALL TYPE SW-6 TYP @ BUILDING EXTERIOR, UNO.



1 Partialr Roof Framing & 1st Floor Wall Plan
SCALE: 1/4" = 1' - 0"

N

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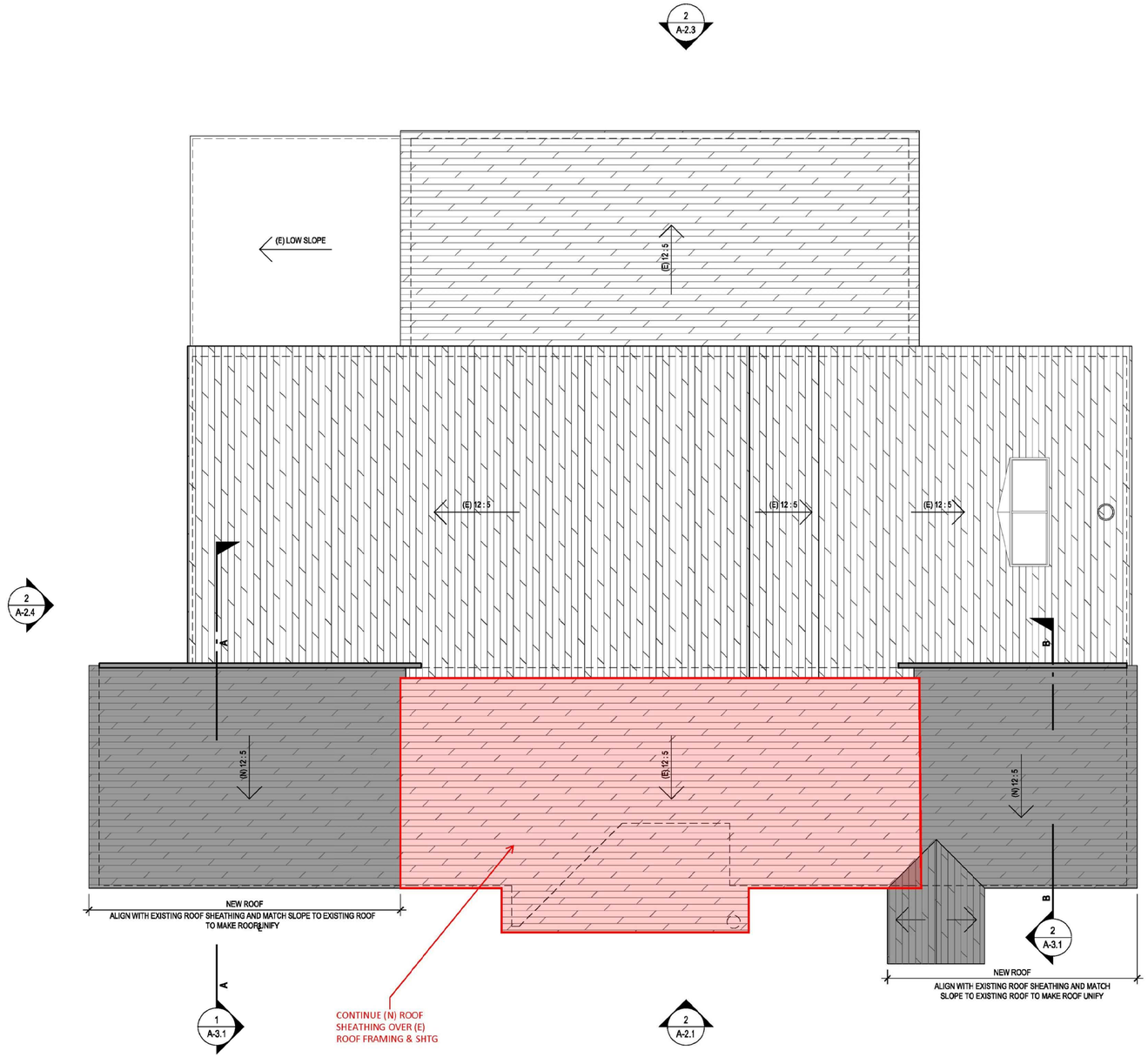
Partial Roof Framing & 1st Wall Plan

S0.2



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

N

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Roof Plan

S0.3

STRUCTURAL NOTES

GENERAL REQUIREMENTS

BUILDING CODE & REFERENCE STANDARDS: The "International Building Code" (IBC), 2018 Edition, as adopted and modified by the City of Bellevue, governs the design and construction of this project. Reference to a specific section in the Code does not relieve the contractor from compliance with the entire materials reference standards noted below. The latest edition of the materials reference standards shall be used.

SCOPE OF STRUCTURAL WORK: Design for a small office addition and small garage addition to an existing apartment cabana building.

DEFINITIONS: The following definitions apply to these general notes:

- "Structural Engineer of Record" (EOR) - The Structural Engineer who is legally responsible for stamping & signing the structural documents for the project. The EOR is responsible for the design of the Primary Structural System.
- "Specialty Structural Engineer" (SSE) - A licensed professional Engineer, not the EOR, who performs specialty structural engineering services necessary to complete the structure, who has experience and training in the specific specialty. The General Contractor, subcontractor, or supplier who is responsible for the design, fabrication and installation of specialty-engineered elements shall retain the SSE. Submittals shall be stamped and signed by the SSE. Documents stamped and signed by the SSE shall be completed by or under the direct supervision of the SSE with a PE or SE license issued by the State of Washington.
- "Deferred Submittals - Deferred Submittal is engineering work to be designed-by-others or bidder-designed.

NOTE PRIORITIES: Notes on the individual drawings shall govern over these general notes.

SPECIFICATIONS: Refer to the contract specifications for information in addition to that contained in these notes and the structural drawings. Refer to these notes, structural drawings, and architectural drawings which serve as specifications for this project.

STRUCTURAL DETAILS: The structural drawings are intended to show the general character and extent of the project and are not intended to show all details of the work.

ARCHITECTURAL DRAWINGS: Refer to the Architectural drawings for information including, but not limited to: dimensions, elevations, slopes, door and window openings, non-bearing walls, curtain walls, stairs, curbs, drains, depressions, railings, waterproofing, finishes and other nonstructural items.

STRUCTURAL RESPONSIBILITIES: The EOR is responsible for the strength and stability of the Primary Structure in its completed state.

CONTRACTOR RESPONSIBILITIES: The contractor is responsible for the means and methods of construction and all job-related safety standards such as OSHA and WISHA. The contractor is responsible for the strength and stability of the structure during construction and shall provide temporary shoring, bracing and other elements required to maintain stability until the structure is completed. It is the contractor's responsibility to be familiar with the work required in the construction documents and the requirements for executing it properly.

DISCREPANCIES: In case of discrepancies between these general notes, the contract drawings, and specifications, and/or reference standards, the EOR shall determine which shall govern. Discrepancies shall be brought to the attention of the EOR before proceeding with the work. Accordingly, any conflict in or between the Contract Documents shall not be a basis for adjustment in the Contract Price.

SITE VERIFICATION: The contractor shall verify all dimensions and conditions at the site prior to fabrication and/or construction. Conflicts between the drawings and actual site conditions shall be brought to the attention of the EOR before proceeding with the work. All underground utilities shall be located by the Contractor prior to excavation or drilling.

DESIGN CRITERIA

CONSTRUCTION LOADS: Loads on the structure during construction shall not exceed the design loads or the capacity of the partially completed construction.

DEAD LOAD:
Wood Floor = 15 psf
Wood Roof = 15 psf

SNOW LOAD:
Roof Snow Load = 25 psf

WIND DESIGN: Wind load is determined using Chapter 26 to 30 of ASCE 7-16 in accordance with IBC Section 1609 with the following factors:

Basic Wind Speed (3-Second Gust)	V = 98 MPH (Ultimate) / 76 MPH (ASD)
Wind Importance Factor Iw = 1.0	Risk Category = II
Exposure Category = B	Kzt = 1.0

For Components & Cladding as Deferred Submittal, the design wind pressures for determining forces on components and cladding shall determined using Chapter 30 of ASCE 7-16 in accordance with IBC Section 1609 by the Registered Professional Engineer who is responsible for the design of such elements.

SEISMIC DESIGN: Earthquake design is determined using Chapter 12 ASCE 7-16 in accordance with IBC Chapter 16 with the following factors:

Importance Factor Ie = 1.0	
Risk Category= II	
Ss = 1.307 g	Sds = 1.046 g
S1 = 0.456 g	Site Class = D
Seismic Design Category = D	Horizontal Irregularities: N/A
Vertical Irregularities: N/A	

Wood Structure
- Basic Seismic Force Resisting System: A-15 (Bearing Wall Systems) Light-framed walls with wood structural panels rated for shear resistance
- Analysis Procedure: Equivalent lateral force procedure, per ASCE 7-16, Section 12.8
- R = 6.5
- Cd = 4
- Ω = 2.5 (includes reduction for ASCE7 Table 12.2-1 footnote b)

Seismic demands on nonstructural components, structural components engineered as part of deferred submittals, and connections of those components to the primary structure shall be designed in accordance with the aforementioned building code, the general seismic criteria listed above, and the requirements of ASCE 7-16.

DEFLECTIONS:

Floor Total Load Deflection Limit:	L/360
Floor Live load Deflection Limit:	L/480
Roof Total Load Deflection Limit:	L/240
Roof Live load Deflection Limit:	L/360

LIVE LOADS:

Roof (Live)	20 PSF
Roof (Snow)	25 PSF
Offices	50 PSF + 15 PSF PARTITION
Attic (Uninhabitable-Limited Storage)	20 PSF
Garages	40 PSF OR 3,000# (4.5"x4.5" SQR.)

DEFERRED SUBMITTAL LOADS: All pre-engineered, pre-fabricated, pre-manufactured, or other products designed by others shall be designed for the tributary dead and live loads plus wind, earthquake, and component, and cladding loads when applicable. Design shall conform to the project drawings and specifications, reference standards, and governing code.

SUBMITTALS

SUBMITTALS: Shop Drawings shall be submitted to the Architect/EOR prior to any fabrication or construction for all structural items. The contractor shall review and place a shop drawings stamp on the submittal before forwarding to the EOR. Submittals shall be made in time to provide a minimum of one week for review by the EOR. Additional submittals required for this project are specified in the specific sections below. Reference the individual material section for specific information to be included in the submittal.

If the shop drawings differ from or add to the design of the Structural drawings, they shall bear the seal and signature of the Washington State Registered Professional Engineer who is responsible for the design..

ALTERNATES: Product or manufacturer components specified in these drawings are used as the basis of design for this project. Alternates for specified items may be submitted to the EOR for review. However, contractor shall submit a current ICC-ESR/IAPMO-ER report identifying that an alternative component has the same or greater load capacity than the specified item.

SHOP DRAWING REVIEW: Review by the Architect/EOR is for general compliance with the design concept and the contract documents. Dimensions and quantities are not reviewed by the EOR, and therefore, must be verified by the General Contractor. Markings or comments shall not be construed as relieving the contractor from compliance with the project plans and specifications, nor departures therefrom. The contractor remains responsible for details and accuracy; for confirming and correlating all quantities and dimensions; for selecting fabrication processes; for techniques of assembly; and for performing work in a secure manner. When shop drawings (component design drawings) differ from or add to the requirements of the Structural drawings they shall be designed and stamped by the responsible SSE. Allow one week for EOR review time.

DEFERRED SUBMITTALS: Per IBC Section 107.3.4.1, drawings, calculations, and product data for the design and fabrication of items that are designed-by-others shall bear the seal and signature of the Washington State Registered Professional Engineer (SSE) who is responsible for the design and shall be submitted to the Architect/EOR and the building department for review prior to fabrication. Allow one week for EOR review time.

The SSE shall submit stamped and signed calculations and shop drawings to the EOR for review. Review of the SSE's shop drawings is for general compliance with design criteria and compatibility with the design of the primary structure and does not relieve the SSE of responsibility for that design. All necessary bracing, ties, anchorage, and proprietary products shall be furnished and installed per manufacturer's instructions or the SSE's design drawings and calculations. Submitted drawings shall indicate all reaction forces imparted to the primary structure. The design of the connection to the primary structure is the responsibility of the supplier and SSE. Submitted calculations are for cursory review only and will generally not be returned.
Deferred submittals include but are not limited to the following:
Prefabricated Wood Roof Trusses/Joists

NON-STRUCTURAL COMPONENTS: Design, detailing and anchorage of all nonstructural components shall be in accordance with ASCE 7-16, Chapter 13 and the project specifications. Nonstructural components designed by others shall not induce torsional loading into supporting steel structural members without additional bracing of those members to eliminate torsional forces. Torsional bracing shall be designed by the nonstructural component designer and approved by the EOR. Anchorage to the primary structure is per the bidder-design contractor or supplier.

TESTS & INSPECTIONS

INSPECTIONS: All construction is subject to inspection by the Building Official in accordance with IBC Sec 110. The contractor shall coordinate all required inspections with the Building Official. Submit copies of all inspection reports to the Architect/EOR for review. The Building Official may accept inspection of and reports by approved inspection agencies in lieu of Building Official's inspections. The contractor shall obtain approval of Building Official to use the third-party inspection agency and contractor shall alert the Architect/EOR as such.

SPECIAL INSPECTIONS: In addition to the inspections required by IBC Sec 110, a Special Inspector shall be hired by the Owner as an independent third-party inspector to perform the special inspections per IBC Ch. 17. Special inspections shall be performed by an approved testing agency as outlined in the Special Inspection Schedule, the contract documents, and/or the project specification. Special Inspections shall meet the requirements outlines in the specific materials sections of IBC Sec 1705. The contractor is responsible for scheduling the inspections, per the city/Building Official requirements.

Special Inspections shall be performed for the following:
Concrete
Periodic inspection of reinforcing steel and cast-in-place anchors
Periodic verification of the use of the required design mix.
Continuous inspection during the sampling of fresh concrete and during slump, air content and temperature determinations.
Continuous inspection during the placing of reinforced concrete.
Periodic inspection of post-installed anchors.
Wood
Periodic inspection of anchor bolts, hold-downs, drag strut connections, nailing size & spacing.
Periodic verification of moisture content of wood studs, plates, beams, and joists.

PREFABRICATED CONSTRUCTION: All prefabricated construction shall conform to the inspection requirements of the same material or construction type used for this project.

STRUCTURAL OBSERVATIONS: When required by the provisions of Section 1704.6.1, 1704.6.2, or 1704.6.3, the Owner or the Owner's authorized agent shall employ the EOR to perform structural observations. Structural observations do not include or waive the responsibility for the inspections in IBC Section 110 or the special inspections in Section 1705 or other sections in the code.

SOILS AND FOUNDATIONS

REFERENCE STANDARDS: Conform to IBC Chapter 18 "Soils and Foundations."

GEOTECHNICAL INSPECTION: Site soil conditions, fill placement, and load-bearing requirements shall be as required by IBC Section 1705.6 and Table 1705.6. Assumed values shall be field verified by the Building Official or a Geotechnical Engineer prior to placing concrete.

DESIGN SOIL VALUES: (Assumed)
Allowable Soil Bearing Pressure
1500 PSF DL + LL
2000 PSF DL + LL + Seismic/wind

SLABS-ON-GRADE & FOUNDATIONS: All slabs-on-grade and foundations shall bear on structural compacted fill or competent native soil per the Geotechnical report or as noted in these documents. Exterior perimeter footings shall bear not less than 18 inches below finish grade, or as required by the Geotechnical Engineer and the Building Official. Interior footings shall bear not less than 12 inches below finish floor.

FOUNDATION STEM WALLS: Unless otherwise noted on the drawings, the maximum unbalanced soil condition for all foundation stem walls (difference in elevation between interior and exterior soil grades) shall be 2'-6". Maintain a minimum 8" separation between finish grade and untreated wood framing.

COMPACTION: Unless otherwise specified by a Geotechnical Engineer, footings shall be placed on compacted material and shall be well-graded granular material with no more than 5% passing a #200 sieve. Fills placed shall be in maximum 8" lifts and all bearing soils shall be compacted to 95% maximum density at optimum moisture content using the Modified Proctor Test.

CAST-IN-PLACE CONCRETE

REFERENCE STANDARDS: Conforms to the latest editions of the following:
(1) ACI 318 "Building Code Requirements for Structural Concrete and Commentary",
(2) IBC Chapter 19.

FIELD REFERENCE: The contractor shall keep a copy of ACI Field Reference manual, SP-15, "Standard Specifications for Structural Concrete (ACI 301) with Selected ACI and ASTM References."

CONCRETE MIXTURES: Conform to ACI 318 Chapter 19 "Concrete: Design and Durability Requirements."

MATERIALS: Conform to ACI 318 Chapters 19 & 20.

SUBMITTALS: Provide all submittals required by ACI 301 Sec 4.1.2. Submit mix designs for each mix in the table below.

TABLE OF MIX DESIGN REQUIREMENTS

Member Type/Location	Strength (psi)	Test Age (days)	Maximum Aggregate	Exposure Classification	Max W/C Ratio	Minimum Air Content
Foundations	3500	28	1"	F1, C0	0.45	4.5%
Slabs-on-Grade	4500	28	1"	F3, C2	0.40	6.0%

MIX DESIGN NOTES:
(1) W/C Ratio: Water-cementitious material ratios shall be based on the total weight of cementitious materials. Ratios not shown in the table above are controlled by strength requirements.
(2) Cementitious Content: The use of fly ash, other pozzolans, silica fume, or slag shall conform to ACI 301 Sec 4.2.1 "Materials". Maximum amount of fly ash shall be 20% of total cementitious content unless reviewed and approved otherwise by EOR.
(3) Air Content: Conform to ACI 301 Sec 4.2.2.4. Horizontal exterior surfaces in contact with the soil require entrained air. Use Exposure Category F0, S0, W0, and C0 unless noted otherwise. Tolerance is +/- 1.5%. Air content shall be measured at point of placement.
(4) Exposure Classification: The mix design provided shall meet the requirements of ACI 318 Chapter 19, based on the exposure classification indicated in the table above.
(5) Slump: Unless otherwise specified or permitted, concrete shall have at the point of delivery, a slump of 4" +/- 1". For additional criteria, reference ACI 301 Sec 4.2.2.2.

FORMWORK: Conform to ACI 301 Sec 2 "Formwork and Form Accessories." Removal of Forms shall conform to Sec 2.3.2 except strength indicated in Sec 2.3.2.5 shall be 0.75 f'c.

MEASURING, MIXING, AND DELIVERY: Conform to ACI 301 Sec 4.3.

HANDLING, PLACING, CONSTRUCTING, AND CURING: Conform to ACI 301 Sec 5.

CONSTRUCTION & CONTROL JOINTS: Conform to ACI 301 Sec 2.2.2.5, 5.1.2.3a, 5.2.2.1, and 5.3.2.6. Concrete joints shall be located and detailed as on the construction drawings. Use of an acceptable adhesive, surface retarder, Portland cement grout, or roughening the surface is not required unless specifically noted on the drawings. Where shear bond is required, roughen surfaces to 1/4" amplitude.

EMBEDDED ITEMS: Position and secure in place expansion joint material, anchors and other structural and non-structural embedded items before placing concrete. Contractor shall refer to mechanical, electrical, plumbing, and architectural drawings and coordinate all other embedded items.

GROUT: Use 7000 PSI non-shrink grout

JOINT COMPOUND: Provide acid resistant silicone caulk where noted on the drawings. Submit product data for review.

TESTING AND ACCEPTANCE:
Testing: Obtain samples and conduct tests in accordance with ACI 301 Sec 1.6.4.2. Additional samples may be required to obtain concrete strengths at alternate intervals than shown below.
- Cure 4 cylinders for 28-day test age. Test 1 cylinder at 7 days, test 2 cylinders at 28 days, and hold 1 cylinder in reserve for use as the EOR directs. After 56 days, unless notified by the EOR to the contrary, the reserve cylinder may be discarded without being tested for specimens meeting 28-day strength requirements.

Acceptance: Strength is satisfactory when:
- The average of all tests equals or exceeds the specified strength. No individual test falls below the specified strength by more than 500 psi.

CONCRETE REINFORCEMENT

REFERENCE STANDARDS: Conform to:
(1) ACI 301 "Standard Specifications for Structural Concrete, Sec 3 "Reinforcement, and Reinforcement Supports."
(2) IBC Chapter 19, Concrete.
(3) ACI 318 and ACI 318R.
(4) ACI SP-66 "ACI Detailing Manual" including ACI 315 "Details and Detailing of Concrete Reinforcement."
(5) CRSI MSP-2 "Manual of Standard Practice."

SUBMITTALS: Conform to ACI 301 Sec 3.1.1 "Submittals, data, and drawings." Submit placing drawings showing fabrication dimensions and locations for placement of reinforcement and reinforcement supports.

MATERIALS:

Reinforcing Bars	ASTM A615, Grade 60, deformed bars.
Weldable Reinforcing Bars	ASTM A706, Grade 60, deformed bars.
Smooth Welded Wire Fabric	ASTM A185
Bar Supports	CRSI MSP-2, Chapter 3 "Bar Supports."
Tie Wire	16.5 gage or heavier, black annealed.

FABRICATION: Conform to ACI 301, Sec 3.2.2 "Fabrication," and ACI SP-66 "ACI Detailing Manual."

WELDING: Bars shall not be welded.

PLACING: Conform to ACI 301, Sec 3.3.2 "Placement." Placing tolerances shall conform to Sec 3.3.2.1 "Tolerances."

CONCRETE COVER: Conform to the following cover requirements from ACI 301, Table 3.3.2.3.

Concrete cast against earth	3"
Concrete exposed to earth or weather (#5 & smaller)	1-1/2"
Concrete exposed to earth or weather (#6 & larger)	2"

SPLICES & DEVELOPMENT LENGTH: Conform to ACI 301, Sec 3.3.2.7. Refer to "Lap Splice & Development Schedule" on plans for typical splices. Lap all continuous reinforcement and corner bars per Schedule. The splices and development lengths indicated on individual sheets control over the schedule. Use Class B splices unless otherwise noted. Mechanical connections may be used when approved by the EOR. WWF to be lapped a minimum 8" on all sides and edges.

FIELD BENDING: Conform to ACI 301 Sec 3.3.2.8. "Field Bending or Straightening." Bar sizes #3 through #5 may be field bent cold the first time. Other bars require preheating. Do not twist bars.

CORNERS BARS: Provide matching-sized "L" corner bars for all horizontal wall and footing bars with the appropriate splice length, UNO.

WOOD FRAMING

REFERENCE STANDARDS: Conform to:
(1) IBC Chapter 23 "WOOD."
(2) NDS and NDS Supplement - "National Design Specification for Wood Construction."
(3) ANSI/TPI 1 "National Design Standard for Metal-Plate-Connected Wood Truss Construction."
(4) BCSI 2013 "Building Component Safety Information."

DEFERRED SUBMITTALS: Submit product data and proof of ICC-ESR/IAPMO-ER approval for framing members and fasteners that have been designed by others. Submit calculations prepared by the SSE (or Manufacturer's Professional Engineer) in the state of Washington for all members and connections designed by others along with shop drawings. All necessary bridging, blocking, blocking panels and web stiffeners shall be detailed and furnished by the supplier. Temporary and permanent bridging shall be installed in conformance with the manufacturer's specifications. Deflection limits shall be as noted under DESIGN LOADS section. Products included are:
Metal plate connected roof trusses (prefabricated roof trusses): shop drawings shall provide for shapes, bearing points, intersections, hips, and valleys shown on the drawings. The manufacturer shall provide special hip, valley and intersection areas (step down trusses, jack trusses and girder trusses) unless specifically indicated on the plans. Provide all truss-to-truss and truss-to-support connection details and required connection materials. Specify temporary and permanent bracing and connections on the shop drawings. Provide all truss reactions over 1000# on shop drawings.

ALTERNATES: Alternates for specified item may be submitted to the EOR for review. Contractor shall submit a current ICC-ESR/IAPMO-ER report identifying that an alternative component has the same or greater load capacity than the specified item.

IDENTIFICATION: All sawn lumber and pre-manufactured wood products shall be identified by the grade mark or a certificate of inspection issued by the certifying agency.

MATERIALS:

Sawn Lumber: Conform to grading rules of WWPA, WCLIB, or NLGA. Finger jointed studs acceptable at interior non-structural walls only.

Member Use	Size	Species	Grade
Studs & Plates	2x, 3x	HF	No. 2
Posts	4x	HF	No. 2
Joists	2x	HF	No. 2
Beams	4x	HF	No. 2
Beams	6x	DF	No. 1
Posts	6x, 8x	DF	No. 1

Glued Laminated Timber: Conform to AITC 117 "Standard Specifications for Structural Glued Laminated Timber of Softwood Species, Manufacturing and Design" and ANSI/AITC A190.1 "Structural Glued Laminated Timber." Glued laminated member beams shall not be cambered other than the stock camber of 5000', unless shown otherwise on the plans or specifications.

Member Use	Sizes	Species	Stress Class	Uses
Beams	All	DF/DF	24F-V4	Simple Spans

Metal Plate Connected Wood Roof Trusses: Reference DEFERRED SUBMITTAL section above. Conform to IBC Sec 2303.4 "Trusses."

Wood Structural Sheathing (Plywood): Wood APA-rated structural sheathing includes: all veneer plywood, oriented strand board, waferboard, particleboard, T1-11 siding, and composites of veneer and wood-based material. Conform to Product Standards PS-1 and PS-2 of the U.S. Dept. of Commerce and the American Plywood Association (APA)

	Minimum APA Rating			
Location	Thickness	Span Rating	Plywood Grade	Exposure
Roof	15/32"	24/16	C-D	1
Floor	23/32" T&G	24 OC	Sturd-I-Floor	1
Walls	15/32"	32/16	C-D	1

Joist Hangers and Connectors: Simpson Strong-Tie Company Inc. as specified in their latest catalogs was used as the basis of design for this project. Alternate connectors by other manufacturers may be substituted provided they have current ICC-ESR/IAPMO-ER approval for equivalent or greater load capacities and are reviewed and approved by the EOR prior to ordering. Connectors shall be installed per the manufacturer's instructions. Where connector straps connect two members, place 1/2 of the nails or bolts in each member. Unless noted otherwise all nails shall be full length common. Nail straps to wood framing as late as possible in the framing process to allow the wood to shrink and the building to settle.

Nails and Staples: Conform to IBC Sec 2303.6 "Nails and Staples." Unless noted on plans, nail per IBC Table 2304.10.1. Unless noted otherwise all nails shall be common. Nail sizes specified on the drawings are based on the following specifications:

COMMON NAILS

Size	Length	Diameter
8d	2-1/2"	0.131"
10d	3"	0.148"
16d	3-1/2"	0.162"
16d Sinker	3-1/4'	0.148"

Lag Bolts/Thru-Bolts/Anchor Bolts: Conform to ASTM A307. Provide plate washers/BPS washers under the heads and nuts of all bolts and lag screws bearing on wood.

Wood Holdowns: Holdowns specified are as manufactured by Simpson Strong-Tie Company Inc. Additional framing members shall be provided per the manufacturer's requirements. Acceptable equivalent product substitutions are available from other manufacturers with EOR approval. Do not countersink holdown bolts.

NAILING REQUIREMENTS: Provide minimum nailing in accordance with IBC Table 2304.10.1 "Fastening Schedule" except as noted on the drawings. Nailing for roof/floor diaphragms/shear walls shall be per drawings. Nails shall be driven flush and shall not fracture the surface of sheathing.

STANDARD LIGHT-FRAME CONSTRUCTION: Unless noted on the drawings, construction shall conform to IBC Sec 2308 "Conventional Light-Frame Construction" and IBC Sec 2304 "General Construction Requirements."

(1) Wall Framing (Unless noted otherwise on plans and details) All interior walls shall be 2x4 @ 16"OC and all exterior walls shall be 2x6 @ 16"OC. Provide (2) bundled studs min at wall ends and each side of all openings. All solid sawn lumber beams and headers shall be supported by a minimum of (2) trim and (1) king stud and all glulam or engineered wood beams and headers by (3) trim and (2) king studs. Provide minimum (2) 2x8 headers at all interior and exterior wall openings unless noted otherwise on plans and details. Stitch-nail bundled studs with (2) 10d @ 12"OC. Provide solid blocking thru floors to supports below for bearing walls and posts. Attach bottom plates of stud walls to wood framing below with 16d @ 12"OC or to concrete with 5/8"-dia. anchor bolts x 7" embedment at 48"OC. Refer to shear wall schedule for specific sheathing, stud, and nailing requirements at shear walls. Provide gypsum sheathing on interior surfaces and plywood sheathing on exterior surfaces.

(2) Roof/Floor Framing: (Unless noted otherwise on plans and details) Provide double joists/rafters under all parallel bearing partitions and solid blocking at all bearing points. Provide double joists around all roof/floor openings. Multi-joists/rafters shall be stitch-nailed together with (2)10d @ 12"OC, Provide roof sheathing edge clips centered between framing at unblocked plywood edges. All floor sheathing shall have tongue and groove joints or be supported by solid blocking. Allow 1/8" spacing at all panel edges and ends of roof/floor sheathing. Roof/floor sheathing shall be laid face grain perpendicular to framing members.

(3) Blocking: (Unless noted otherwise on plans and details) All blocking shall be full-height 2x at solid sawn framing systems or a full-height I-joist or roof truss.

MOISTURE CONTENT: Wood material used for this project shall have maximum moisture content of 19% except for the pressure-treated wood sill plate

PRESERVATIVE TREATMENT: Wood materials are required to be "treated wood" under certain conditions in accordance with IBC Sec 2304.12 "Protection against decay and termites." Conform to the appropriate standards of the American Wood-Preservers Association (AWPA) for sawn lumber, glued laminated timber, round poles, wood piles, and marine piles. Follow American Lumber Standards Committee (ALSC) quality assurance procedures. Products shall bear the appropriate mark. Coat all ends of cut pressure treated framing with treatment complying with AWPA U1.

METAL CONNECTORS/PT WOOD: All metal hardware and fasteners in contact with pressure treated lumber shall be stainless steel Type 316L. At the Owner's risk and discretion, hot-dipped galvanized metal hardware and fasteners may be investigated for use in lieu of stainless steel provided that the finish has a minimum zinc content of at least 1.85 oz./SF and its use is coordinated by the Contractor and Wood Supplier for the expected environment and moisture exposure for appropriate use based on the method of preservative treatment of the wood.

STRUCTURAL ABBREVIATIONS

AB	ANCHOR BOLT
ADD'L	ADDITIONAL
ALT	ALTERNATE
ARCH	ARCHITECT(URAL)
ATR	ALL-THREADED ROD
B/	BOTTOM OF
BN	BOUNDARY NAILING
BLDG	BUILDING
BLKG	BLOCKING
BOTT	BOTTOM
BRG	BEARING
BTWN	BETWEEN
℄	CENTERLINE
CJ	CONSTRUCTION or CONTROL JOINT
CLR	CLEAR(ANCE)
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CTRD	CENTERED
CTSK	COUNTERSINK
DBL	DOUBLE(R)
DET	DETAIL
DF	DOUGLAS FIR
DIAG	DIAGONAL
DN	DOWN
DP	DEPTH
DWL	DOWEL
DWG	DRAWING
EA	EACH
EF	EACH FACE
EN	EDGE NAILING
EL	ELEVATION
EMBED	EMBEDMENT
ENGR	ENGINEER
EQ	EQUAL
ES	EACH SIDE
EW	EACH WAY
(E)	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
F/	FACE OF
FLR	FLOOR
FNDN	FOUNDATION
FRT	FIRE RETARDANT TREATED
FTAO	FORCED TRANSFER AROUND OPENING
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
GEN	GENERAL
GLB	GLUE LAMINATED BEAM
GR	GRADE
GT	GIRDER TRUSS
GWB	GYPSUM WALL BOARD
HD	HOLDDOWN
HDR	HEADER
HF	HEM-FIR
HGR	HANGER
HORIZ	HORIZONTAL
HSS	HOLLOW STRUCTURAL SECTION
HT	HEIGHT
INT	INTERIOR
Ld	DEVELOPMENT LENGTH
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONGIT	LONGITUDINAL
Ls	SPLICE LENGTH
LSL	LAMINATED STRAND LUMBER
LVL	LAMINATED VENEER LUMBER
MAT'L	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
(N)	NEW
NIC	NOT IN CONTRACT
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OPNG	OPENING
OPP	OPPOSITE
OSB	ORIENTED STRAND BOARD
OWWJ	OPEN WEB WOOD JOIST
PL	PLATE
PC	PRECAST
PERIM	PERIMETER
PERP	PERPENDICULAR
PLY	PLYWOOD
PRE-MFR	PRE-MANUFACTURED
PSL	PARALLEL STRAND LUMBER
P-T	POST-TENSIONED
PT	PRESERVATIVE/PRESSURE-TREATED
REF	REFERENCE
REINF	REINFORCING
REQ'D	REQUIRED
RET	RETAINING
SCHED	SCHEDULE
SECT	SECTION
SHTG	SHEATHING
SIM	SIMILAR
SMS	SHEET METAL SCREW
SOG	SLAB-ON-GRADE
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
STAGG	STAGGERED
STD	STANDARD
STIFF	STIFFENER
STRUCT	STRUCTURAL
SUPPL	SUPPLEMENT
SW	SHEAR WALL
SYM	SYMMETRICAL
T/	TOP OF
T&B	TOP & BOTTOM
T&G	TONGUE & GROOVE
THK, THK'N	THICK, THICKENED
THRU	THROUGH
TRANSV	TRANSVERSE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VIF	VERIFY IN FIELD
WHS	WELDED HEADED STUD
WTS	WELDED THREADED STUD
WWF	WELDED WIRE FABRIC

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SEAL:

11/2/22

SANDPIPER EAST CABANA
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BELLEVUE, WA 98005

PROJECT #:	22-285
DRAWN BY:	TLT
DESIGNED BY:	JM
DATE:	DESCRIPTION
11.02.2022	PERMIT

JURISDICTIONAL STAMP:

SHEET TITLE:
STRUCTURAL GENERAL NOTES & ABBREVIATIONS

SHEET NUMBER:
S 1.0

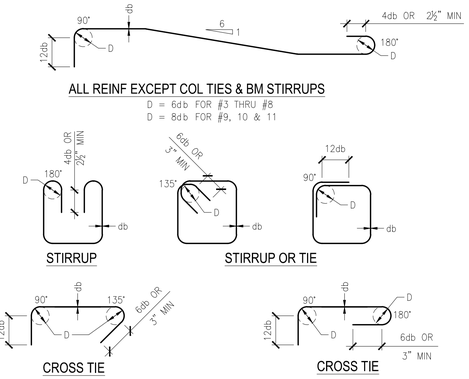
LAP SPLICE & DEVELOPMENT SCHEDULE

BAR SIZE	DEVELOPMENT LENGTH, Ld		CLASS B SPLICE, Ls		Ldh
	STANDARD	TOP (3)	STANDARD	TOP (3)	
f'c = 2500 psi					
#3	18	24	24	32	9
#4	24	32	32	42	12
#5	30	39	39	51	15
#6	36	47	47	62	18
#7	53	69	69	90	21
#8	60	78	78	102	24
#9	68	88	89	115	28
#10	77	100	101	130	31
#11	85	110	111	143	34

NOTES:
1. VALUES FOR UNCOATED REINFORCING AND NORMAL WEIGHT CONCRETE WITH CLEAR SPACING > db, CLEAR COVER > db AND MINIMUM STIRRUPS OR TIES THROUGHOUT Ld OR CLEAR SPACING > 2db AND CLEAR COVER > db.
2. DEVELOP ALL REINFORCING IN STRUCTURAL SLABS WITH MINIMUM DEVELOPMENT LENGTH Ld.
3. TOP BAR = HORIZONTAL BAR WITH MORE THAN 12" OF FRESH CONCRETE BELOW OR AS NOTED ON DOCUMENTS AS "TOP BAR".
4. UNO, ALL LAPS SHALL BE MINIMUM CLASS B.
5. ALL TABULATED VALUES ARE IN INCHES.
6. Ldh = HOOKED BAR DEVELOPMENT LENGTH.

TYPICAL LAP SPLICE & DEVELOPMENT LENGTH SCHEDULE

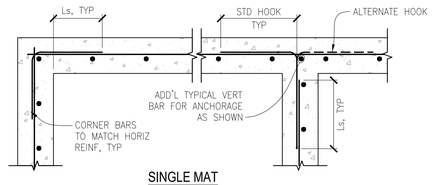
SCALE: N.T.S. 1131x **1**



NOTE:
db = BAR DIAMETER, D = BEND DIAMETER

TYPICAL REBAR BEND SCHEDULE

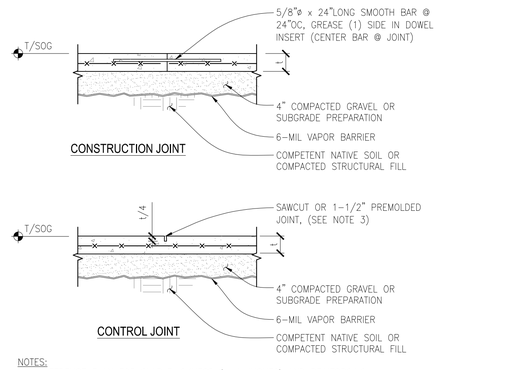
SCALE: NTS 1301a **2**



NOTES:
1. MEMBER SIZE & REINFORCING PER PLAN.

TYPICAL CONCRETE MEMBER INTERSECTIONS

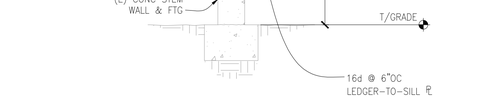
SCALE: NTS 3001x **5**



NOTES:
1. REFERENCE PLAN FOR SLAB THICKNESS (t, IN INCHES) AND REINFORCING.
2. CONTROL JOINTS TO BE SPACED BETWEEN 2t AND 3t FEET ON CENTER, EACH WAY, UNLESS NOTED OTHERWISE. RATIO OF LONG, SIDE TO SHORT SIDE OF ADJACENT JOINTS SHALL NOT EXCEED 1:1.25.
3. USE "SOFTCUT SAW" AS SOON AS POSSIBLE WITHOUT CAUSING RAVELING OF CONCRETE EDGES. SAWCUT ALONG SHORT DIRECTION OF POUR FIRST.

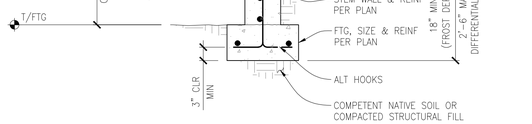
TYPICAL SLAB-ON-GRADE JOINT DETAILS

SCALE: NTS 3151x **4**



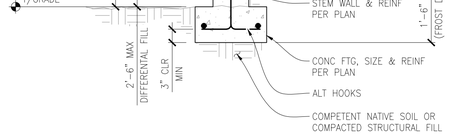
NEW FLOOR FRAMING TO EXISTING

SCALE: NTS **5**



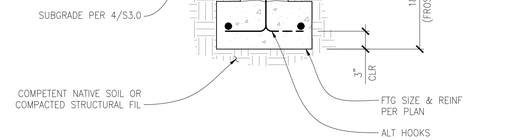
CRAWL SPACE AT EXTERIOR SHEAR WALL WITH JOIST (PARALLEL)

SCALE: NTS 6107x **6**



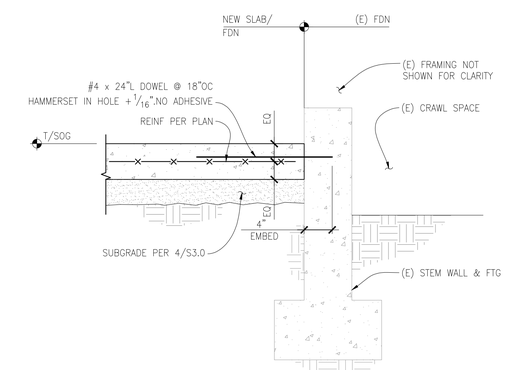
CRAWL SPACE AT EXTERIOR SHEAR WALL WITH JOISTS (PERPENDICULAR)

SCALE: NTS 6106s **7**



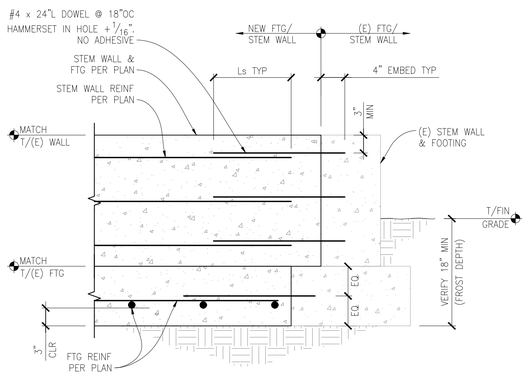
TYPICAL FOUNDATION FOOTING AND STEM WALL WITH SOG

SCALE: NTS 3041x **8**



NEW SLAB ON GRADE CONNECTION AT EXISTING SLAB

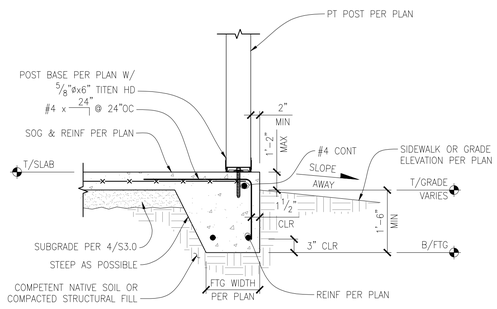
SCALE: NTS 2002x **10**



NOTE:
VERTICAL STEM WALL REINFORCING NOT SHOWN FOR CLARITY.

NEW FOUNDATION CONNECTION TO EXISTING

SCALE: NTS 2003x **11**



PORCH SLAB & POST CONNECTION

SCALE: NTS 6752x M00 **12**

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DAVIS S. COLLANDER, STATE OF WASHINGTON, 39519, STRUCTURAL ENGINEER, PROFESSIONAL ENGINEER
11/2/22

SANDPIPER EAST CABANA
REMODEL
1312 139TH AVENUE
BELLEVUE, WA 98005

PROJECT #: 22-285
DRAWN BY: TLT
DESIGNED BY: JM

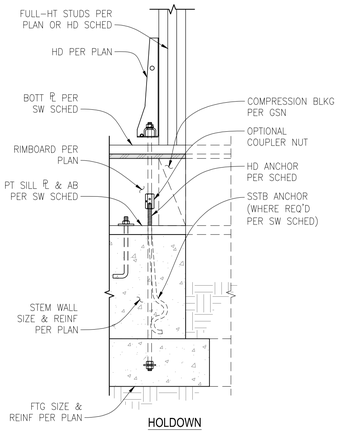
DATE:	DESCRIPTION
11.02.2022	PERMIT

JURISDICTIONAL STAMP:

SHEET TITLE:
CONCRETE SECTIONS & DETAILS

SHEET NUMBER:
S3.0

Issued 04/12/2023



SHEAR WALL HOLDOWN CONNECTION (WITH RIM)

SCALE: NTS

1273r

1

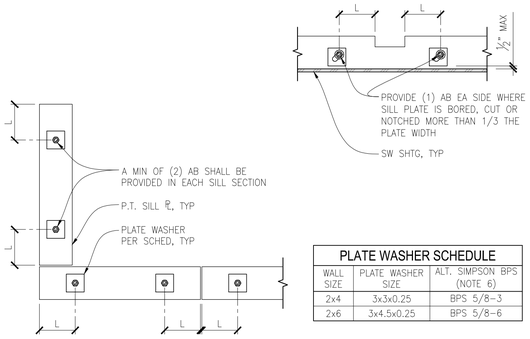


PLATE WASHER SCHEDULE		
WALL SIZE	PLATE WASHER SIZE	ALT. SIMPSON BPS (NOTE 6)
2x4	3x3x0.25	BPS 5/8-3
2x6	3x4.5x0.25	BPS 5/8-6

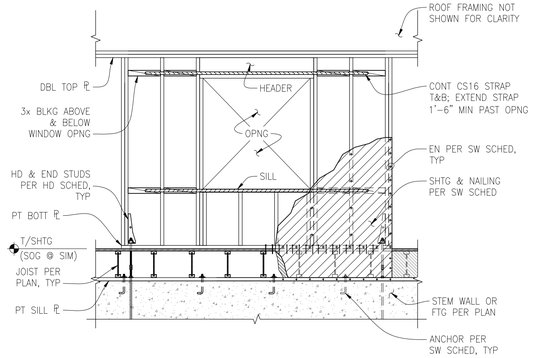
NOTES:
1. L = 6" MIN, 12" MAX.
2. 5/8"ø AB W/ MIN 7" EMBED TYP. SEE STUD WALL OR SHEAR WALL SCHEDULE FOR SPACINGS & EMBED.
3. SILL PLATES TO BE PRESSURE TREATED, REFER TO GENERAL NOTES FOR GALV REQUIREMENTS FOR CONNECTORS & FASTENERS.
4. HOLES IN SILL PLATES SHALL BE A MIN 1/32" TO MAX 1/16" LARGER THAN BOLT DIAMETER.
5. HOLES, CUTS AND NOTCHES IN TREATED SILL PLATES SHALL BE COATED W/ FIELD APPLIED P.T. LIQUID.
6. BPS BEARING PLATES W/ SLOTTED HOLES SHALL BE PLACED W/ STANDARD CUT WASHER & NUT.

PLAN VIEW - TYPICAL ANCHOR BOLT INSTALLATION

SCALE: NTS

1271x

2



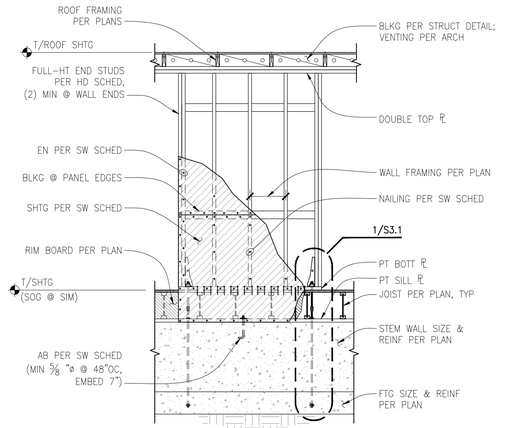
NOTES:
1. STRAP ABOVE AND BELOW WINDOWS TO BE ON BOTH SIDES AT DOUBLE-SIDED SHEAR WALLS.
2. REFERENCE DETAIL 4/S3.1 FOR ADDITIONAL INFO.

TYPICAL FTAO SHEAR WALL ELEVATION

SCALE: N.T.S.

1265x

3



TYPICAL WOOD-FRAMED SHEAR WALL ELEVATION

SCALE: NTS

1261r

4

HOLDOWN RETROFIT SECTION

SCALE: NTS

2011x

5

HOLDOWN SCHEDULE (HF-SEISMIC)					
MARK/MODEL #[1]	ALLOWABLE UPLIFT (LBS)		MIN END STUDS[2]	STUD FASTENERS	CONCRETE ANCHOR[3]
	MID WALL	CORNER / END WALL			
HDU2	2215		(2) 2x	(6) ¼"ø x 2½" SDS	SSTB16
HDU4	3145	2960	(2) 2x	(10) ¼"ø x 2½" SDS	SSTB20
HDU5	3740	3325	(2) 2x	(14) ¼"ø x 2½" SDS	SSTB24
HDU5 (RETROFIT)	4340				5/8"ø ATR W/ 12" MIN EMBED REF 5/S3.1 [4]

NOTES:
1. HOLDOWNS SPECIFIED ARE AS MANUFACTURED BY SIMPSON STRONG-TIE CO. INC.; ACCEPTABLE EQUIVALENT PRODUCT SUBSTITUTIONS ARE AVAILABLE FROM OTHER MANUFACTURERS WITH EOR APPROVAL. FOLLOW ALL MANUFACTURER GUIDELINES NECESSARY TO ACHIEVE FULL ICC DESIGN VALUES.
2. REFERENCE PLANS FOR ADDITIONAL STUD REQUIREMENTS WHERE OCCURS.
3. HOLDOWN SHALL BE INSTALLED TIGHT TO STUDS WITHOUT FILLERS OR NOTCHING. DO NOT BEND ANCHORS.
4. PROVIDE 1/4"x3"SQ PLATE WASHER IN BETWEEN STANDARD DOUBLE NUTS. EMBED LENGTH EQUAL TO TOP OF CONCRETE DOWN TO TOP OF PLATE WASHER.

HOLDOWN SCHEDULE (8" MIN STEM WALL)

SCALE: NTS

1615H

6

WOOD-FRAMED SHEAR WALL SCHEDULE FOR HEM-FIR FRAMING W/ 10d COMMON NAILS (2018 IBC) & SIMPSON CATALOG 2021-2023											
	SW TYPE (3)	WALL SHEATHING APA RATED (10,11,12)	EDGE NAILING (4,5)	BOTTOM PLATE ATTACHMENT	FRAMING CLIP TO WALL BELOW (6)	MINIMUM RIM BOARD THICKNESS	FRAMING AT PANEL EDGES (1,2,7)	BLOCKING AT ALL PANEL EDGES	ANCHOR BOLT TO CONCRETE FOUNDATION (8,9)	SILL PLATE AT FOUNDATION	ALLOWABLE SHEAR WALL CAPACITY (PLF) SEISMIC	ALLOWABLE SHEAR WALL CAPACITY (PLF) WIND
SINGLE-SIDED	SW-6	15/32"	10d @ 6"OC	16d SINKER @ 4"OC	LTP5 @ 14"OC	1 1/4"	2x	2x	5/8"ø @ 40"OC	P.T. 2x	288	404
									5/8"ø @ 50"OC	P.T. 3x		
	SW-4	15/32"	10d @ 4"OC	(2) ROWS 16d SINKER @ 6"OC, STAGGERED	LTP5 @ 8"OC	1 3/4"	2x	2x	5/8"ø @ 26"OC	P.T. 2x	427	599
									5/8"ø @ 34"OC	P.T. 3x		
	SW-3	15/32"	10d @ 3"OC STAGGERED	(2) ROWS 16d SINKER @ 5"OC, STAGGERED	LTP5 @ 6"OC	1 3/4"	3x	3x -OR- FLAT 2x	5/8"ø @ 20"OC	P.T. 2x	558	781
									5/8"ø @ 26"OC	P.T. 3x		
	SW-2	15/32"	10d @ 2"OC STAGGERED	(3) ROWS 16d SINKER @ 5"OC, STAGGERED	LTP5 @ 8"OC & A35 @ 8"OC	3 1/2"	3x	3x -OR- FLAT 2x	5/8"ø @ 16"OC	P.T. 2x	716	1002
									5/8"ø @ 20"OC	P.T. 3x		

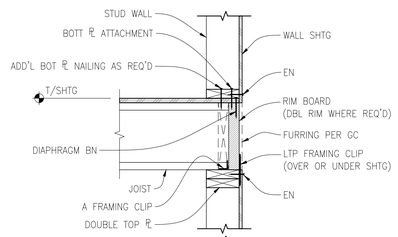
NOTES:
1. ALL NAILS ARE COMMON, UNO. REFERENCE GENERAL STRUCTURAL NOTES FOR NAIL DIAMETER AND LENGTH.
2. REFERENCE SHEAR WALL KEY DETAIL FOR DESCRIPTION OF TERMS.
3. PROVIDE SHEAR WALL SHEATHING AND NAILING FOR ENTIRE LENGTH OF THE WALLS INDICATED ON THE PLANS. ENDS OF SHEAR WALLS ARE TYPICALLY AT WINDOWS, DOORWAYS OR AS SHOWN ON PLAN.
4. EDGE NAILING IS REQUIRED AT ALL HOLDOWN POSTS. EDGE NAILING IS REQUIRED TO EACH STUD USED IN BUILT-UP HOLDOWN POSTS. REFERENCE HOLDOWN SCHEDULE & DETAILS FOR ADDITIONAL INFORMATION.
5. INTERMEDIATE FRAMING TO BE 2x MINIMUM MEMBERS UNO IN SCHEDULE. ATTACH SHEATHING TO INTERMEDIATE FRAMING WITH FIELD NAILING AT 12"OC WHERE STUDS ARE SPACED AT 16"OC AND FIELD NAILING AT 6"OC WHERE STUDS ARE SPACED AT 24"OC.
6. SIMPSON STRONG-TIE "A35" MAY BE USED IN LIEU OF "LTP5." "LTP5" CLIPS SHALL BE ORIENTED LENGTHWISE (HORIZONTAL) AT PLATE TO RIM. USE 0.131"ø x 1½" NAILS WHERE CLIPS ARE ATTACHED DIRECTLY TO FRAMING. USE 0.131"ø x 2½" WHERE CLIPS ARE INSTALLED OVER SHEATHING.
7. (2) 2x STUDS NAILED TOGETHER MAY BE USED IN PLACE OF SINGLE 3x STUD. DOUBLE 2x STUDS SHALL BE SECURED TOGETHER WITH FASTENERS OF THE SAME DIAMETER AND SPACING AS THE BOTTOM PLATE ATTACHMENT PER SCHEDULE.
8. ANCHOR BOLTS SHALL BE PROVIDED WITH HOT-DIPPED GALVANIZED STEEL PLATE WASHERS PER 2/S3.1. EMBED ANCHOR BOLTS 7" MINIMUM INTO THE CONCRETE. PROVIDE AN ANCHOR BOLT AT EACH END OF EACH PLATE AND SHALL BE AT LEAST 7 TIMES THE ANCHOR BOLT DIAMETER FROM THE ENDS OF THE PLATE, BUT NOT MORE THAT 1/2 THE TABULATED ANCHOR BOLT SPACING OR 12", WHICHEVER IS LESS. SEE ANCHOR BOLT DETAIL FOR PLATE WASHER REQUIREMENTS. [ALT: 5/8"ø x 8" TITEN HD ANCHOR SCREWS OR SIMPSON URFP MAY BE USED IN LIEU OF ANCHOR BOLTS AT EXISTING CONCRETE, WITH PLATE WASHER & SPACING REQUIREMENTS PER SCHEDULE.]
9. PROVIDE HOT-DIPPED GALVANIZED NAILS AND CONNECTOR PLATES (FRAMING ANGLES, ETC.) AT ALL PRESSURE TREATED LUMBER. REFERENCE GENERAL STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.
10. PANELS MAY BE INSTALLED HORIZONTALLY IF STUDS ARE SPACED AT 16"OC MAX.
11. THE TOP EDGE OF THE WOOD STRUCTURAL PANEL SHALL BE ATTACHED TO THE UPPER TOP PLATE WITH EDGE NAILING. ROOF OR UPPER LEVEL UPLIFT CONNECTORS SHALL BE ON THE SAME SIDE OF THE WALL AS THE SHEATHING.
12. THE BOTTOM EDGE OF THE WOOD STRUCTURAL PANEL SHALL EXTEND TO AND BE ATTACHED TO THE BOTTOM OR SILL PLATE WITH EDGE NAILING.
13. REFERENCE DETAIL BELOW FOR STAGGERED NAIL AND SCREW SPACING AT RIM BOARDS.
14. WALL TYPE ACCEPTABLE WITH TRUSJOIST AND BOISE CASCADE RIM JOIST AND BLOCKING.
15. WHERE SHEATHING IS APPLIED ON BOTH SIDES OF A SHEAR WALL AND NAIL SPACING IS LESS THAN 6"OC ON EITHER SIDE, THE WIDTH OF THE NAILED FACE OF THE FRAMING MEMBER SHALL BE 3x OR GREATER AT ADJOINING PANEL EDGES AND NAILS AT ALL PANEL EDGES SHALL BE STAGGERED. ALTERNATIVELY, PANELS SHALL BE STAGGERED SO THAT EDGE JOINTS ON OPPOSITE SIDES ARE NOT LOCATED ON THE SAME STUD.
16. FSW-X INDICATES FORCE TRANSFER AROUND OPENING (FTAO) SHEAR WALL. NAILING PER CORRESPONDING SHEAR WALL REQUIREMENTS ON SCHEDULE. REFERENCE 3/S3.1 FOR ADDITIONAL DETAIL REQUIREMENTS.

WOOD-FRAMED SHEAR WALL SCHEDULE

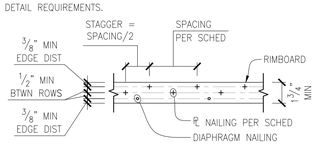
SCALE: NONE

1608l

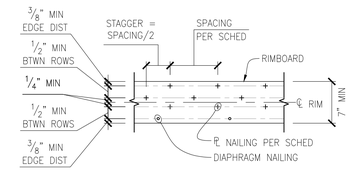
12



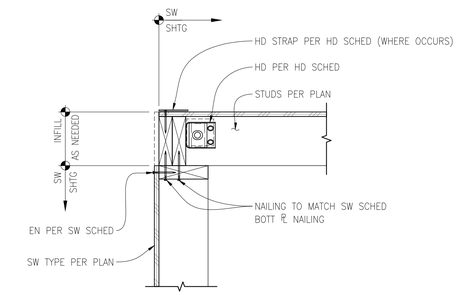
SHEAR WALL KEY DETAIL



(2) ROWS BOTTOM PLATE NAILING



(3) ROWS BOTTOM PLATE NAILING

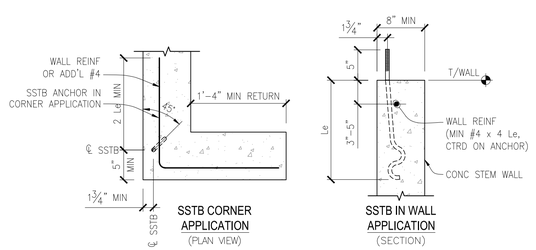


PLAN VIEW - SHEAR WALL HOLDOWNS AT CORNER

SCALE: NTS

1269x

9



NOTE: Le = EMBED LENGTH PER HD SCHED

TYPICAL HOLDOWN ANCHOR INSTALLATION

SCALE: NTS

1272x

10

DEI DIBBLE ENGINEERS INC
www.dibbleengineers.com
1029 Market Street, Kirkland, WA 98033
425.828.4200

SEAL:

11/2/22

SANDPIPER EAST CABANA
REMODEL
1312 139TH AVENUE
BELLEVUE, WA 98005

PROJECT #:	22-285
DRAWN BY:	TLT
DESIGNED BY:	JM
DATE:	DESCRIPTION
11.02.2022	PERMIT

JURISDICTIONAL STAMP:

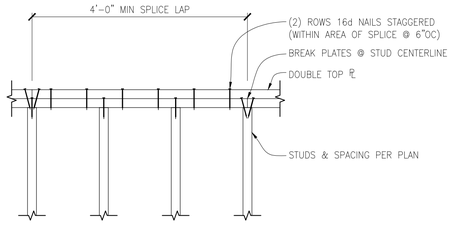
SHEET TITLE:

STRUCTURAL SECTIONS & DETAILS

SHEET NUMBER:

S3.1

Issued 04/12/2023



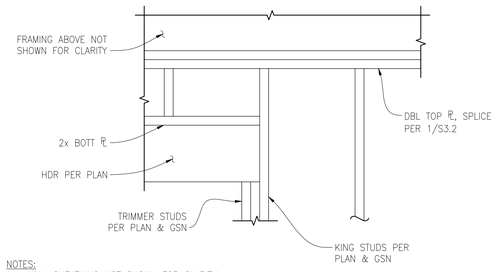
NOTE:
FLOOR/ROOF JOISTS NOT SHOWN FOR CLARITY.

TYPICAL TOP PLATE SPLICE DETAIL

1701x

1

SCALE: NTS



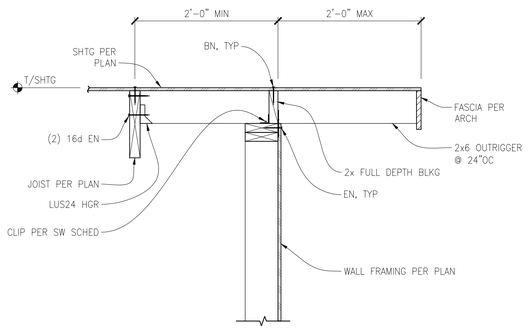
NOTES:
1. WALL SHEATHING NOT SHOWN FOR CLARITY
2. SIM AT ROOF.

TYPICAL HEADER FRAMING (DROPPED)

6601x M00

2

SCALE: NTS

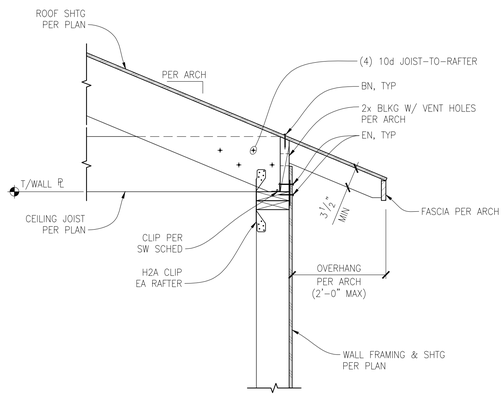


TYPICAL OUTRIGGER AT GABLE END (BALLOON FRAMED WALL)

6504x

3

SCALE: NTS

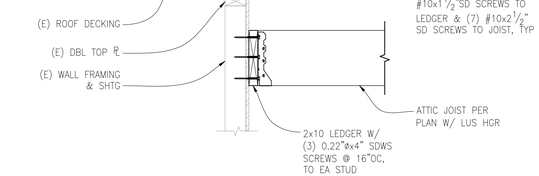


EXTERIOR SHEAR WALL PERPENDICULAR TO ROOF RAFTER

6513xM00

4

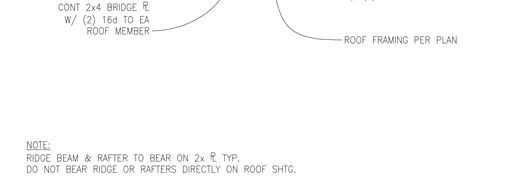
SCALE: NTS



TYPICAL NEW ROOF TO EXISITNG ROOF

7

SCALE: NTS



NOTE:
RIDGE BEAM & RAFTER TO BEAR ON 2x ℄ TYP.
DO NOT BEAR RIDGE OR RAFTERS DIRECTLY ON ROOF SHTG.

TYPICAL ROOF OVERFRAMING DETAIL

6581y M00

8

SCALE: NTS

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SEAL:

DAVIS S. COLLANDER — STATE OF WASHINGTON — 39519 — STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER

11/2/22

SANDPIPER EAST CABANA
REMODEL
1312 139TH AVENUE
BELLEVUE, WA 98005

PROJECT #:	22-285
DRAWN BY:	TLT
DESIGNED BY:	JM

DATE:	DESCRIPTION
11.02.2022	PERMIT

JURISDICTIONAL STAMP:

SHEET TITLE:

WOOD
SECTIONS & DETAILS

SHEET NUMBER:

S3.2

Issued 04/12/2023

The following information is necessary to check a building permit application for compliance with the building envelope requirements in the Washington State Energy Code, Commercial Provisions.
For questions about this report, contact WSEC Commercial Technical Support at 360-539-5300 or via email at com.techsupport@waenergycodes.com

Project:
Sandpiper Cabana Addition - 2018 WSEC
1312 139th Ave NE
Bellevue, WA 98005

Date: 2023-02-07

Applies	Code Section	Component	Compliance Information Required In Permit Documentation	Location in Documents	Building Department Notes
SCOPE					
	C103.1	Construction documents - General	For a tenant space (first build-out) project, indicate if there is no envelope scope included in the project.		
YES	C103.1	Construction documents - General	For an alteration project, indicate if there is no envelope scope included in the project.	new siding, windows, addition	
	C402.1.1.1	Low energy spaces	Identify low energy spaces on plans; include calculations if applicable that demonstrate eligibility for envelope provisions exemption		
	C402.1.1.2	Semi-heated spaces	Identify semi-heated spaces on plans, include mechanical heating system type and calculations that demonstrate eligibility for wall insulation exemption		
	C402.1.1.3	Greenhouse spaces	Identify greenhouse spaces on plans; include non-opaque assembly information and mechanical heating system type if applicable, that demonstrates eligibility for envelope provisions exemption		
	C402.1.2	Equipment buildings	Provide building sf area, average wall and roof U-factor, installed electrical and mechanical equipment information and heating setpoint restriction, that demonstrates eligibility for envelope provisions exemption		
NA	C402.1.2.1	Standalone elevator hoistways	Provide building area, average wall and roof U-factor, installed mechanical equipment information and heating setpoint restriction, that demonstrates eligibility for envelope provisions exemption		
	C410.2	Walk-in cooler and freezer spaces	Identify walk-in cooler and freezer spaces on plans; including site assembled, site constructed and prefabricated units		
			Identify warehouse cooler and freezer spaces on plans		
	C101.4.1	Mixed residential & commercial building	Identify spaces with different occupancy requirements on plans		
	C503.2	Change of space conditioning alteration	Identify on plans existing unconditioned spaces changing to semi-heated or conditioned space, and existing semi-heated spaces changing to conditioned space; provide calculations for existing and final level of space conditioning		
	C505.1	Change of occupancy alteration	Identify on plans existing F, S and U-occupancy spaces undergoing a change in occupancy and final occupancy type		

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			Group R spaces permitted before July 1, 2002 that are undergoing a change to a commercial occupancy shall be identified on plans		
			Commercial (non-Group R) occupancy spaces undergoing a change to Group R shall be identified on plans		
ENVELOPE PROVISIONS					
YES	C103.2 C103.6.3 C402.1.3 C402.1.4 C402.1.5	Compliance documentation	Indicate envelope thermal performance compliance path (prescriptive or component performance) and provide WSEC envelope compliance reports	component	
YES			If complying via component performance, demonstrate that the Proposed Total UA is equal to or less than the Allowable Total UA		
YES			If complying via total building performance, provide a list of all proposed envelope component types, areas and U-values	walls R-21, windows/doors u-.28 or better, continuous insulation under slab	
YES	C303.1.1 C303.1.2	Insulation identification	Indicate identification mark shall be applied to all insulation materials and insulation installed such that the mark is readily observable during inspection	R-21	
YES	C303.1.3 C402.4.3	Fenestration product rating	Indicate fenestration products shall be labeled with NFRC U-factor, SHGC, VT and leakage rating, or if products do not have an NFRC rating, indicate applicable Chapter 3 default values	u-0.28 or better	
YES	C303.1.1 C402.2.1	General insulation installation	Indicate installation methods, thicknesses, densities and clearances to achieve the intended R-value of all insulation materials	A-3.1,A-3.2	
NA			Where two or more layers of rigid insulation will be used, indicate that edge joints between layers are staggered, or exception taken		
YES	C103.2 C402.2.1	Roof assembly insulation	Indicate R-value(s) of cavity/continuous insulation on roof sections	A-5.2, A-5.3	
YES			Indicate framing materials on roof sections	A-3.1,A-3.2,A-5.2, A-5.3	
NA			Indicate method of framing for ceilings below vented attics and vaulted ceilings per A102.2 (std, adv)		
NA			Provide area weighted average U-factor calculation for insulation whose thickness varies by 1 inch or less		
NA			Indicate effective U-factors of tapered insulation entirely above deck per A102.2.6; include roof configuration and slope, maximum R-value at peak and minimum R-value at low point for all roof surfaces		

NA			Indicate R-values for thermal spacers and each insulation layer, and liner system (LS) method for metal building roofs		
	C402.2.1.1	Skylight curb insulation	Indicate skylight curb insulation R-value on roof section, if not included in skylight NFRC rating		
NA	C402.2.1.2	Rooftop HVAC equipment curbs	Indicate rooftop HVAC equipment curb insulation R-value on roof section		
YES	C103.2 C402.2.3 C402.2.4 C303.2.1	Above/below grade wall insulation	Indicate R-value(s) of cavity/continuous insulation on wall sections	R-21	
YES			Indicate framing materials on wall sections	A-3.1,A-3.2,A-5.2, A-5.3	
YES			Indicate method of framing for wood construction per A103.2 (std, int, adv)	A-3.1,A-3.2,A-5.2, A-5.3	
NA			Indicate material density category, wall weight and heat capacity for qualifying mass walls		
NA			For qualifying ASTM C90 masonry walls, indicate loose-fill core insulation material and percentage of cores filled including grouted cores, bond beams, vertical fills, headers and any other grouted cores		
NA			Indicate method of protection of exposed exterior basement/crawlspace wall insulation		
YES	C103.2 C402.4.4	Opaque doors	Indicate rated U-factor or R-value (non-swinging) on wall sections or in door schedules - applies to doors with less than 50% glazed area		
YES	C402.4.4	Garage doors	Indicate rated U-factor for sectional and tilt-up garage doors on wall sections or in door schedules - applies to garage doors with less than 14% glazed area; all other garage doors shall comply as opaque doors	A-4.1	
	C402.2.5	Floor over outdoor or unconditioned space insulation	Indicate R-value(s) of cavity/continuous insulation on floor sections		
			Indicate framing material on floor sections		
			Indicate material density category and weight of qualifying mass floors		
YES	C402.2.6 C303.2.1	Slab-on-grade floor insulation	Indicate R-value of continuous insulation on wall section or foundation detail	A-3.1,A-3.2	
YES			Indicate insulation extends down vertically and/or horizontally the required distance from top of slab	A-3.1,A-3.2	
YES			Indicate method of protection of exposed exterior slab edge insulation	A-3.1,A-3.2	
NA			Indicate R-value of continuous insulation on wall section or foundation detail		

NA			Indicate insulation extends down vertically from top of slab and then horizontally under the entire slab		
NA			Indicate method of protection of exposed exterior slab edge insulation		
NA	C402.2.8	Radiant heating system insulation	Indicate insulation R-value behind radiant panels, U-bend/headers and bottom surface of radiantly heated floors (other than heated slab-on-grade)		
YES	C402.4.1 C502.2.1	Vertical fenestration maximum area	Provide total gross sf area of all above grade wall elements and rough opening sf area of all vertical fenestration elements in the building, for the prescriptive max allowed window-to-wall ratio (WWR) calculation in the WSEC envelope compliance reports; demonstrate compliance for each space conditioning category separately		
	C402.4.1.1 C405.2.4.1 C502.2.1	Increased prescriptive maximum vertical fenestration area with daylight zones and controls	Provide calculations showing that not less that 50% of the total conditioned floor area is within a daylight zone; demonstrate compliance for each space conditioning category separately		
			Indicate in envelope plans that all lighting fixtures located within daylight zones shall be provided with daylight responsive controls per Section C405.2.4.1		
			Indicate that the VT of vertical fenestration is at least 1.1 times the rated SHGC or no less than VT-0.55, whichever is greater		
	C402.4.1.3 C502.2.1	Increased prescriptive maximum vertical fenestration area with high-performance glazing	Indicate high performance U-factors and SHGC values in fenestration schedules		
			Indicate if an area-weighted U-factor is used for multiple fenestration elements within the same fenestration category per Table C402.4; provide area-weighted U-factor calculation		
	C402.1.5	Wall/vertical fenestration target area adjustment	Indicate if component performance with target area adjustment will be used to account for vertical fenestration area in excess of the prescriptive maximum allowed; include target area adjustment in WSEC envelope compliance reports		
	C402.4.1 C502.2.2	Skylight maximum area	Provide total gross sf area of roof, and rough opening sf area of all skylight elements in the building, for the prescriptive max allowed skylight-to-roof ratio (SRR) calculation in the WSEC envelope compliance reports; demonstrate compliance for each space conditioning category separately		

The following information is necessary to check a building permit application for compliance with the building envelope requirements in the Washington State Energy Code, Commercial Provisions.
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	C402.1.5.2	Roof/skylight target area adjustment	Indicate if component performance with target area adjustment will be used to account for skylight area in excess of the prescriptive maximum allowed; include target area adjustment in WSEC envelope compliance reports		
YES	C402.4 C402.4.3.4 C303.1.3	U-factors, SHGC and VT for all fenestration assemblies	Indicate U-factors, SHGC and VT values in fenestration schedules		
YES			Indicate if an area-weighted U-factor is used for multiple fenestration elements within the same fenestration category per Table C402.4; provide area-weighted U-factor calculation		
YES			Indicate if values are NFRC or default; if default then specify frame type, glazing layers, gap width, low-e coatings, gas-fill		
NA	C402.4.3	Permanent shading devices	For each group of windows with similar orientation and overhang or permanent projection geometry, provide projection factor calculations (Equation C4-6) for north and non-north orientations		
	C402.4.2	Single story spaces requiring skylights	Provide list of enclosed, single story spaces that exceed 2,500 sf; for each space identify the space use, floor area, floor to ceiling height, whether skylights are installed, and any exception taken		
			Provide calculations for percentage of conditioned floor area located within a toplit daylight zone; if exception is taken for spaces where the total floor area minus the sidelit zone area is less than 2,500 sf, include percentage of conditioned floor area located within a sidelit daylight zone in calculations		
			Provide calculations for percentage of skylight area in each space over 2,500 SF, OR		
			Provide calculations for skylight effective aperture (Equation C4-5) for each space over 2,500 SF		
			Indicate haze factor of skylight glazing material or diffuser		
	C410.2	Walk-in and warehouse cooler and freezer envelope	Indicate insulation R-value in cooler and freezer wall and ceiling assemblies		
			Indicate cooler and freezer door insulation R-value; indicate method of minimizing infiltration (strip doors, curtains, spring-hinged doors, etc); provide automatic door closure (or note exception taken)		
			For transparent reach-in doors and fixed windows, indicate number of glass panes (double or triple pane); identify whether the interstitial spaces between panes is filled with inert gas or if panes are heat-reflective treated glass		

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ADDITIONAL EFFICIENCY CREDITS - ENHANCED ENVELOPE PERFORMANCE					
YES	C406.10	Enhanced envelope performance	To comply with additional efficiency credit, demonstrate envelope thermal performance compliance via component performance; provide WSEC envelope compliance reports that demonstrate Proposed Total UA is 15% lower than the Allowable Total UA		
AIR LEAKAGE					
NA	C402.5.1.1	Air barrier construction and sealing	Identify location and provide diagram of continuous air barrier in plans and sections		
NA			Provide details for all joints, transitions in materials, penetrations in air barrier and note method of sealing (caulked, gasketed, or other approved method)		
NA	C402.5.3 C402.1.3 C402.1.4	Rooms containing fuel burning space conditioning appliances	For room(s) located within the conditioned space that contain non-direct vent fuel-burning appliances that require outdoor air for combustion, indicate method of isolation from the conditioned space; include sealing of walls, floor and ceiling of room, doorway gasketting and sealing around ductwork and piping penetrations		
NA			Indicate walls, floor and ceiling of the room envelope are insulated to the same level required for exterior envelope, and combustion air ductwork that passes thru conditioned space is insulated to at least R-8		
NA	C402.5.4	Doors and access openings to shafts, chutes, stairways and elevator lobbies	Indicate locations of all doors and access openings to shafts, chutes, stairways and elevator lobbies		
NA			Indicate method of sealing of these openings (gasketing, weatherstripping, other sealing method); or exception taken		
NA	C402.5.5 C403.7.8	Outdoor air intakes, exhausts and relief openings	Indicate locations of all stairway enclosure, elevator shaft and building pressurization relief openings, outside air intakes and exhaust openings		
NA			Note in envelope plans that all relief, outside air intake and exhaust openings shall be provided with dampers in accordance with Mechanical Section C403.7.8		
YES	C402.5.8	Recessed lighting in building envelope	Indicate method of sealing between light fixture housing and wall or ceiling		
YES			Note in envelope plans that all recessed lighting fixtures shall be IC rated and have an air leakage rating not greater than 2 cfm per ASTM E283 test; include these requirements in lighting fixture schedules		
NA	C402.5.6	Loading dock seals	Indicate weather seal at cargo and loading dock doors		

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YES	C402.5.7	Vestibules	Indicate locations and dimensions of vestibules for building entrances; also indicate vestibule information for exit-only doors in buildings where separate doors for entering and exiting are provided		
NA			Indicate locations of all building entrances and exit-only doors provided with an air curtain in lieu of a vestibule		
NA			Indicate exception and criteria utilized for all building entrances and exit-only doors that do not have a vestibule or air curtain		
NA			Indicate required performance for air curtains installed per Exception 7		
NA			For unconditioned vestibules, indicate which envelope assembly (interior or exterior) complies with the requirements for a conditioned space		
	C103.2 C402.5.1.2C 402.5.1.2.1 R402.4.1.2	Building enclosure air leakage test	Indicate in project documents that building enclosure air leakage testing is required for WSEC compliance		
			Provide area calculations that account for all six sides of the air barrier boundaries		
			For commercial buildings, indicate that building enclosure air leakage testing shall be performed per ASTM C779 (or equivalent method approved by the code official) and the target leakage rate is 0.25 cfm/ft2 (1.5 L/s*m2) at 0.3 in. wg (75 Pa)		
			If the building is mixed residential / commercial and three stories or less above grade plane, indicate which building enclosure air leakage test procedure will be used for the Group R-2 / R-3 areas (Section R402.4.1.2 or C402.5.1.2); if per R402.4.1.2, indicate that the target leakage rate is 5 air changes per hour at 0.2 in. wg (50 Pa)		
			Include the following requirements in project documents: (1) Submit building enclosure air leakage test reports to jurisdiction and owner; (2) If initial test result exceeds 0.25 cfm/ft2 (1.5 L/s*m2), indicate that inspection and all practical corrective actions be completed and documented in the air leakage test report; (3) If initial test result exceeds 0.40 cfm/ft2 (2.0 L/s*m2), indicate that corrective actions shall also include re-testing; (4) Indicate that corrective measures and retesting must be repeated until the test result is 0.40 cfm/ft2 (2.0 L/s*m2) or less; (4) Include air barrier test report in project close out documentation provided to building owner.		
ADDITIONAL EFFICIENCY CREDITS - REDUCED AIR INFILTRATION					

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YES	C406.9	Reduced air infiltration	To comply with additional efficiency credit, indicate in project documents that the building enclosure air leakage test results shall not exceed 0.17 cfm/ft2 at 0.3 in. wg (75 Pa); all documentation requirements per C103.2 and C402.5.1.2 apply	window testing	
ALTERATIONS					
YES	C503.1 C503.3.1	Roof alteration - insulation	For a roof alteration where existing ceiling cavities are exposed, indicate cavities are insulated to full depth at minimum nominal value of R-3.0 per inch		
NA			For a roof covering replacement where insulation is installed entirely above the roof deck, indicate insulation complies with requirements for new construction per Tables C402.1.3 or C402.1.4		
NA	C503.1	Wall and floor alteration - insulation	For a wall or floor alteration (floor over outdoor or unconditioned space) where existing envelope cavities are exposed, indicate cavities are insulated to full depth at minimum nominal value of R-3.0 per inch		
	C503.3.2	Addition of vertical fenestration	Where the addition of new vertical fenestration results in a window-to-wall ratio (WWR) exceeding the prescriptive maximum allowed per C402.4.1, demonstrate method of compliance (prescriptive vertical fenestration alternate, component performance with target area adjustment for the alteration area and existing-to-remain areas combined, or total building performance per C407); demonstrate for each space conditioning category separately		
	C503.3.3	Addition of skylights	Where the addition of new skylights results in a skylight-to-roof ratio (SRR) exceeding the prescriptive maximum allowed per C402.4.1, demonstrate method of compliance (component performance compliance with target area adjustment for the alteration area and existing-to-remain areas combined, or total building performance per C407), demonstrate for each space conditioning category separately		
NA	C103.2 C103.6.3 C503.2 C505.1	Change in space conditioning or occupancy compliance documentation	Indicate envelope alteration thermal performance compliance path (prescriptive or component performance with 110% allowance); provide WSEC envelope compliance reports		
NA	C103.2 C103.6.3 C503.2C 505.1	Change in space conditioning or occupancy compliance documentation	If complying via total building performance with 110% allowance, provide a list of all proposed envelope component types, areas and U-values		
PROJECT CLOSE OUT DOCUMENTATION					

The following information is necessary to check a building permit application for compliance with the building envelope requirements in the Washington State Energy Code, Commercial Provisions.
For questions about this report, contact WSEC Commercial Technical Support at 360-539-5300 or via email at com.techsupport@waenergycodes.com

NA	C103.6.3	Project close out documentation requirements	Indicate in plans that project close out documentation is required including applicable calculations, WSEC envelope compliance reports, and fenestration NFRC rating certificates		

ENVELOPE COMPLIANCE SUMMARY

2018 WSEC Compliance Forms for Commercial Buildings including Group R2, R3 & R4 over 3 stories and all R1

Project & Applicant Information	**Project Title**	Sandpiper Cabana Addition - 2018 WSEC	For Building Department Use:	**Date: Feb 07, 2023**
	Project Address	1312 139th Ave NE Bellevue, WA 98005		
	Applicant Name	CASSANDRA CHEATHAM		
	Applicant Phone	858-775-4162		
	Applicant Email	cassandra@kilburnarchitects.com		

For questions about this report, contact WSEC Commercial Technical Support at 360-539-5300 or via email at com.techsupport@waenergycodes.com

General Occupancy	All Group R - R2, R3 & R4 over 3 stories and all R1	**General Building Use Type**	Multifamily/Residential	**Building Cond. Floor Area**	448
Project Scope	Building Addition Alteration	**Space Conditioning Categories**	Fully Conditioned	**Project Cond. Floor Area**	448
				Floors Above Grade	1
				Compliance Method	Compliance Method 1 - General
Envelope Project Description	New office space addition to existing cabana. New garage addition to existing cabana. new siding.				

Envelope Compliance Scope and Method	Scope	Space Conditioning Category	Compliance Method	WWR/SRR per Category	UA Calculation Adjustment	Fenestration Alternates	Compliance Verification
	Building Addition	Fully Conditioned	Component performance	13.30% / 0%	Enhanced envelope option (UA 15% lower than WSEC target)	No alternates selected	**COMPLIES**

Air Barrier Testing	Air barrier testing included in project scope	**Air Barrier Comments**	

Project Title	**Sandpiper Cabana Addition - 2018 WSEC**	**Date**	**Feb 07, 2023**

Scope & Space Conditioning	**BUILDING ADDITION - FULLY CONDITIONED**			**Compliance Verification**	**COMPLIES**
Window-to-wall Ratio	13.30%	**Skylight-to-roof-ratio**	0%	**Vertical Fenestration Alternate**	No alternates selected

Opaque Envelope Assemblies

				Insulation R-Values				
Walls	**Location in Documents**	**Assembly ID**	**Assembly Location**	**Cavity**	**Continuous (% penetration)**	**Insulated Wall Furring**	**U-Factor**	**Net Area (SF)**
Wood-framed and other - Group R	A-3.1,A-3.2	0	Exterior	R-21	R-5 (< 0.04%)		U-0.021	476
	Which insulation code target does wall comply with?: Wall Assembly U-factor			U-Factor Source:				
	U-Factor Source Description:			Framing Depth: 2x6				
	Framing Spacing:			Is this assembly exterior or interior?: Exterior				
Slab-on-grade Floors	**Location in Documents**	**Assembly ID**	**Assembly Location**	**Slab Edge**	**Under Slab**		**F-Factor**	**Perimeter Length (SF)**
Unheated slab	A-1.1, A-3.1,A-3.2	0	At grade level	R-10	R-10		F-0.50	41
	Slab Insulation Method: Fully insulated slab (slab edge and underneath)			F-Factor Source:				
	F-Factor Source Description:							

Fenestration & Opaque Door Assemblies

				Insulation R-Values				
Vertical Fenestration	**Location in Documents**	**Assembly ID**	**Assembly Location**	**Orientation**	**Shading (PF)**	**Fenestration SHGC**	**Fenestration U-Factor**	**Rough Opening (SF)**
Operable - Class AW or site built	A-1.1, A-2.1-2.4	0	Exterior	South/East/West Facing	PF < 0.2	SHGC-0.38	U-0.30	226
	U-Factor & SHGC Source:			U-Factor Source Description:				
	Is this assembly exterior or interior?: Exterior							

Project Title	Sandpiper Cabana Addition - 2018 WSEC	Date	Feb 07, 2023

U x A Calculation	BUILDING ADDITION - FULLY CONDITIONED				COMPLIES		
Opaque Envelope Assemblies		**PROPOSED**			**TARGET**		
Walls	**Assembly ID**	**Wall Assembly U-factor**	**Net Area (SF)**	**U x A**	**Wall Assembly U-factor**	**Net Area (SF)**	**U x A**
Wood-framed and other - Group R	0	0.021	476.0	10.0	0.051	476.0 (1)	24.3
Slab on Grade Floors		**PROPOSED**			**TARGET**		
Slab-on-grade Floors	**Assembly ID**	**F-Factor**	**Perimeter Length (LF)**	**U x A**	**F-Factor**	**Perimeter Length (LF)**	**U x A**
Unheated slab	0	0.50	40.5	20.3	0.54	40.5 (1)	21.9
Fenestration and Opaque Door Assemblies		**PROPOSED**			**TARGET**		
Vertical Fenestration	**Assembly ID**	**Fenestration Assembly U-Factor**	**Rough Opening (SF)**	**U x A**	**Fenestration Assembly U-Factor**	**Rough Opening (SF)**	**U x A**
Operable - Class AW or site built	0	0.30	226.0	67.8	0.40	226.0 (1)	90.4

	Proposed Area	Proposed UxA	Target Area	Target UxA	Target UxA with Adjustment
Project Totals	**743**	**98**	**743**	**137**	**116**

NOTE: Enhanced envelope credit applied - 0.85 multiplier has been applied to the Total Target UxA for exterior areas only. Refer to Target UxA with Adjustment.

Project Title	Sandpiper Cabana Addition - 2018 WSEC	Date	Feb 07, 2023

SHGC x A Calculation	BUILDING ADDITION - FULLY CONDITIONED					COMPLIES		
Fenestration and Opaque Door Assemblies			PROPOSED			TARGET		
Vertical Fenestration - South/East/West Facing	Assembly ID	PF	Fenestration SHGC	Rough Opening (SF)	SHGC x A	Fenestration SHGC	Rough Opening (SF)	SHGC x A
Operable - Class AW or site built	0	PF < 0.2	0.38	226.0	85.9	0.38	226.0 (1)	85.9

	Proposed Area	Proposed SHGC x A	Target Area	Target SHGC x A
Project Totals	226	86	226	86

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CONSTRUCTION BULLETIN
IBC Summary Statement of Special Inspections
March 2021

2018 INTERNATIONAL BUILDING CODE

PROJECT Sandpiper Cabana Addition PERMIT # 22-127651

ADDRESS 1312 139th Ave NE, Bellevue, WA 98005 DATE Dec 7, 2022

Summary Statement of Special Inspections

In accordance to Section 1704.2.3, the applicant shall submit a statement of special inspections as a condition for permit issuance. When special inspection is required to be performed, the ***owner***, or the ***registered design professional in responsible charge*** acting as the owner's agent, is required to hire an independent testing/inspection agency to perform required special inspections.

The independent agency hired to perform the duties of special inspection is required to be a registered agency with Washington Association of Building Officials (WABO), under the Special Inspection Registration Program (SIRP) Standard No. 1701 or most current adopted special inspection standard published by WABO.

The design professional shall complete the attached forms and submit them to the Building Department prior to issuance of the building permit. The special inspectors assigned to any project within the Jurisdiction shall be currently registered with WABO and certified for the disciplines assigned.

The Schedule of Special Inspections summarizes the Special Inspections and tests required. Special Inspectors will refer to the approved plans and specifications for detailed special inspection requirements. Any additional tests and inspections required by the approved plans and specifications will also be performed.

A Final Report of Special Inspections documenting required Special Inspections, testing and correction of any discrepancies noted in the inspections shall be submitted prior to issuance of a Certificate of Use and Occupancy (Section 1704.2.4).

Prepared by:

Registered Design Professional in Responsible Charge: Kilburn Architects LLC

The following are the testing agencies and special inspectors that will be retained to conduct tests and inspection on this project:

Responsibility	Firm	Address, Telephone, e-mail
1. Special Inspection Agency (except for geotechnical)	Otto Rosenau & Associates, Inc. 6747 M.L. King Way South Seattle, WA 98118 Phone: 206-725-4600	
2. Material Testing Agency (Laboratory)		
3. Geotechnical Inspection Agency		
4. Other		
5. Other		

GENERAL INFORMATION:

- *Obtain a building permit before starting construction.*
- *This construction bulletin is intended to provide guidelines and a checklist of some special inspections that may be required per 2018 IBC. Additional information can be found at your local building department.*

Summary of Special Inspection

For this project, check the required inspections per IBC Chapter 17

Architect	S Engr	MEP Engr	Special Inspections and tests	Notes
	☐		1705.1.1 Special Cases	
	☐		1705.2 Steel construction	
	☐		1705.2.1 Structural Steel	
	☐		1705.2.2 Cold-formed steel deck	
	☐		1705.2.3 Open-web steel joists and joist girders	
	☐		1705.2.4 Cold-formed steel joists and joist girders	
	☒		1705.3 Concrete construction	
	☒		1705.3 Concrete, reinf. & anchors (pre- or post-installed)	
	☐		1705.3.1 Welding of reinforcing bars	
	☐		1705.3.2 Material tests	
	☐		1705.4 Masonry construction	
	☐		1705.5 Wood construction	
	☐		1705.5.1 High-load diaphragms	
	☐		1705.5.2 Metal-plate-connected wood trusses	
	☐		1705.5.3 Mass timber construction	
	☒		1705.6 Soils	
	☐		1705.7 Driven deep foundations	
	☐		1705.8 Cast-in-place deep foundations	
	☐		1705.9 Helical pile foundations	
	☐		1705.10 Fabricated items**	
	☐		1705.11 Special inspections for wind resistance	
	☐		1705.11.1 Structural wood	
	☐		1705.11.2 Cold-formed steel light framed construction	
	☐		1705.11.3 Wind resisting components	
	☒		1705.12 Seismic force-resisting systems	
	☐		1705.12.1 Structural steel	
	☒		1705.12.2 Structural wood	
	☐		1705.12.3 Cold-formed steel light framed construction	
☐	☐	☐	1705.12.4 Designated seismic systems	
☐	☐		1705.12.5 Architectural components	
	☐	☐	1705.12.6 Plumbing, mechanical and electrical components	
☐	☐		1705.12.7 Storage racks	
	☐		1705.12.8 Seismic isolation systems	
	☐		1705.12.9 Cold-formed steel special bolted moment frames	
	☐		1705.13 Testing for seismic resistance	
	☐		1705.13.1 Structural steel	
☐	☐	☐	1705.13.2 Nonstructural components	
☐	☐	☐	1705.13.3 Designated seismic systems	
	☐		1705.13.4 Seismic isolation systems	
☐			1705.14 Sprayed fire-resistant materials	
☐			1705.15 Mastic and intumescent fire-resistant coatings	
☐			1705.16 Exterior insulation and finish systems (IEFS)	
☐			1705.17 Fire-resistant penetrations and joints	
☐			1705.17.1 Penetration firestops	
☐			1705.17.2 Fire-resistant joint systems	
☐		☐	1705.18 Testing for smoke control	
☐			1705.19 Sealing of mass timber	

** Off-site special inspection is not required when approved by the building official. See MBP construction tip sheet "**Approved Fabricators**" online.

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Seismic Requirements (IBC 1704.3.2)
Describe the seismic force resisting system and designated seismic systems subject to special inspections in accordance with IBC 1705.12 or 1705.13
Periodic special inspection is required for nailing, bolting, anchoring, and other fastening of the following elements of the seismic force resisting system: - All new and retrofit shear walls except type SW-6 - All new holdowns - Continuous lateral load path at the addition west elevation, including splicing and strapping of the beams and top plates at that elevation. - Continuous lateral load path at the addition east side, including splicing and strapping of the new and existing 2x ledgers.

The extent of seismic force resisting system and designated seismic systems are defined in more details in the construction documents.

Wind Requirements (IBC 1704.3.3)
Describe the wind force resisting systems and wind resisting components subject to special inspections in accordance with IBC 1705.11
None required.

The extent of wind force resisting system is defined in more details in the construction documents.

Structural Observation (IBC 1704.6)
Describe frequency and extent of structural observations when required by the provisions of IBC 1704.6.1, 1704.6.2 or 1704.6.3
None required.

The extent of structural observation is defined in more details in the construction documents.

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PLEASE CHECK WITH YOUR LOCAL JURISDICTION TO DETERMINE REQUIRED SIGNATURES

A. Owner Responsibilities

The owner or the design professional in responsible charge acting as the owner's agent, shall fund special inspection services. The owner is responsible for seeing that these requirements are met.

I have read and understand my responsibilities regarding special inspections.

Owner/ Agent: _____ **By:** _____ **Date:** _____

B. Registered Design Professional Responsibilities

1. The registered design professional in responsible charge (engineer, or architect), shall include special inspection requirements and specifications on the plans.
2. Provide structural observation where required per IBC Section 1704.6.
3. Prepare the Statement of Special Inspections in accordance with IBC section 1704.3 and identify Structural Testing for Seismic Resistance per IBC section 1704.3.2 (When required). The statement of special inspections shall identify items fabricated on the premises of an approved fabricator where special inspections are not required by section 1704.2.5.
4. Review the special inspection reports and provide corrective action for work that may not conform to the approved plans.

I have read and understand my responsibilities regarding special inspections.

Registered Design Professional in Resp. Charge: _____ **By:** _____ **Date:** _____

Structural Engineer of Record: Travis Colliander **By:** Dibble Engineers, Inc. Travis Colliander, PE SE **Date:** 12/8/2022

C. Contractor's Responsibilities

1. Notify the agency:
   The contractor is responsible for notifying the inspection agency in sufficient time for scheduling personnel to perform required inspections.
2. Written statement of responsibility:
   Contractor shall complete this form to satisfy IBC 1704.4 Contractor responsibility for construction of designated main-wind or seismic force resisting system. Additional information shall be provided where requested by the jurisdiction.
3. Provide access to Jurisdiction approved plans:
   The approved plans shall be readily accessible at the job site.
4. Provide access to work:
   The contractor shall provide reasonable access to all work requiring special inspection.
5. Retaining special inspection reports at the job site:
   The contractor is also responsible for retaining at the job site all special inspection records submitted by the special inspector and providing these records for review by the Building Department's inspector upon request.
6. Notify Jurisdiction of special inspections prior to scheduled inspection time.
7. Provide a copy of special inspector's credentials when requested by the jurisdiction.

I have read and understand my responsibilities regarding special inspections.

Contractor: _____ **By:** _____ **Date:** _____

D. Duties of the Special Inspector

1. **Inspect and/or test the work**:
   The inspector shall inspect and /or test the work for compliance with the Jurisdiction approved plans, specifications, and applicable provisions of the IBC. The architect/engineer's reviewed shop drawings, and/or placement drawings, may be used only as an aid to inspections.
   - ***Continuous Special Inspection*** – The full-time observation of work requiring special inspection by an approved special inspector who is present in the area where the work is being performed.
   - ***Periodic Special Inspection*** – The part-time or intermittent observation of work requiring special inspection by an approved special inspector who is present in the area where the work is being performed and at the completion of the work report non-conforming items:

GENERAL INFORMATION:

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The inspector shall bring non-conforming items to the immediate attention of the contractor and note all such items in the daily report. If any item is not resolved in a timely manner and is about to be incorporated in the work, the special inspector shall immediately notify the Building Department, the engineer or architect, his/her office.

2. **Furnish daily reports**:
   The special inspector shall complete a daily report for each day's inspections. The daily reports shall remain at the job site with the contractor for the Building Department's inspector. The reports shall include the following:
   a. *Name of special inspector with WABO certification number and certification type, date, time, temperature and weather conditions.*
   b. *Description of the inspections, with locations and tests performed.*
   c. *Listing any non-conforming items.*
   d. *Include how items were resolved or unresolved.*
   e. *List any changes or corrections to non-conforming issues authorized by the engineer, architect, or Jurisdiction's building inspectors.*
3. **Furnish weekly reports**:
   The inspection agency shall furnish weekly reports of the tests and inspections performed directly to the Building Department, project engineer, architect, and/or others as designated.
4. **Furnish final report**:
   The inspection agency shall submit a final signed report to the Building Department stating that all items requiring special inspections and testing were fulfilled, all discrepancies were corrected or resolved, and all work requiring special inspections is in conformance with the approved design drawings and specifications.
   - Any items unresolved or discrepancies in coverage (i.e., missed inspections, periodic inspections when continuous was required, etc.) shall be specifically itemized in this report.

I have read and understand my responsibilities regarding special inspections.

Special Inspection

Agency:_____ **By:**_____ **Date:**_____

Material Testing

Agency:_____ **By:**_____ **Date:**_____

Geotechnical Inspection

Agency:_____ **By:**_____ **Date:**_____

Other:_____ **By:**_____ **Date:**_____

Other:_____ **By:**_____ **Date:**_____

E. Submittals to the Building Official

1. In addition to the submittal of reports of special inspections and tests by the approved special inspection agency in accordance with IBC Section 1704.2.4, reports and certificates shall be submitted by the owner or the owner's authorized agent to the building official for items listed in IBC 1704.5.

F. Jurisdiction

1. The Jurisdiction will review the implementation of Structural Tests and Special Inspection requirements.
2. Review special inspections:
   The Building Department shall review all special inspectors and special inspection requirements found in IBC Chapter 17 and the WABO - SIRP Standards 1701.
3. Monitor special inspections:
   Work requiring special inspections, and the performance of special inspectors, may be monitored by the Building Department's inspector. The jurisdiction's approval must be obtained prior to placement of concrete or other similar activities in addition to that of the special inspector.
4. Perform inspections as required by the local building code.
5. Issue Certificate of Occupancy:
   The Building Department will only issue a Certificate of Occupancy after all special inspection reports and the final special inspection report, have been submitted and accepted.

Building Official:_____ **Date:**_____

GENERAL INFORMATION:

- *Obtain a building permit before starting construction.*
- *This construction bulletin is intended to provide guidelines and a checklist of some special inspections that may be required per 2018 IBC. Additional information can be found at your local building department.*

Construction Stormwater Pollution Prevention Plan (CSWPPP) Short Form for Small Construction Projects

The Bellevue clearing and grading code (BCC 23.76.090) allows sites with land disturbing activities totaling less than 7,000 square feet and grading less than 500 cubic yards to prepare a simpler CSWPPP consisting of a **short form narrative** (this form), **an ESC (Erosion and Sediment Control) plan**, and the appropriate **BMP details/specifications**. The purpose of the CSWPPP is to outline the actions that will be implemented on smaller construction sites to reduce or eliminate discharge of sediment and other pollutants into receiving waters.

Background Information

Property Owner: KING COUNTY HOUSING AUTHORITY

Contact Person: DARRELL WESTLAKE

(If different from the owner, all questions and correspondence will be directed to the individual listed as contact person.)

Address of Contact Person: 600 ANDOVER PARK W TUKWILA, WA 98188

Phone Number: 206-574-1100

Project Title: SANDPIPER CABANA REMODEL

Site Address: 1312 139TH AVE NE BELLEVUE, WA 98005

Parcel Number:

Give an accurate, brief description of the proposed project's scope and nature:

1. General description:

   EXISTING POOL TO BE DECOMMISSIONED, AND FILLED WITH GRAVEL AND C

2. Area of site (square feet or acres): 424,473 SF
3. Proposed area of land disturbance (square feet or acres): XXXX SF POOL INFILL/PAVING > 1000 sf
4. Proposed quantity of excavation (cubic yards): N/A
5. Proposed quantity of fill (cubic yards): XXXX SF POOL INFILL > 50 cy
6. Square footage of buildings to be constructed: 214 SF ADDITION
7. Description of adjacent areas which may be affected by site disturbance (i.e. streams, lakes, wetlands, residential areas, roads):

   N/A (IN APARTMENT COMMUNITY)

8. Description of critical areas that are on or adjacent to the site.

   NONE

9. Describe potential erosion problems on site.

   NONE

Required Elements - Construction Stormwater Pollution Prevention Plan

Indicate the BMPs to be used for each element. If site conditions render an element unnecessary, check "other" and describe why it is not needed.

1. Mark Clearing Limits

- ☑ Preserving Natural Vegetation – BMP C101
- ☐ High Visibility Fence – BMP C103
- ☒ Tree Protection during Construction – BMP T101
- ☐ Other

2. Establish Construction Access

- ☑ Stabilized Construction Entrance/Exit – BMP C105
- ☐ Wheel Wash – BMP C106
- ☐ Construction Road/Parking Area Stabilization – BMP C107
- ☐ Other

3. Control Flow Rates

- ☐ Sediment Trap – BMP C240
- ☑ Other FLAT GRADE / NO SLOPE

4. Install Sediment Controls

- ☐ Vegetated Strip – BMP C234
- ☐ Silt Fence – BMP C233
- ☒ Wattles – BMP C235
- ☑ Other FLAT GRADE / NO SLOPE

5. Stabilize Soils

- ☑ Mulching – BMP C121
- ☐ Plastic Covering – BMP C123
- ☒ Topsoiling/Composting – BMP C125
- ☒ Sodding – BMP C124
- ☐ Nets & Blankets – BMP C122
- ☒ Temporary & Permanent Seeding – BMP C120
- ☐ Other

6. Protect Slopes

- ☐ Temporary & Permanent Seeding – BMP C120
- ☐ Plastic Covering – BMP C123
- ☐ Interceptor Dike and Swale – BMP C200
- ☐ Nets & Blankets – BMP C122
- ☑ Other FLAT GRADE / NO SLOPE

7. Protect Drain Inlets

- ☑ Storm Drain Inlet Protection – BMP C220 WHERE APPLICABLE
- ☐ Other

8. Stabilize Channels and Outlets

- ☐ Channel Lining – BMP C202
- ☐ Outlet Protection – BMP C209
- ☑ Other NONE NEEDED - NO DRAINS NEARBY (FLAT GRADE / NO SLOPE)

9. Control Pollutants

- ☒ Concrete Handling – BMP C151
- ☐ Sawcutting and Surfacing Pollution Prevention – C152
- ☑ Material Delivery, Storage and Containment – C153
- ☐ Other

10. Control De-Watering

- ☐ Level Spreader – BMP C206
- ☐ Infiltration (Provide details)
- ☐ Discharge to sanitary sewer (METRO and Bellevue Utilities permits required)
- ☑ Other EXISTING SITE (FLAT GRADE / NO SLOPE)

11. Maintain BMPs

- ☑ Maintain and repair in accordance with BMP specifications
- ☐ Other

12. Manage the Project

- Phase construction – describe
- Limit work to the dry season
- Inspect and monitor all BMPs
- Other
- Pollution prevention contact list – Contact list must be attached to this CSWPPP and maintained at the job site
- Reporting and recordkeeping – Site inspection forms must be attached to this CSWPPP and maintained at the job site

13. Protect Low Impact Development BMPs

- ☐ Buffer Zones – BMP C102
- ☑ High Visibility Fence – BMP C103
- ☐ Silt Fence – BMP C233
- ☐ Vegetated Strip – BMP C234
- ☐ Other

See next page for additional instructions.

BMP Details

A copy of each BMP detail/specification that is called out on the narrative should be attached to the narrative. The BMP standard details can be downloaded from: http://www.bellevuewa.gov/clearing-grading-standards.htm.

ESC (Erosion and Sediment Control) Plan

Include an ESC plan on the project site plan or include a separate ESC plan with the project civil plans. The ESC plan should show the following:

a. Legal description of the subject property.
b. North Arrow
c. Property boundaries
d. Boundaries of existing vegetation, e.g. tree lines, pasture areas, etc.
e. Identify and label areas of potential erosion problems.
f. Identify any on-site or adjacent surface waters, critical areas and associated buffers.
g. Identify FEMA base flood boundaries and Shoreline Management boundaries (if applicable)
h. Show existing and proposed contours.
i. Delineate areas that are to be cleared and graded.
j. Indicate location of BMPs and other required CSWPPP elements.
k. Name and phone number of person(s) responsible for preparation and maintenance of the CSWPPP.

NOTE: Please do no attach the ESC plan to the CSWPPP narrative.

CONSTRUCTION EMERGENCY CONTACT SHEET

Date

Project Name: SANDPIPER CABANA REMODEL

Project Address: 1312 139TH AVE NE BELLEVUE, WA 98005

Type of Work: CABANA REMODEL AND POOL INFILL

Developer: KING COUNTY HOUSING AUTHORITY

Contact: DARRELL WESTLAKE Office: 206-574-1100 24-hr:

General Contractor: TBD

Contact: Office: 24-hr:

Utilities Sub-Contractor:

President/Owner:

Office: Home: 24-hr:

Project Manager:

Office: Home: 24-hr:

Superintendent:

Office: Home: 24-hr:

Foreman:

Office: Home: 24-hr:

Erosion Control Lead:

Office: Home: 24-hr:

City of Bellevue Inspectors

Clearing & Grading Inspector:

Office: (425) 452-

Building Inspector:

Office: (425) 452-

CONSTRUCTION EMERGENCY CONTACT SHEET

INJURY or FIRE– Call 911 Project Location or Address (If no address, describe the location of the construction access so that it can be relayed to emergency responders)	
SPILL (Any hazardous materials including diesel fuel, gasoline, hydraulic fluid that enters the storm drain system or receiving waters) • Call Washington State Department of Ecology (24 hrs) 425-649-7000 • Call Utilities Operations & Maintenance 425-452-7840 • Call Clearing & Grading Inspector or 425-452-4570	
FISH KILL OR DISTRESS • Call Washington Department of Fish and Wildlife Area Habitat Biologist, Larry Fisher 425-313-5683 • Call Clearing & Grading Inspector or 425-452-4570	
WATER QUALITY IMPACTS (Site stormwater runoff turbidity exceeds 250 ntu) • Call Washington State Department of Ecology (24 hrs) 425-649-7000 • Call Clearing & Grading Inspector or 425-452-4570	
ARCHAEOLOGICAL FINDS • Call Clearing & Grading Inspector or 425-452-4570 • Call Army Corps of Engineers, Seattle office, Lyz Ellis, 206-764-3634 (This is all you need to do under the permit) Or if there is no response and there is a need for immediate help, call Dr. Whitlam at the Washington State Office of Historic and Archaeological Program (OHAP), 360-407-0771.	

Rev. Oct. 2021

CSWPPP
SITE INSPECTION FORM

Project SANDPIPER CABANA REMODEL & POOL INFILL Permit No. _____

Inspector _____ Date _____ Time _____

Inspection Type: ☐ After a rain event ☐ Weekly ☐ Turbidity benchmark exceedance

☐ Other – explain: _____

Weather: _____

Precipitation: Since last inspection _____ inches In last 24 hours _____ inches

Description of General Site Conditions: _____

_____

_____

Will existing BMPs need to be modified or removed, or other BMPs installed? ☐ **YES** ☐ **NO**

If YES, list the action items to be completed on the following table:

Actions to be Completed	Date Completed/ Initials
1.	
2.	
3.	
4.	
5.	

Was water quality sampling (turbidity and pH) part of this inspection? ☐ **YES** ☐ **NO**

If yes, attach Turbidity & pH Monitoring Data Sheet

Is the site in compliance with the CSWPPP and the permit requirements? ☐ **YES** ☐ **NO**

- **If no,** indicate the tasks necessary to bring the site into compliance on the "Actions to be Completed" table above, and include dates each job will be completed.
- **If no, has the non-compliance been reported to the City of Bellevue?** ☐ **YES** ☐ **NO**
- **If no, should the CSWPPP be modified?** ☐ **YES** ☐ **NO**

I certify that this report is true, accurate, and complete, to the best of my knowledge and belief.

Name of Inspector (print) _____ Title/Qualification _____

Signature _____ Date _____

CSWPPP
SITE INSPECTION FORM

Project SANDPIPER CABANA REMODEL & POOL INFILL Permit No. _____

Inspector _____ Date _____ Time _____

Site BMPs	Overall Condition	Need Repair?	Comments/Observations
Element 1: Clearing Limits			
• Existing Vegetation	G F P	Y N	
• Plastic or Metal Fence	G F P	Y N	
•	G F P	Y N	
Element 2: Construction Access			
• Stabilized Construction Entrance	G F P	Y N	
•	G F P	Y N	
•	G F P	Y N	
Element 3: Control Flow Rates			
• Sediment Trap	G F P	Y N	
•	G F P	Y N	
•	G F P	Y N	
Element 4: Sediment Controls			
• Silt Fence	G F P	Y N	
• Straw Wattles	G F P	Y N	
•	G F P	Y N	
•	G F P	Y N	
Element 5: Stabilize Soils			
• Mulch	G F P	Y N	
• Plastic Covering	G F P	Y N	
•	G F P	Y N	
•	G F P	Y N	
Element 6: Protect Slopes			
• Plastic Covering	G F P	Y N	
• Seeding	G F P	Y N	
•	G F P	Y N	
Element 7: Protect Drain Inlets			
• Storm Drain Inlet Protection	G F P	Y N	
•	G F P	Y N	
•	G F P	Y N	
Element 8: Stabilize Channels & Outlets			
• Outlet Protection	G F P	Y N	
•	G F P	Y N	
•	G F P	Y N	

G=Good, F=Fair, P=Poor, Y=Yes, N=No

Element 9: Control Pollutants					
• Concrete Handling	G	F	P	Y	N
• Material Delivery, Storage Containment	G	F	P	Y	N
•	G	F	P	Y	N
Element 10: Control Dewatering					
•	G	F	P	Y	N
•	G	F	P	Y	N
•	G	F	P	Y	N
Element 13 Protect Low Impact Development BMPs					
• Buffer Zones	G	F	P	Y	N
• High Visibility Fence	G	F	P	Y	N
• Silt Fence	G	F	P	Y	N
• Vegetated Strip	G	F	P	Y	N
•	G	F	P	Y	N

G=Good, F=Fair, P=Poor, Y=Yes, N=No

BMP T101: Tree Protection Requirements

Purpose

The section identifies management practices to employ at construction sites to guarantee successful tree and vegetation protection before, during, and through a lifetime of site use and maintenance. The City of Bellevue regulates and manages tree retention during development through the Land Use Code and the Clearing and Grading Code. Trees and vegetation are preserved for several reasons:

- To sustain both the function and value of vegetation assets
- To enhance public safety by carefully maintaining the health of onsite vegetation and to reduce liability
- To contain costs associated with site restoration
- To reduce or avoid soil compaction and degradation
- To avoid physical injury to existing trees
- To avoid root injury to trees and other vegetation
- To protect soils and hydraulic integrity of the entire site
- To protect existing irrigation, utilities and underground drainage
- To prevent sediment-laden and/or polluted runoff from entering drainage systems and water bodies (streams, wetlands, lakes).

Definitions

Critical Root Zone (CRZ) - The circular area around the base of a tree calculated as the distance to the furthest extent to the tree's dripline.

Development Project - Any construction activity including demolition, grading, drainage improvements, new construction of main house or accessory structures, added square footage to existing main house or accessory structures, site preparation and landscaping.

Diameter at Breast Height (DBH) - The diameter of the tree trunk at four and one-half feet (or 54 inches) above natural grade level. The diameter may be calculated by using the following formula: DBH= circumference at 4.5-feet x 3.14. To determine the DBH of multi-trunk trees or measuring trees on slopes, consult the current Guide for Plant Appraisal, published by the Council of Tree and Landscape Appraisers.

Drip line - The circular area around the base of a tree measured by the furthest lateral extent of the foliage.

Project Arborist - A qualified professional who is qualified to evaluate trees such as a Certified Arborist, a Registered Consulting Arborist, a Licensed Landscape Architect or a Certified Forester. The project arborist is responsible for decisions related to vegetation on site before, during and after construction.

Project Manager - The person assigned to the construction project by the department or the contractor who is responsible for managing the overall project. Project management duties include schedule, budget, and related logistics, including construction site management.

Tree Protection Site Plan (Base Map) - A set of drawings that show existing site conditions and proposed landscape improvements, including trees to be removed, relocated or to be retained. Site plans shall include the following minimum information that may affect trees:

A. Surveyed location, species, size, drip line area of significant (including trees located on neighboring property that overhang the project site) and Street Trees within 30-feet of the project site.

B. Paving, concrete, trenching or grade change located within the **Tree Protection Zone (TPZ).**

C. Existing and proposed utility pathways.

D. Surface and subsurface drainage and aeration systems to be used.

E. Walls, tree wells, retaining walls and grade change barriers, both temporary and permanent.

F. Landscaping, irrigation and lighting within TPZ of trees.

G. All of the final approved site plan sheets shall reference tree protection instructions.

Significant Tree - A healthy evergreen or deciduous tree, eight inches in diameter or greater at four feet above existing grade. (Land Use Code 20.50.046)

Street Tree - means any tree growing within the street right-of-way, outside of private property.

Tree Appraisal - means a method of determining the monetary value of a tree as it relates to the real estate value of the property, neighborhood, or community.

Tree Protection Plan (TPP) - A plan prepared by a certified arborist that outlines measures to protect and preserve trees.

Tree Protection Zone (TPZ) - The circular area around a tree calculated as one foot of radius for every inch of DBH, or at least 6 feet, whichever is greater that is required to be protected with a fenced enclosure.

Tree Protection Fencing - A temporary enclosure erected around a tree to be protected at the boundary of the tree protection zone. Tree protection fencing should consist of six 6 foot high chain link fence, mounted on two inch diameter metal posts, driven into the ground to a depth of at least 2-feet at no more than 10-foot spacing.

Warning Sign - A warning sign shall be prominently displayed on each fence. The sign shall be a minimum of 8.5 x 11-inches and clearly state: "WARNING – Tree Protection Zone - This fence shall not be removed and any injury to this or these trees is subject to penalty according to BCC 14.06.100."

Conditions of Use

Trees and vegetation can be impacted during construction in many ways and often times the damage is not seen for several months or even years after the construction is completed. Proper tree protection can benefit not only the tree by reducing stress during construction but also the developer and property owner by reducing long term costs associated with future maintenance. The cost of

removing a tree killed by construction after development is usually greater than the cost of protecting the tree during construction.

Common types of tree injuries that occur during construction may include:

- Mechanical injury to roots, trunk or branches
- Compaction of soil by storing of materials or equipment, which degrades the functioning of roots, inhibits the development of new roots and restricts drainage.
- Changes in existing grade which can cut or suffocate roots
- Alteration of the water table - either raising or lowering
- Changes in drainage patterns that promotes erosion or excessive accumulation of runoff
- Sterile soil conditions associated with stripping off topsoil
- Damage to roots from dumping of liquids or rinsing of construction equipment

Not all damage occurs to trees and vegetation during the actual construction of buildings or structures. Trees are often damage during the landscaping phase after the heavy equipment and workers have left. Installing irrigation, applying topsoil and turf installation also causes damage to trees. All construction-related impacts can produce long-term maintenance problems that can be avoided by following the BMPs set forth in the remainder of this chapter.

Planning & Permitting Phase

- Inventory and evaluate all existing trees on the site and trees immediately adjacent with driplines or expected root zones extending onto the project site. The inventory and evaluation shall include, but not be limited to the following information:

  Tree species

  Tree size in DBH and canopy spread

  Tree condition or observed defects

  Tree numbers that are included in an inventory table

  A calculation of the total diameter inches of significant trees on the site along with an indication of the interior or perimeter location of the tree, if applicable to the proposed development type and tree retention.

  Tree map showing the location of the existing significant trees on the site with numbers corresponding to the tree inventory table.

- **Submit a Tree Protection Plan (TPP)** prepared by a Project Arborist that includes the following information:

  Location of and description all significant trees that will remain on the project site per LUC 20.20.900

  Illustration of the Tree Protection Zone (TPZ) for each tree is a radius of 1.5 feet for every inch of DBH or a minimum of 6 feet, whichever is greater.

The TPZ will regularly exceed the Critical Root Zone (CRZ), which is the outer edge of the tree's canopy, or drip line. The reduction of TPZ closer to the CRZ must be accompanied by mitigating measures and be approved in writing by the City of Bellevue. The TPZ may not be smaller than the CRZ.

Description of expected tree protection techniques that will be used on the project as per the Land Use Code and the Clearing and Grading Code All tree removal and pruning needed to make room for future structures and construction equipment should also be drawn on the base map

A timetable for project meetings with the Project Team including a pre-construction meeting and the schedule for the Project Arborist monitoring.

Calculation of appraisal amounts to be collected by the City as an assurance device in the form of a deposit equal to the tree appraisal value of all protected trees as determined under the methods described in the Guide for Establishing Value of Trees and Other Plants, published by the International Society of Arboriculture.

Pre-Construction Site Preparation Phase

- Stage equipment away from trees and vegetation to be retained so that existing plants and their roots are protected.
- Fence off with chain link or construction fencing all entry and exit routes. When planning routes, avoid utility access corridors.
- Protect irrigation and drainage systems shall from damage unless plans call for renovation of such systems.
- Stake and/or flag clearing limits and tree protection to be verified and approved by the City's clearing and grading inspector at the required preconstruction meeting.
- Project Arborist will supervise and verify the following tree protection measures are in place and comply with the approved TPP:

  A 6" layer of coarse mulch or woodchips is to be placed beneath the Tree Protection Zone (TPZ) of the protected trees. Mulch is to be kept 12" from the trunk.

  Trees that have been identified in the site inventory as posing a health or safety risk may be removed or pruned by no more than one-third, subject to approval of the required permit by the City of Bellevue. Pruning of existing limbs and roots shall occur under the direction of the Project Arborist.

  Tree Protection Fencing of 6' chain link fencing shall be installed around the TPZ of protected tree(s). The fencing can be moved within the TPZ if authorized by the Clearing and Grading Inspector and the Project Arborist but not closer than 2' from the trunk of any tree. Fence posts shall be 1.5" in diameter and are to be driven 2' into the ground. The distance between posts shall not be more than 10'.

  Tree protection fencing shall have a warning signs prominently installed on each fence at 20-foot intervals. The sign shall be a minimum 8.5-

inches x 11-inches and clearly state: "WARNING - Tree Protection Zone"

Movable barriers of chain link fencing secured to cement blocks may be substituted for "fixed" fencing if the Project Arborist and City Staff agree that the fencing will have to be moved to accommodate certain phases of construction. The builder may not move the fence without authorization from the Project Arborist and City Staff.

Should temporary access into the TPZ be approved, an additional 3" layer of gravel and ¾" plywood shall be placed over the CRZ.

Construction Phase

During the Construction phase, ensure the TPP is being followed and report any conflicts or deviations to the City of Bellevue Clearing and Grading Inspector. Monitor construction activities that require encroachment within the TPZ, such as grading or trenching.

Avoid the following conditions:

1. Allowing run off or spillage of damaging materials into the approved TPZ.

2. Storing construction materials or portable toilets, stockpiling of soil, or parking or driving vehicles within the TPZ.

3. Cutting, breaking, skinning, or bruising roots, branches, or trunks without first obtaining authorization from the Project Arborist.

4. Discharging exhaust into foliage.

5. Securing cable, chain, or rope to trees or shrubs.

6. Trenching, digging, tunneling or otherwise excavating within the CRZ or TPZ of the tree(s) without first obtaining authorization from the Project Arborist.

Periodically inspect during construction - at four-week intervals - to assess and monitor the effectiveness of the TPP and provide recommendations for any additional care or treatment. More frequent may be required based on the TPP.

The following activities should be observed and inspected by the project arborist during the construction phase to ensure compliance with the approved TPP:

1. Only excavation by hand or compressed air shall be allowed within the TPZ of trees. Machine trenching shall not be allowed.

2. In order to avoid injury to tree roots, when a trenching machine is being used outside of the TPZ of trees, and roots are encountered smaller than 2", the wall of the trench adjacent to the trees shall be hand trimmed, making clear, clean cuts through the roots. All damaged, torn and cut roots shall be given a clean cut to remove ragged edges, which promote decay. Trenches shall be filled within 24 hours, but where this is not possible, the side of the trench adjacent to the trees shall be kept shaded with four layers of dampened, untreated burlap, wetted as frequently as necessary to keep the burlap wet. Roots 2" or larger, when encountered, shall be reported immediately to the Project Arborist, who will decide whether the Contractor may cut the root as mentioned above or shall excavate by hand or with compressed air under the root. All exposed roots are to be protected with dampened burlap.

3. Route pipes outside of the TPZ of a protected tree to avoid conflict with roots. Where it is not possible to reroute pipes or trenches, bore or tunnel beneath

the TPZ of the tree. The boring shall take place not less than 3' below the surface of the soil in order to avoid encountering "feeder" roots. All boring equipment must be staged outside of the TPZ.

4. All grade changes adjacent to the TPZ of a significant tree shall be supervised by the Project Arborist. Cuts or Fills of soil that are adjacent to the TPZ will have a retaining wall system designed in consultation with the Project Arborist and approved in writing by City Staff.

5. Any damage due to construction activities shall be reported to the Project Arborist and City Staff within six hours so that remedial action can be taken.

6. The Project Arborist shall be responsible for the preservation of the designated trees. Should the builder fail to follow the tree protection specifications, it shall be the responsibility of the Project Arborist to report the matter to City Staff as an issue of non-compliance.

Post-Construction

The Post-Construction Phase begins when the equipment leaves and the new tenants move in. Important follow-up monitoring of the protected trees will help ensure their survival and identify signs of early stress.

The applicant shall arrange with the Project Arborist for the long-term care and monitoring of preserved trees by complying with the following conditions:

1. Complete post-construction tree maintenance, including pruning, mulching, fertilization, irrigation, and soil aeration where necessary.

2. Remove, by hand, all soil and root protection material such as wood chips, gravel and plywood.

3. Provide for remediation of compacted soil by methods such as aeration or vertical mulching.

4. Apply at least 1 inch of water per week by deep watering in the absence of adequate rainfall.

5. Fertilize trees with slow released phosphorus, potassium, calcium, magnesium, and other macro- and micro-nutrients as indicated by a soil test, but wait at least one year to apply any nitrogen.

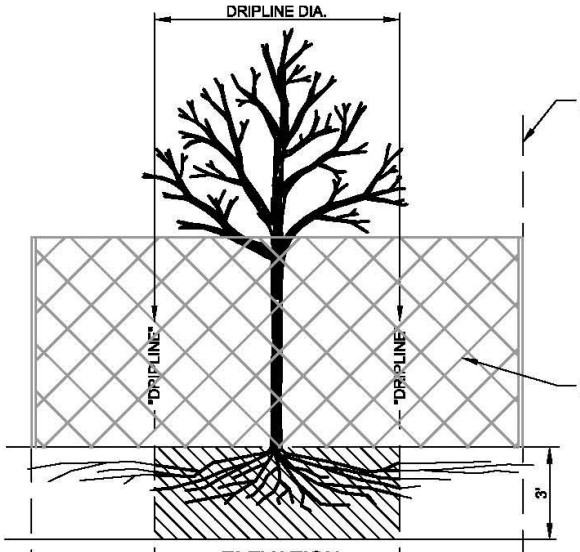
6. Fertilize lightly with slow release nitrogen after 1 year, and then make annual light nitrogen applications for the next 3 to 5 years.

7. Inspect trees annually for at least 3 and up to 5 years after construction to look for changes in condition and signs of insects or disease, and to determine maintenance needs.

8. Remove trees that are badly damaged or are in irreversible decline as determined by the Project Arborist and City Staff.

9. Continue to protect not only the large, established trees on the site but also those newly planted in the landscape as per LUC 20.20.520.K.

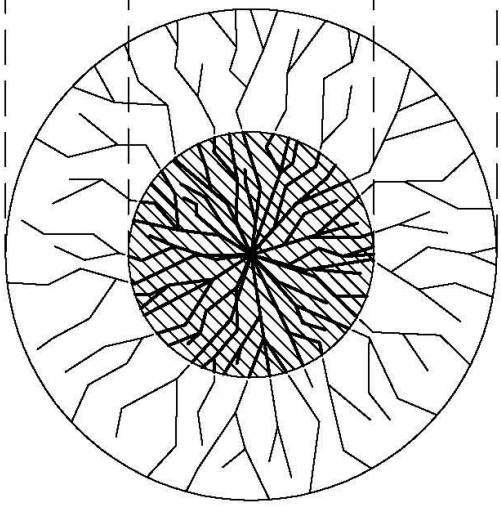
10. Provide annual inspection reports to the City.



ELEVATION

TPZ DIA. = 1 FT X INCHES OF DIAMETER AT 4.5 FT

DRIPLINE



PLAN VIEW

Tree Protection Zone (TPZ)

- Extends from tree trunk to 1 foot for every inch of trunk diameter measured at 4.5 feet above grade or 6' whichever is greater.
- Protective fencing to remain installed at all times.
- Working within TPZ restricted to City approved personnel and supervised by Project Arborist.
- No storage of equipment or materials within TPZ, or washing of equipment in or within 10' of TPZ.

Tree Protection Fencing

- Minimum 6' chain link fencing installed completely around TPZ consistent with Site Plan. See Tree Protection Detail TP-2.
- Fencing shall have 1.5" steel posts to be driven 2' into the ground no more than 10' apart.
- Tree protection signs shall be posted on fencing no more than 20' apart.
- Apply a 4-6" layer of wood chips 12" from tree trunk.

Dripline

- Extends from trunk to outer canopy edge - Drip Line.
- Absolutely no storage of equipment or materials within Dripline.
- Access restricted based on City approval and Project Arborist supervision required.
- No trenching within Dripline; tunneling must have approval from City.

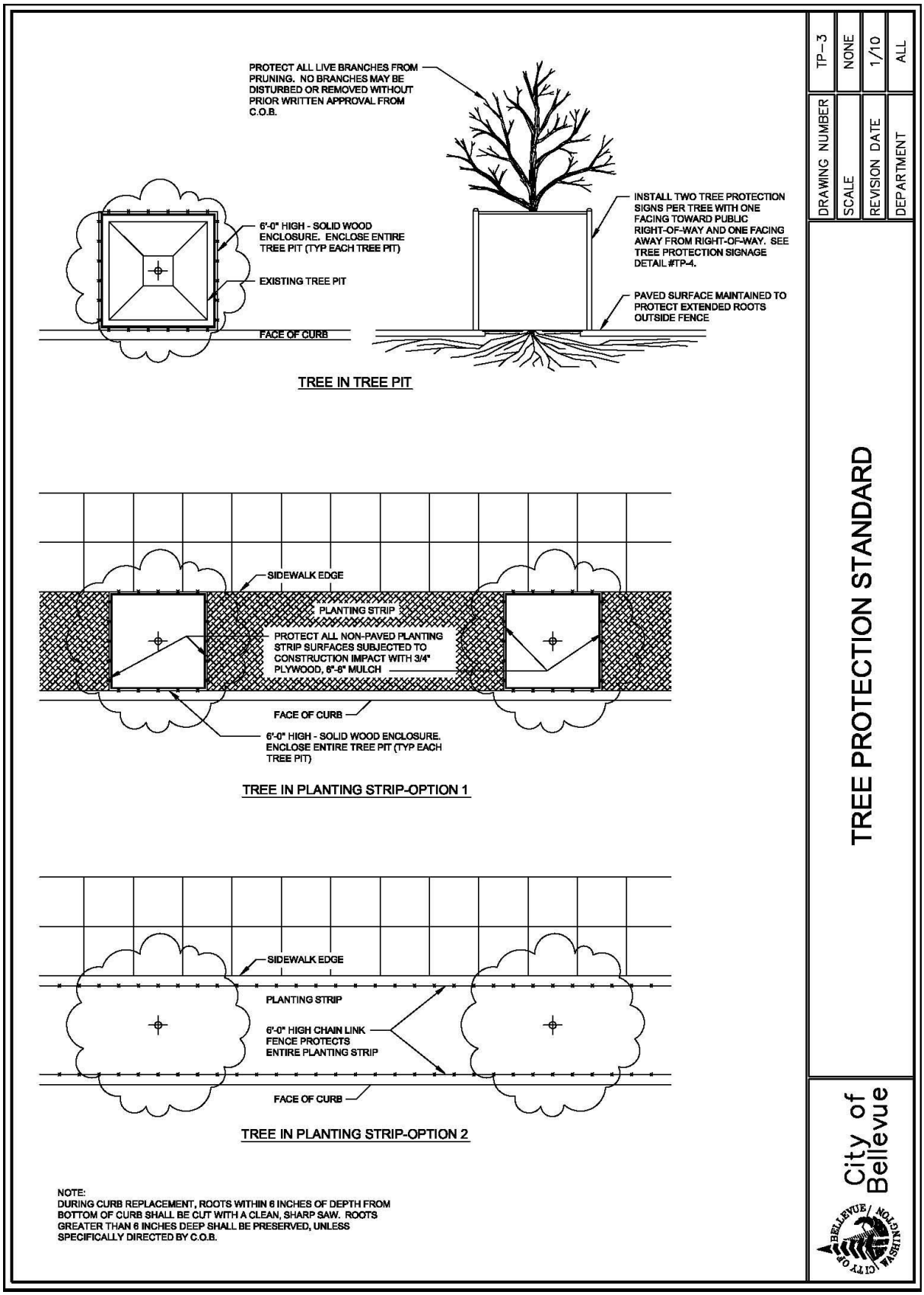
Root Protection In Tree Protection Zone

- Use/access into TPZ shall be upon approval from City and supervised by Project Arborist.
- Additional layer of 3" gravel and ¾" plywood shall cover Dripline when authorized work being performed in TPZ.
- All wood chips, gravel and plywood to be removed by hand upon project completion.

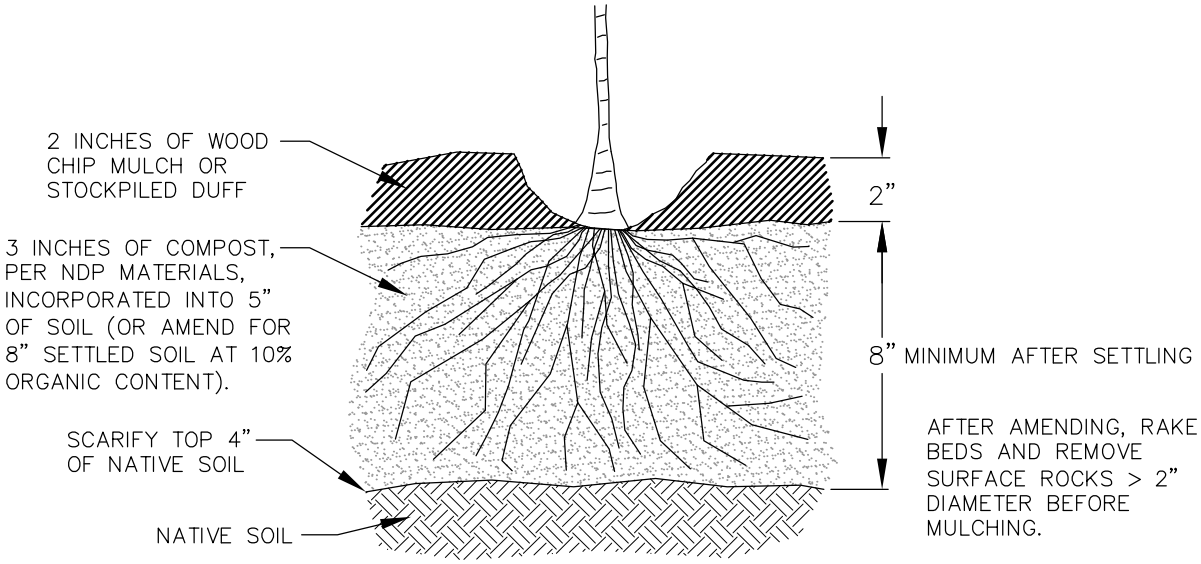
DRAWING NUMBER	TP-1
SCALE	NONE
REVISION DATE	1/10
DEPARTMENT	ALL

TREE PROTECTION PROCEDURES DURING CONSTRUCTION

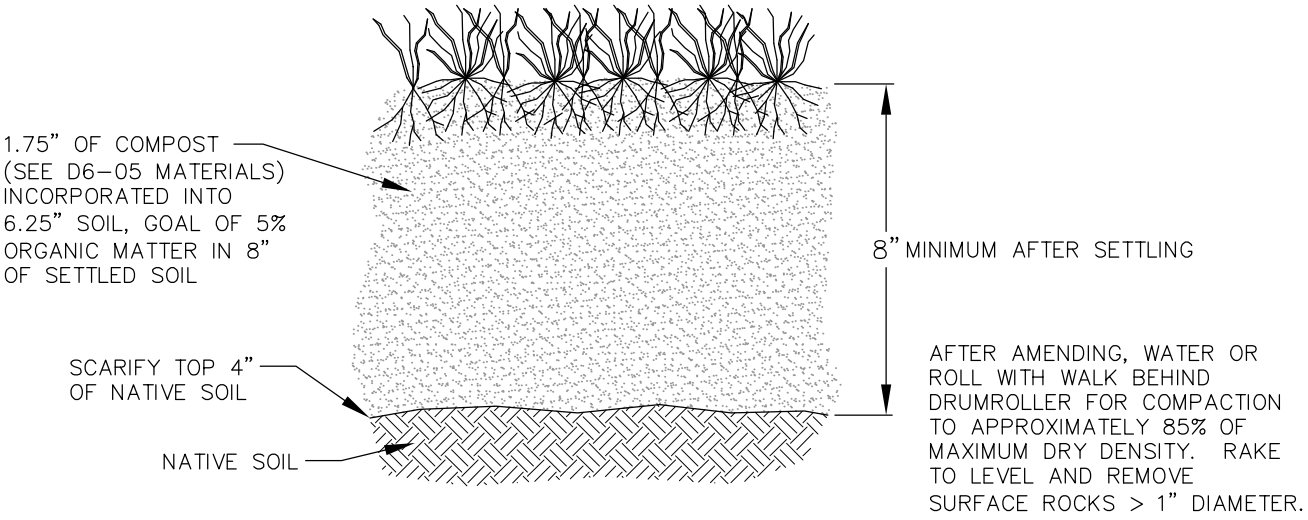
City of Bellevue



AMENDMENT FOR LANDSCAPED AREAS



SOIL AMENDMENT FOR GRASS OR TURF AREAS



NOTES:

1. AMEND SOILS PER DOE MANUAL, VOL. V, 5.3.1, BMP T5.13, (2012 OR CURRENT) OR WWW.SOILSFORSALMON.ORG.
2. DO NOT AMEND SOILS IN AREAS WITH UNDISTURBED SOIL AND NATIVE VEGETATION.
3. OPTIONAL ALTERNATIVE: STOCKPILE NATIVE TOPSOIL ONSITE, AMEND IF NEEDED, AND REPLACE BEFORE PLANTING.
4. OPTIONAL ALTERNATIVE: IMPORT TOPSOIL MIX OF SUFFICIENT ORGANIC CONTENT AND DEPTH TO MEET REQUIREMENTS.

City of Bellevue

STORM AND SURFACE WATER UTILITY

TITLE

AMENDED SOILS

JANUARY 2017 NO SCALE

NO. NDP-1

BMP C105: Stabilized Construction Entrance

Purpose

Construction entrances are stabilized to reduce the amount of sediment transported onto paved roads by vehicles or equipment by constructing a stabilized pad of quarry spalls at entrances to construction sites.

Conditions of Use

Construction entrances shall be stabilized wherever traffic will be leaving a construction site and traveling on paved roads or other paved areas within 1,000 feet of the site.

On large commercial, highway, and road projects, the designer should include enough extra materials in the contract to allow for additional stabilized entrances not shown in the initial CSWPPP. It is difficult to determine exactly where access to these projects will take place; additional materials will enable the contractor to install them where needed.

Design and Installation Specifications

- See Figure 4.2 for details. Note: the 100' minimum length of the entrance shall be reduced to the maximum practicable size when the size or configuration of the site does not allow the full length (100').
- A separation geotextile shall be placed under the spalls to prevent fine sediment from pumping up into the rock pad. The geotextile shall meet the following standards:

Grab Tensile Strength (ASTM D4751)	200 psi min.
Grab Tensile Elongation (ASTM D4632)	30% max.
Mullen Burst Strength (ASTM D3786-80a)	400 psi min.
AOS (ASTM D4751)	20-45 (U.S. standard sieve size)

- Consider early installation of the first lift of asphalt in areas that will paved; this can be used as a stabilized entrance. Also consider the installation of excess concrete as a stabilized entrance. During large concrete pours, excess concrete is often available for this purpose.
- Hog fuel (wood-based mulch) may be substituted for or combined with quarry spalls in areas that will not be used for permanent roads. Hog fuel is generally less effective at stabilizing construction entrances and should be used only at sites where the amount of traffic is very limited. Hog fuel is not recommended for entrance stabilization in urban areas. The effectiveness of hog fuel is highly variable and it generally requires more maintenance than quarry spalls. The inspector may at any time require the use of quarry spalls if the hog fuel is not preventing sediment from being tracked onto pavement or if the hog fuel is being carried onto pavement. Hog fuel is prohibited in permanent roadbeds because organics in the subgrade soils cause degradation of the subgrade support over time.
- Fencing (see BMPs C103 and C104) shall be installed as necessary to restrict traffic to the construction entrance.

- Whenever possible, the entrance shall be constructed on a firm, compacted subgrade. This can substantially increase the effectiveness of the pad and reduce the need for maintenance.

Maintenance Standards

- Quarry spalls (or hog fuel) shall be added if the pad is no longer in accordance with the specifications.
- If the entrance is not preventing sediment from being tracked onto pavement, then alternative measures to keep the streets free of sediment shall be used. This may include street sweeping, an increase in the dimensions of the entrance, or the installation of a wheel wash.
- Any sediment that is tracked onto pavement shall be removed by shoveling or street sweeping. The sediment collected by sweeping shall be removed or stabilized on site. The pavement shall not be cleaned by washing down the street, except when sweeping is ineffective and there is a threat to public safety. If it is necessary to wash the streets, the construction of a small sump shall be considered. The sediment would then be washed into the sump where it can be controlled.
- Any quarry spalls that are loosened from the pad, which end up on the roadway shall be removed immediately.
- If vehicles are entering or exiting the site at points other than the construction entrance(s), fencing (see BMPs C103 and C104) shall be installed to control traffic.
- Upon project completion and site stabilization, all construction accesses intended as permanent access for maintenance shall be permanently stabilized.

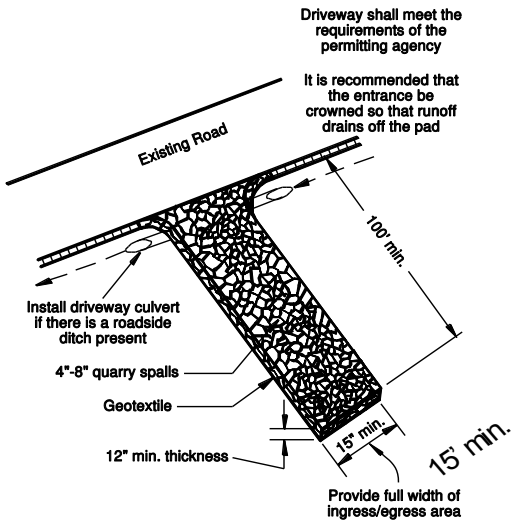


Figure 4.2 – Stabilized Construction Entrance

BMP C124: Sodding

Purpose

The purpose of sodding is to establish permanent turf for immediate erosion protection and to stabilize drainage ways where concentrated overland flow will occur.

Conditions of Use

Sodding may be used in the following areas:

- Disturbed areas that require short-term or long-term cover.
- Disturbed areas that require immediate vegetative cover.
- All waterways that require vegetative lining. Waterways may also be seeded rather than sodded, and protected with a net or blanket.

Design and Installation Specifications

Sod shall be free of weeds, of uniform thickness (approximately 1-inch thick), and shall have a dense root mat for mechanical strength.

The following steps are recommended for sod installation:

- Shape and smooth the surface to final grade in accordance with the approved grading plan. The swale needs to be overexcavated 4 to 6 inches below design elevation to allow room for placing soil amendment and sod.
- Amend 4 inches (minimum) of compost into the top 8 inches of the soil if the organic content of the soil is less than ten percent or the permeability is less than 0.6 inches per hour. Compost used should meet Ecology publication 94-038 specifications for Grade A quality compost.
- Fertilize according to the supplier's recommendations.
- Work lime and fertilizer 1 to 2 inches into the soil, and smooth the surface.
- Lay strips of sod beginning at the lowest area to be sodded and perpendicular to the direction of water flow. Wedge strips securely into place. Square the ends of each strip to provide for a close, tight fit. Stagger joints at least 12 inches. Staple on slopes steeper than 3H:1V. Staple the upstream edge of each sod strip.
- Roll the sodded area and irrigate.
- When sodding is carried out in alternating strips or other patterns, seed the areas between the sod immediately after sodding.

Maintenance Standards

If the grass is unhealthy, the cause shall be determined and appropriate action taken to reestablish a healthy groundcover. If it is impossible to establish a healthy groundcover due to frequent saturation, instability, or some other cause, the sod shall be removed, the area seeded with an appropriate mix, and protected with a net or blanket.

BMP C125: Topsoiling

Purpose

To provide a suitable growth medium for final site stabilization with vegetation. While not a permanent cover practice in itself, topsoiling is an integral component of providing permanent cover in those areas where there is an unsuitable soil surface for plant growth. Native soils and disturbed soils that have been organically amended not only retain much more stormwater, but they also serve as effective biofilters for urban pollutants and, by supporting more vigorous plant growth, reduce the water, fertilizer and pesticides needed to support installed landscapes. Topsoil does not include any subsoils but only the material from the top several inches including organic debris.

Conditions of Use

- Native soils should be left undisturbed to the maximum extent practicable. Native soils disturbed during clearing and grading should be restored, to the maximum extent practicable, to a condition where moisture-holding capacity is equal to or better than the original site conditions. This criterion can be met by using on-site native topsoil, incorporating amendments into on-site soil, or importing blended topsoil.
- Topsoiling is a required procedure when establishing vegetation on shallow soils, and soils of critically low pH (high acid) levels.
- Stripping of existing, properly functioning soil system and vegetation for the purpose of topsoiling during construction is not acceptable. If an existing soil system is functioning properly it shall be preserved in its undisturbed and uncompacted condition.
- Depending on where the topsoil comes from, or what vegetation was on site before disturbance, invasive plant seeds may be included and could cause problems for establishing native plants, landscaped areas, or grasses.
- Topsoil from the site will contain mycorrhizal bacteria that are necessary for healthy root growth and nutrient transfer. These native mycorrhiza are acclimated to the site and will provide optimum conditions for establishing grasses. Commercially available mycorrhiza products should be used when topsoil is brought in from off-site.

Design and Installation Specifications

If topsoiling is to be done, the following items should be considered:

- Maximize the depth of the topsoil wherever possible to provide the maximum possible infiltration capacity and beneficial growth medium. Topsoil depth shall be at least 8 inches with a minimum organic content of 10 percent dry weight and pH between 6.0 and 8.0 or matching the pH of the undisturbed soil. This can be accomplished either by returning native topsoil to the site and/or incorporating organic amendments. Organic amendments should be incorporated to

a minimum 8-inch depth except where tree roots or other natural features limit the depth of incorporation. Subsoils below the 12-inch depth should be scarified at least 2 inches to avoid stratified layers, where feasible. The decision to either layer topsoil over a subgrade or incorporate topsoil into the underlying layer may vary depending on the planting specified.

- If blended topsoil is imported, then fines should be limited to 25 percent passing through a 200 sieve.
- The final composition and construction of the soil system will result in a natural selection or favoring of certain plant species over time. For example, recent practices have shown that incorporation of topsoil may favor grasses, while layering with mildly acidic, high-carbon amendments may favor more woody vegetation.
- Locate the topsoil stockpile so that it meets specifications and does not interfere with work on the site. It may be possible to locate more than one pile in proximity to areas where topsoil will be used.
- Allow sufficient time in scheduling for topsoil to be spread prior to seeding, sodding, or planting.
- Care must be taken not to apply to subsoil if the two soils have contrasting textures. Sandy topsoil over clayey subsoil is a particularly poor combination, as water creeps along the junction between the soil layers and causes the topsoil to slough.
- If topsoil and subsoil are not properly bonded, water will not infiltrate the soil profile evenly and it will be difficult to establish vegetation. The best method to prevent a lack of bonding is to actually work the topsoil into the layer below for a depth of at least 6 inches.
- Ripping or re-structuring the subgrade may also provide additional benefits regarding the overall infiltration and interflow dynamics of the soil system.
- Field exploration of the site shall be made to determine if there is surface soil of sufficient quantity and quality to justify stripping. Topsoil shall be friable and loamy (loam, sandy loam, silt loam, sandy clay loam, clay loam). Areas of natural ground water recharge should be avoided.
- Stripping shall be confined to the immediate construction area. A 4- to 6- inch stripping depth is common, but depth may vary depending on the particular soil. All surface runoff control structures shall be in place prior to stripping.

Stockpiling of topsoil shall occur in the following manner:

- Side slopes of the stockpile shall not exceed 2:1.

- An interceptor dike with gravel outlet and silt fence shall surround all topsoil stockpiles between October 1 and April 30. Between May 1 and September 30, an interceptor dike with gravel outlet and silt fence shall be installed if the stockpile will remain in place for a longer period of time than active construction grading.
- Erosion control seeding or covering with clear plastic or other mulching materials of stockpiles shall be completed within 2 days (October 1 through April 30) or 7 days (May 1 through September 30) of the formation of the stockpile. Native topsoil stockpiles shall not be covered with plastic.
- Topsoil shall not be placed while in a frozen or muddy condition, when the subgrade is excessively wet, or when conditions exist that may otherwise be detrimental to proper grading or proposed sodding or seeding.
- Previously established grades on the areas to be topsoiled shall be maintained according to the approved plan.
- When native topsoil is to be stockpiled and reused the following should apply to ensure that the mycorrhizal bacterial, earthworms, and other beneficial organisms will not be destroyed:

  1. Topsoil is to be re-installed within 4 to 6 weeks;
  2. Topsoil is not to become saturated with water;
  3. Plastic cover is not allowed.

Maintenance Standards

- Inspect stockpiles regularly, especially after large storm events. Stabilize any areas that have eroded.

4.1 Source Control BMPs

BMP C101: Preserving Natural Vegetation

Purpose

The purpose of preserving natural vegetation is to reduce erosion wherever practicable. Limiting site disturbance is the single most effective method for reducing erosion. For example, conifers can hold up to about 50 percent of all rain that falls during a storm. Up to 20-30 percent of this rain may never reach the ground but is taken up by the tree or evaporates. Another benefit is that the rain held in the tree can be released slowly to the ground after the storm.

Conditions of Use

- Natural vegetation should be preserved on steep slopes, near perennial and intermittent watercourses or swales, and on building sites in wooded areas.
- As required by plat conditions, land use code, or land use approvals.

Design and Installation Specifications

Natural vegetation can be preserved in natural clumps or as individual trees, shrubs and vines.

The preservation of individual plants is more difficult because heavy equipment is generally used to remove unwanted vegetation. The points to remember when attempting to save individual plants are:

- Is the plant worth saving? Consider the location, species, size, age, vigor, and the work involved. Plat conditions or land use regulations may also require that natural vegetation and trees be saved.
- Fence or clearly mark areas around trees that are to be saved. It is preferable to keep ground disturbance away from the trees at least as far out as the dripline.

Plants need protection from three kinds of injuries:

- *Construction Equipment* - This injury can be above or below the ground level. Damage results from scarring, cutting of roots, and compaction of the soil. Placing a fenced buffer zone around plants to be saved prior to construction can prevent construction equipment injuries.
- *Grade Changes* - Changing the natural ground level will alter grades, which affects the plant's ability to obtain the necessary air, water, and minerals. Minor fills usually do not cause problems although sensitivity between species does vary and should be checked. Trees can tolerate fill of 6 inches or less. For shrubs and other plants, the fill should be less.

  When there are major changes in grade, it may become necessary to supply air to the roots of plants. This can be done by placing a layer of gravel and a tile system over the roots before the fill is made. A tile

system protects a tree from a raised grade. The tile system should be laid out on the original grade leading from a dry well around the tree trunk. The system should then be covered with small stones to allow air to circulate over the root area.

Lowering the natural ground level can seriously damage trees and shrubs. The highest percentage of the plant roots are in the upper 12 inches of the soil and cuts of only 2-3 inches can cause serious injury. To protect the roots it may be necessary to terrace the immediate area around the plants to be saved. If roots are exposed, construction of retaining walls may be needed to keep the soil in place. Plants can also be preserved by leaving them on an undisturbed, gently sloping mound. To increase the chances for survival, it is best to limit grade changes and other soil disturbances to areas outside the dripline of the plant.

- *Excavations* - Protect trees and other plants when excavating for drainfields, power, water, and sewer lines. Where possible, the trenches should be routed around trees and large shrubs. When this is not possible, it is best to tunnel under them. This can be done with hand tools or with power augers. If it is not possible to route the trench around plants to be saved, then the following should be observed:

  Cut as few roots as possible. When you have to cut, cut clean. Paint cut root ends with a wood dressing like asphalt base paint.

  Backfill the trench as soon as possible.

  Tunnel beneath root systems as close to the center of the main trunk to preserve most of the important feeder roots.

Some problems that can be encountered with a few specific trees are:

- Maple, Dogwood, Red alder, Western hemlock, Western red cedar, and Douglas fir do not readily adjust to changes in environment and special care should be taken to protect these trees.
- The windthrow hazard of Pacific silver fir and madronna is high, while that of Western hemlock is moderate. The danger of windthrow increases where dense stands have been thinned. Other species (unless they are on shallow, wet soils less than 20 inches deep) have a low windthrow hazard.
- Cottonwoods, maples, and willows have water-seeking roots. These can cause trouble in sewer lines and infiltration fields. On the other hand, they thrive in high moisture conditions that other trees would not.
- Thinning operations in pure or mixed stands of Grand fir, Pacific silver fir, Noble fir, Sitka spruce, Western red cedar, Western hemlock,

Pacific dogwood, and Red alder can cause serious disease problems. Disease can become established through damaged limbs, trunks, roots, and freshly cut stumps. Diseased and weakened trees are also susceptible to insect attack.

Maintenance Standards

- Inspect flagged and/or fenced areas regularly to make sure flagging or fencing has not been removed or damaged. If the flagging or fencing has been damaged or visibility reduced, it shall be repaired or replaced immediately and visibility restored.
- If tree roots have been exposed or injured, "prune" cleanly with an appropriate pruning saw or lopers directly above the damaged roots and recover with native soils. Treatment of sap flowing trees (fir, hemlock, pine, soft maples) is not advised as sap forms a natural healing barrier.

BMP C122: Nets and Blankets

Purpose

Erosion control nets and blankets are intended to prevent erosion and hold seed and mulch in place on steep slopes and in channels so that vegetation can become well established. In addition, some nets and blankets can be used to permanently reinforce turf to protect drainage ways during high flows. Nets (commonly called matting) are strands of material woven into an open, but high-tensile strength net (for example, coconut fiber matting). Blankets are strands of material that are not tightly woven, but instead form a layer of interlocking fibers, typically held together by a biodegradable or photodegradable netting (for example, excelsior or straw blankets). They generally have lower tensile strength than nets, but cover the ground more completely. Coir (coconut fiber) fabric comes as both nets and blankets.

Conditions of Use

Erosion control nets and blankets should be used:

- To aid permanent vegetated stabilization of slopes 2H:1V or greater and with more than 10 feet of vertical relief.
- For drainage ditches and swales (highly recommended). The application of appropriate netting or blanket to drainage ditches and swales can protect bare soil from channelized runoff while vegetation is established. Nets and blankets also can capture a great deal of sediment due to their open, porous structure. Synthetic nets and blankets can be used to permanently stabilize channels and may provide a cost-effective, environmentally preferable alternative to riprap. 100 percent synthetic blankets manufactured for use in ditches may be easily reused as temporary ditch liners.

Disadvantages of blankets include:

- Surface preparation required;
- On slopes steeper than 2.5:1, blanket installers may need to be roped and harnessed for safety;
- They cost at least $4,000-6,000 per acre installed.

Advantages of blankets include:

- Can be installed without mobilizing special equipment;
- Can be installed by anyone with minimal training;
- Can be installed in stages or phases as the project progresses;
- Seed and fertilizer can be hand-placed by the installers as they progress down the slope;
- Can be installed in any weather;
- There are numerous types of blankets that can be designed with various parameters in mind. Those parameters include: fiber blend, mesh strength, longevity, biodegradability, cost, and availability.

Design and Installation Specifications

- See Figure 4.4 and Figure 4.5 for typical orientation and installation of blankets used in channels and as slope protection. Note: these are typical only; all blankets must be installed per manufacturer's installation instructions.
- Installation is critical to the effectiveness of these products. If good ground contact is not achieved, runoff can concentrate under the product, resulting in significant erosion.
- Installation of Blankets on Slopes:
    1. Complete final grade and track walk up and down the slope.
    2. Install hydromulch with seed and fertilizer.
    3. Dig a small trench, approximately 12 inches wide by 6 inches deep along the top of the slope.
    4. Install the leading edge of the blanket into the small trench and staple approximately every 18 inches. NOTE: Staples are metal,"U"-shaped, and a minimum of 6 inches long. Longer staples are used in sandy soils. Biodegradable stakes are also available.
    5. Roll the blanket slowly down the slope as installer walks backwards. NOTE: The blanket rests against the installer's legs. Staples are installed as the blanket is unrolled. It is critical that the proper staple pattern is used for the blanket being installed. The blanket is not to be allowed to roll down the slope on its own as this stretches the blanket making it impossible to maintain soil contact. In addition, no one is allowed to walk on the blanket after it is in place.
    6. If the blanket is not long enough to cover the entire slope length, the trailing edge of the upper blanket should overlap the leading edge of the lower blanket and be stapled. On steeper slopes, this overlap should be installed in a small trench, stapled, and covered with soil.
- With the variety of products available, it is impossible to cover all the details of appropriate use and installation. Therefore, it is critical that the design engineer consults the manufacturer's information and that a site visit takes place in order to insure that the product specified is appropriate. Information is also available at the following web sites:
    1. WSDOT: http://www.wsdot.wa.gov/eesc/environmental/
    2. Texas Transportation Institute: http://www.dot.state.tx.us/insdtdot/orgchart/cmd/erosion/contents.htm
- Jute matting must be used in conjunction with mulch (BMP C121). Excelsior, woven straw blankets and coir (coconut fiber) blankets may

be installed without mulch. There are many other types of erosion control nets and blankets on the market that may be appropriate in certain circumstances.

- In general, most nets (e.g., jute matting) require mulch in order to prevent erosion because they have a fairly open structure. Blankets typically do not require mulch because they usually provide complete protection of the surface.
- Extremely steep, unstable, wet, or rocky slopes are often appropriate candidates for use of synthetic blankets, as are riverbanks, beaches and other high-energy environments. If synthetic blankets are used, the soil should be hydromulched first.
- 100 percent biodegradable blankets are available for use in sensitive areas. These organic blankets are usually held together with a paper or fiber mesh and stitching which may last up to a year.
- Most netting used with blankets is photodegradable, meaning they break down under sunlight (not UV stabilized). However, this process can take months or years even under bright sun. Once vegetation is established, sunlight does not reach the mesh. It is not uncommon to find non-degraded netting still in place several years after installation. This can be a problem if maintenance requires the use of mowers or ditch cleaning equipment. In addition, birds and small animals can become trapped in the netting.

Maintenance Standards

- Good contact with the ground must be maintained, and erosion must not occur beneath the net or blanket.
- Any areas of the net or blanket that are damaged or not in close contact with the ground shall be repaired and stapled.
- If erosion occurs due to poorly controlled drainage, the problem shall be fixed and the eroded area protected.

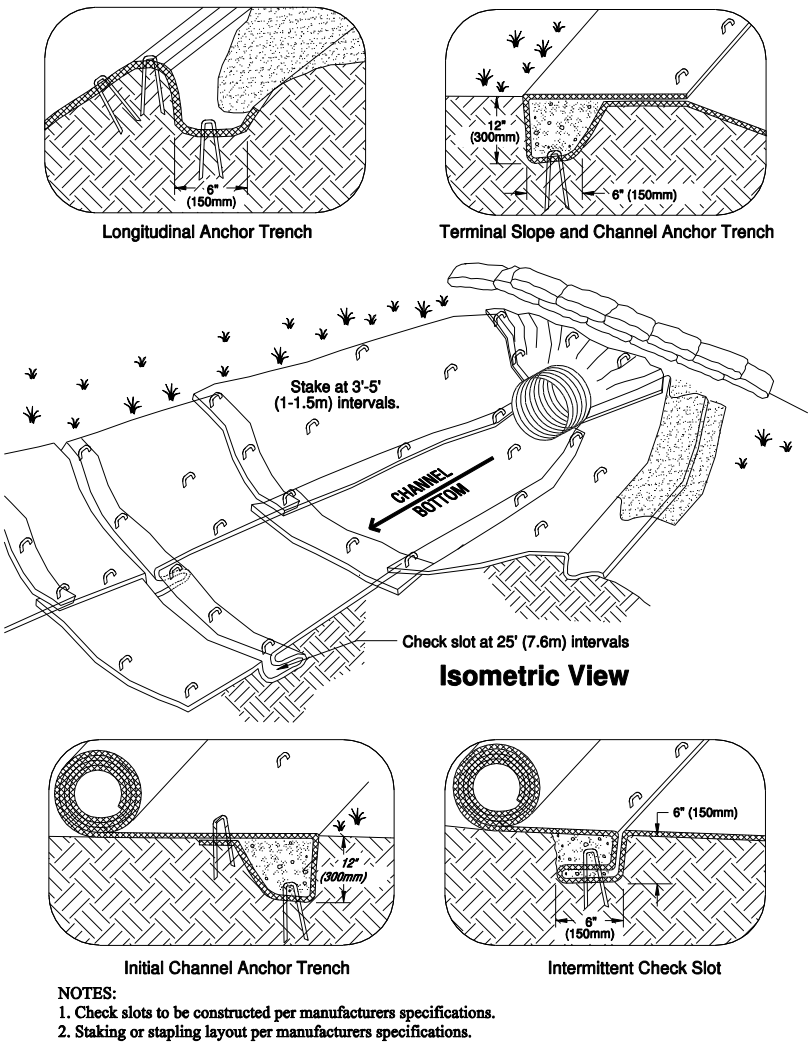


Figure 4.4 – Channel Installation

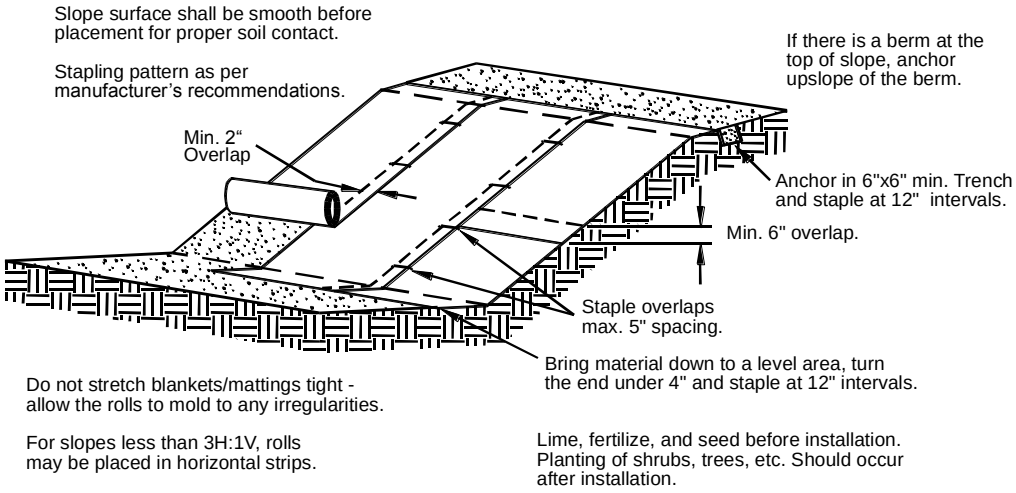


Figure 4.5 – Slope Installation

BMP C151: Concrete Handling

Purpose

Concrete work can generate process water and slurry that contain fine particles and high pH, both of which can violate water quality standards in the receiving water. This BMP is intended to minimize and eliminate concrete process water and slurry from entering waters of the state.

Conditions of Use

Any time concrete is used, these management practices shall be utilized. Concrete construction projects include, but are not limited to, the following:

- Curbs
- Sidewalks
- Roads
- Bridges
- Foundations
- Floors
- Runways

Design and Installation Specifications

- Concrete truck chutes, pumps, and internals shall be washed out only into formed areas awaiting installation of concrete or asphalt.
- Unused concrete remaining in the truck and pump shall be returned to the originating batch plant for recycling.
- Hand tools including, but not limited to, screeds, shovels, rakes, floats, and trowels shall be washed off only into formed areas awaiting installation of concrete or asphalt.
- Equipment that cannot be easily moved, such as concrete pavers, shall only be washed in areas that do not directly drain to natural or constructed stormwater conveyances.
- Washdown from areas such as concrete aggregate driveways shall not drain directly to natural or constructed stormwater conveyances.
- When no formed areas are available, washwater and leftover product shall be contained in a lined container. Contained concrete shall be disposed of in a manner that does not violate groundwater or surface water quality standards.

Maintenance Standards

Containers shall be checked for holes in the liner daily during concrete pours and repaired the same day.

BMP C220: Storm Drain Inlet Protection

Purpose To prevent coarse sediment from entering drainage systems prior to permanent stabilization of the disturbed area.

Conditions of Use Where storm drain inlets are to be made operational before permanent stabilization of the disturbed drainage area. Protection should be provided for all storm drain inlets downslope and within 500 feet of a disturbed or construction area, unless the runoff that enters the catch basin will be conveyed to a sediment pond or trap. Inlet protection may be used anywhere to protect the drainage system. It is likely that the drainage system will still require cleaning.

Table 4.9 lists several options for inlet protection. All of the methods for storm drain inlet protection are prone to plugging and require a high frequency of maintenance. Drainage areas should be limited to 1 acre or less. Emergency overflows may be required where stormwater ponding would cause a hazard. If an emergency overflow is provided, additional end-of-pipe treatment may be required.

Table 4.9
Storm Drain Inlet Protetion

Type of Inlet Protection	Emergency Overflow	Applicable for Paved/ Earthen Surfaces	Conditions of Use
Drop Inlet Protection			
Excavated drop inlet protection	Yes, temporary flooding will occur	Earthen	Applicable for heavy flows. Easy to maintain. Large area Requirement: 30' X 30'/acre
Block and gravel drop inlet protection	Yes	Paved or Earthen	Applicable for heavy concentrated flows. Will not pond.
Gravel and wire drop inlet protection	No		Applicable for heavy concentrated flows. Will pond. Can withstand traffic.
Catch basin filters	Yes	Paved or Earthen	Frequent maintenance required.
Curb Inlet Protection			
Curb inlet protection with a wooden weir	Small capacity overflow	Paved	Used for sturdy, more compact installation.
Block and gravel curb inlet protection	Yes	Paved	Sturdy, but limited filtration.
Culvert Inlet Protection			
Culvert inlet sediment trap			18 month expected life.

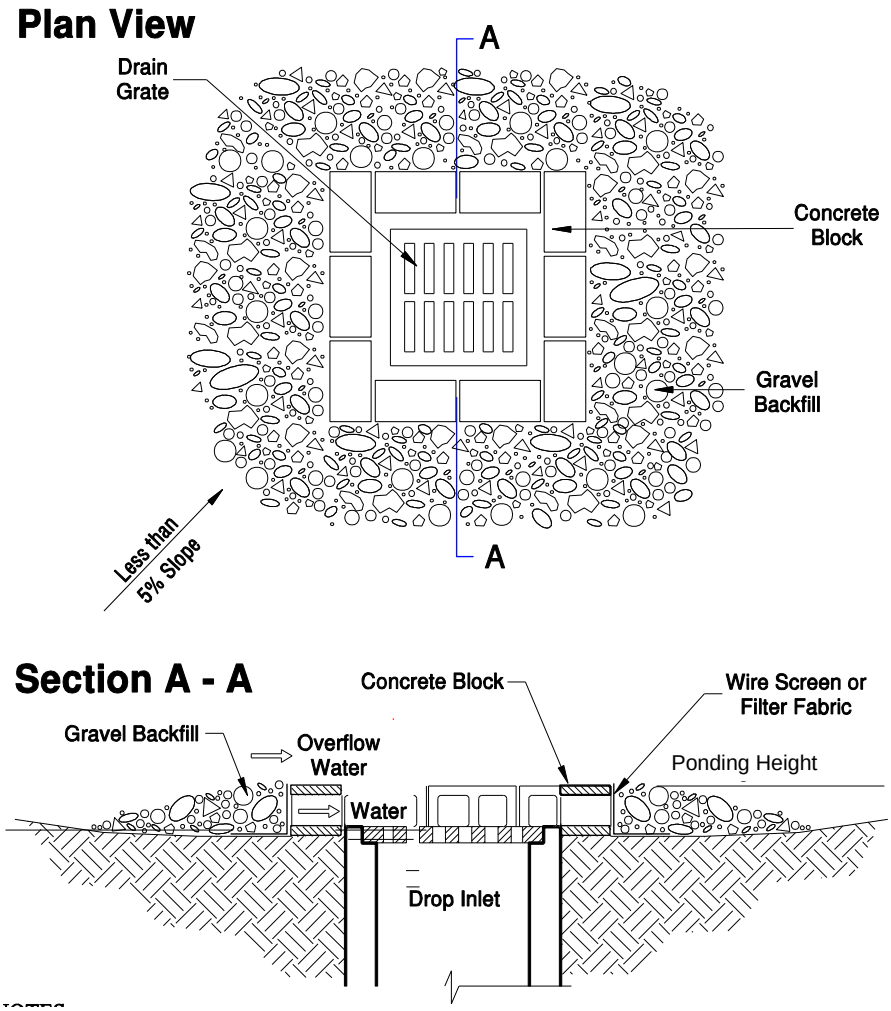
Design and Installation Specifications

Excavated Drop Inlet Protection - An excavated impoundment around the storm drain. Sediment settles out of the stormwater prior to entering the storm drain.

- Depth 1-2 ft as measured from the crest of the inlet structure.
- Side Slopes of excavation no steeper than 2:1.
- Minimum volume of excavation 35 cubic yards.
- Shape basin to fit site with longest dimension oriented toward the longest inflow area.
- Install provisions for draining to prevent standing water problems.
- Clear the area of all debris.
- Grade the approach to the inlet uniformly.
- Drill weep holes into the side of the inlet.
- Protect weep holes with screen wire and washed aggregate.
- Seal weep holes when removing structure and stabilizing area.
- It may be necessary to build a temporary dike to the down slope side of the structure to prevent bypass flow.

Block and Gravel Filter - A barrier formed around the storm drain inlet with standard concrete blocks and gravel. See Figure 4.14.

- Height 1 to 2 feet above inlet.
- Recess the first row 2 inches into the ground for stability.
- Support subsequent courses by placing a 2x4 through the block opening.
- Do not use mortar.
- Lay some blocks in the bottom row on their side for dewatering the pool.
- Place hardware cloth or comparable wire mesh with ½-inch openings over all block openings.
- Place gravel just below the top of blocks on slopes of 2:1 or flatter.
- An alternative design is a gravel donut.
- Inlet slope of 3:1.
- Outlet slope of 2:1.
- 1-foot wide level stone area between the structure and the inlet.
- Inlet slope stones 3 inches in diameter or larger.
- Outlet slope use gravel ½- to ¾-inch at a minimum thickness of 1-foot.



Notes:
1. Drop inlet sediment barriers are to be used for small, nearly level drainage areas. (less than 5%)
2. Excavate a basin of sufficient size adjacent to the drop inlet.
3. The top of the structure (ponding height) must be well below the ground elevation downslope to prevent runoff from bypassing the inlet. A temporary dike may be necessary on the dowslope side of the structure.

Figure 4.14 – Block and Gravel Filter

Gravel and Wire Mesh Filter - A gravel barrier placed over the top of the inlet. This structure does not provide an overflow.

- Hardware cloth or comparable wire mesh with ½-inch openings.
- Coarse aggregate.
- Height 1-foot or more, 18 inches wider than inlet on all sides.
- Place wire mesh over the drop inlet so that the wire extends a minimum of 1-foot beyond each side of the inlet structure.
- If more than one strip of mesh is necessary, overlap the strips.
- Place coarse aggregate over the wire mesh.

- The depth of the gravel should be at least 12 inches over the entire inlet opening and extend at least 18 inches on all sides.

Catchbasin Filters - Inserts should be designed by the manufacturer for use at construction sites. The limited sediment storage capacity increases the amount of inspection and maintenance required, which may be daily for heavy sediment loads. The maintenance requirements can be reduced by combining a catchbasin filter with another type of inlet protection. This type of inlet protection provides flow bypass without overflow and therefore may be a better method for inlets located along active rights-of-way.

- 5 cubic feet of storage.
- Dewatering provisions.
- High-flow bypass that will not clog under normal use at a construction site.
- The catchbasin filter is inserted in the catchbasin just below the grating.

Curb Inlet Protection with Wooden Weir – Barrier formed around a curb inlet with a wooden frame and gravel.

- Wire mesh with ½-inch openings.
- Extra strength filter cloth.
- Construct a frame.
- Attach the wire and filter fabric to the frame.
- Pile coarse washed aggregate against wire/fabric.
- Place weight on frame anchors.

Block and Gravel Curb Inlet Protection – Barrier formed around an inlet with concrete blocks and gravel. See Figure 4.14.

- Wire mesh with ½-inch openings.
- Place two concrete blocks on their sides abutting the curb at either side of the inlet opening. These are spacer blocks.
- Place a 2x4 stud through the outer holes of each spacer block to align the front blocks.
- Place blocks on their sides across the front of the inlet and abutting the spacer blocks.
- Place wire mesh over the outside vertical face.
- Pile coarse aggregate against the wire to the top of the barrier.

Curb and Gutter Sediment Barrier – Sandbag or rock berm (riprap and aggregate) 3 feet high and 3 feet wide in a horseshoe shape. See Figure 4.16.

- Construct a horseshoe shaped berm, faced with coarse aggregate if

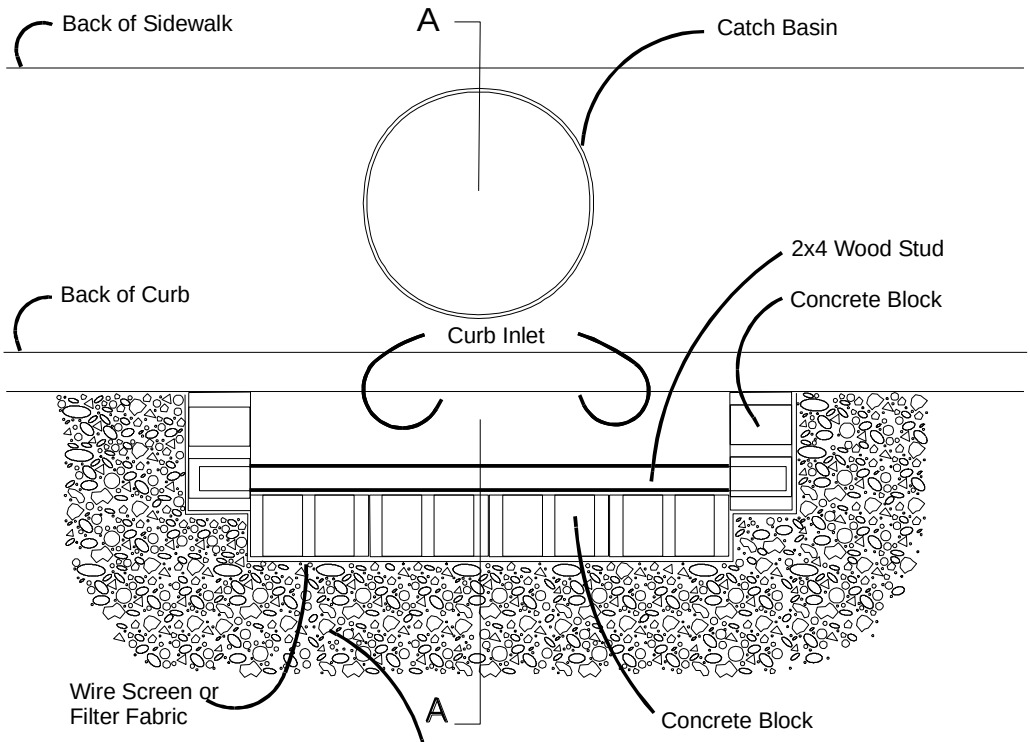
using riprap, 3 feet high and 3 feet wide, at least 2 feet from the inlet.

- Construct a horseshoe shaped sedimentation trap on the outside of the berm sized to sediment trap standards for protecting a culvert inlet.

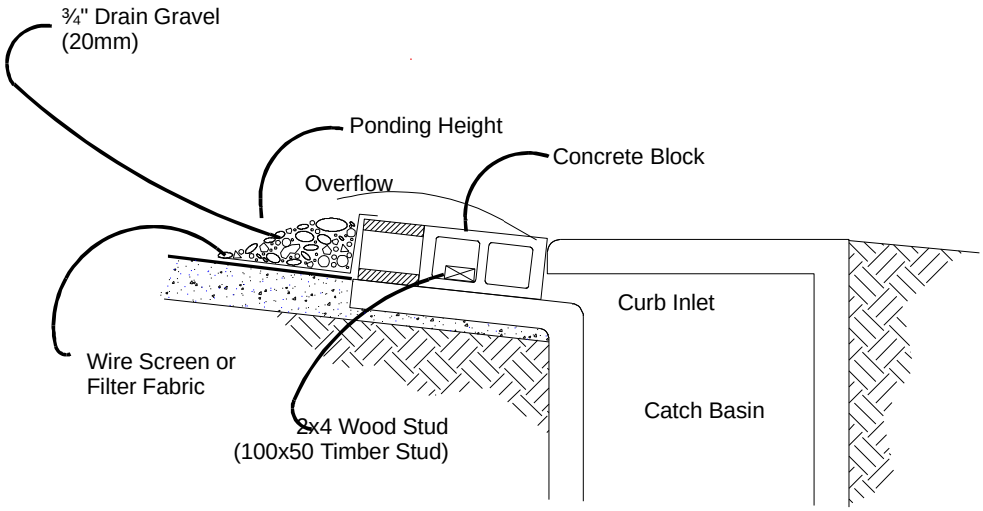
Maintenance Standards

- Catch basin filters should be inspected frequently, especially after storm events. If the insert becomes clogged, it should be cleaned or replaced.
- For systems using stone filters: If the stone filter becomes clogged with sediment, the stones must be pulled away from the inlet and cleaned or replaced. Since cleaning of gravel at a construction site may be difficult, an alternative approach would be to use the clogged stone as fill and put fresh stone around the inlet.
- Do not wash sediment into storm drains while cleaning. Spread all excavated material evenly over the surrounding land area or stockpile and stabilize as appropriate.

Plan View



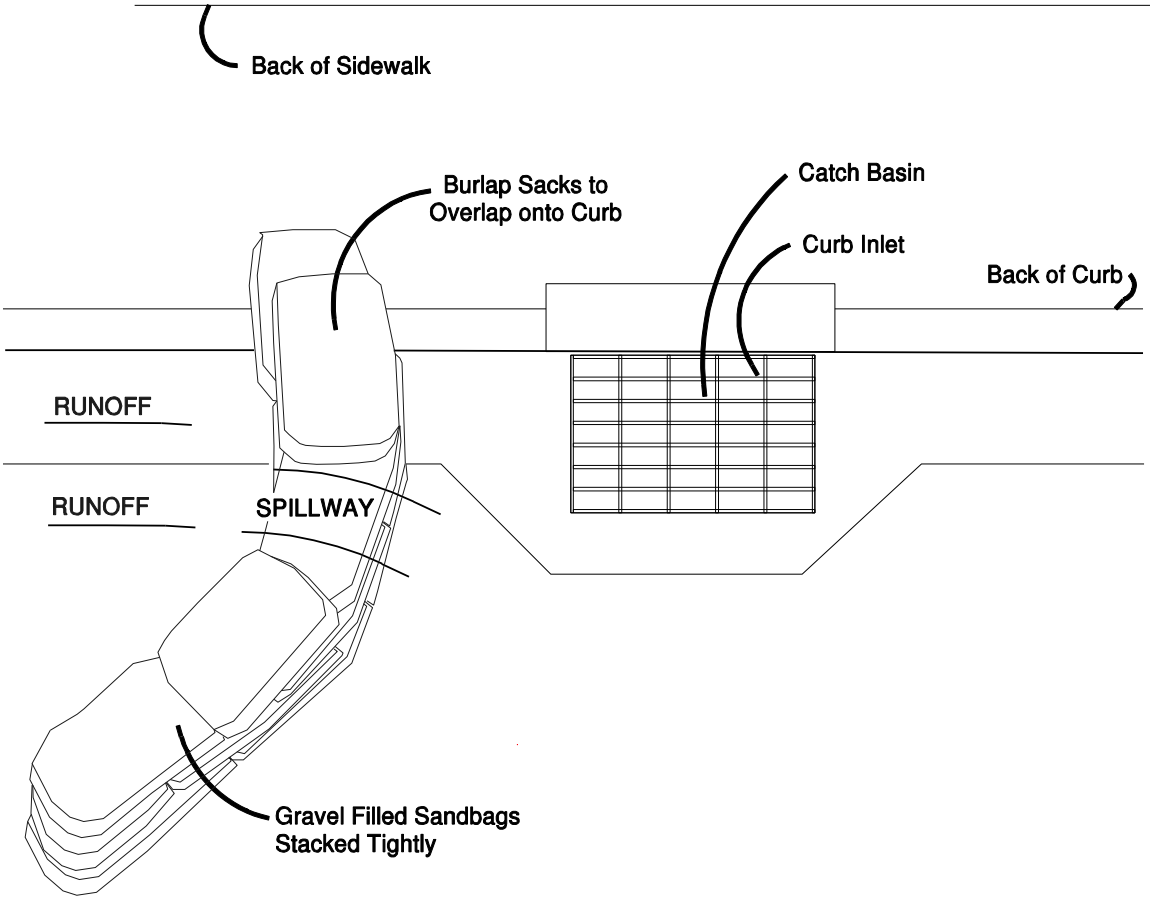
Section A - A



NOTES:
1. Use block and gravel type sediment barrier when curb inlet is located in gently sloping street segment, where water can pond and allow sediment to separate from runoff.
2. Barrier shall allow for overflow from severe storm event.
3. Inspect barriers and remove sediment after each storm event. Sediment and gravel must be removed from the traveled way immediately.

Figure 4.15 – Block and Gravel Curb Inlet Protection

Plan View



NOTES:
1. Place curb type sediment barriers on gently sloping street segments, where water can pond and allow sediment to separate from runoff.
2. Sandbags of either burlap or woven `geotextile' fabric, are filled with gravel, layered and packed tightly.
3. Leave a one sandbag gap in the top row to provide a spillway for overflow.
4. Inspect barriers and remove sediment after each storm event. Sediment and gravel must be removed from the traveled way immediately.

Figure 4.16 – Curb and Gutter Barrier

BMP C152: Sawcutting and Surfacing Pollution Prevention

Purpose

Sawcutting and surfacing operations generate slurry and process water that contains fine particles and high pH (concrete cutting), both of which can violate the water quality standards in the receiving water. This BMP is intended to minimize and eliminate process water and slurry from entering waters of the State.

Conditions of Use

Anytime sawcutting or surfacing operations take place, these management practices shall be utilized. Sawcutting and surfacing operations include, but are not limited to, the following:

- Sawing
- Coring
- Grinding
- Roughening
- Hydro-demolition
- Bridge and road surfacing

Design and Installation Specifications

- Slurry and cuttings shall be vacuumed during cutting and surfacing operations.
- Slurry and cuttings shall not remain on permanent concrete or asphalt pavement overnight.
- Slurry and cuttings shall not drain to any natural or constructed drainage conveyance.
- Collected slurry and cuttings shall be disposed of in a manner that does not violate groundwater or surface water quality standards.
- Process water that is generated during hydro-demolition, surface roughening or similar operations shall not drain to any natural or constructed drainage conveyance and shall be disposed of in a manner that does not violate groundwater or surface water quality standards.
- Cleaning waste material and demolition debris shall be handled and disposed of in a manner that does not cause contamination of water. If the area is swept with a pick-up sweeper, the material must be hauled out of the area to an appropriate disposal site.

Maintenance Standards

Continually monitor operations to determine whether slurry, cuttings, or process water could enter waters of the state. If inspections show that a violation of water quality standards could occur, stop operations and immediately implement preventive measures such as berms, barriers, secondary containment, and vacuum trucks.

BMP C235: Straw Wattles

Purpose

Straw wattles are temporary erosion and sediment control barriers consisting of straw that is wrapped in biodegradable tubular plastic or similar encasing material. They reduce the velocity and can spread the flow of rill and sheet runoff, and can capture and retain sediment. Straw wattles are typically 8 to 10 inches in diameter and 25 to 30 feet in length. The wattles are placed in shallow trenches and staked along the contour of disturbed or newly constructed slopes. See Figure 4.21 for typical construction details.

Conditions of Use

- Disturbed areas that require immediate erosion protection.
- Exposed soils during the period of short construction delays, or over winter months.
- On slopes requiring stabilization until permanent vegetation can be established.
- Straw wattles are effective for one to two seasons.
- If conditions are appropriate, wattles can be staked to the ground using willow cuttings for added revegetation.
- Rilling can occur beneath wattles if not properly entrenched and water can pass between wattles if not tightly abutted together.

Design Criteria

- It is critical that wattles are installed perpendicular to the flow direction and parallel to the slope contour.
- Narrow trenches should be dug across the slope on contour to a depth of 3 to 5 inches on clay soils and soils with gradual slopes. On loose soils, steep slopes, and areas with high rainfall, the trenches should be dug to a depth of 5 to 7 inches, or 1/2 to 2/3 of the thickness of the wattle.
- Start building trenches and installing wattles from the base of the slope and work up. Excavated material should be spread evenly along the uphill slope and compacted using hand tamping or other methods.
- Construct trenches at contour intervals of 3 to 30 feet apart depending on the steepness of the slope, soil type, and rainfall. The steeper the slope the closer together the trenches.
- Install the wattles snugly into the trenches and abut tightly end to end. Do not overlap the ends.
- Install stakes at each end of the wattle, and at 4-foot centers along entire length of wattle.
- If required, install pilot holes for the stakes using a straight bar to drive holes through the wattle and into the soil.
- At a minimum, wooden stakes should be approximately 3/4 x 3/4 x 24 inches. Willow cuttings or 3/8-inch rebar can also be used for stakes.

Maintenance Standards

- Stakes should be driven through the middle of the wattle, leaving 2 to 3 inches of the stake protruding above the wattle.
- Wattles may require maintenance to ensure they are in contact with soil and thoroughly entrenched, especially after significant rainfall on steep sandy soils.
- Inspect the slope after significant storms and repair any areas where wattles are not tightly abutted or water has scoured beneath the wattles.

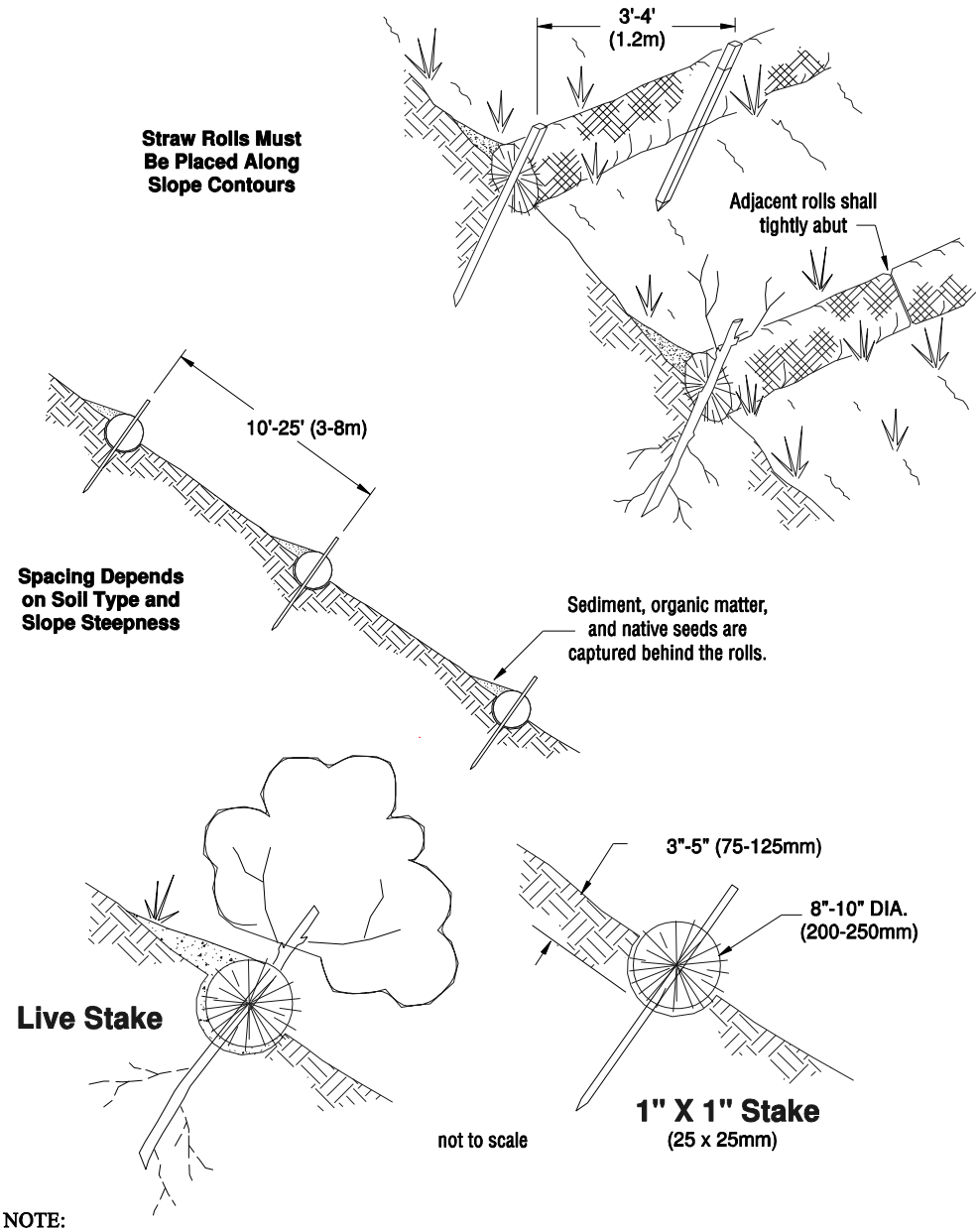


Figure 4.21 – Straw Wattles

GENERAL NOTES

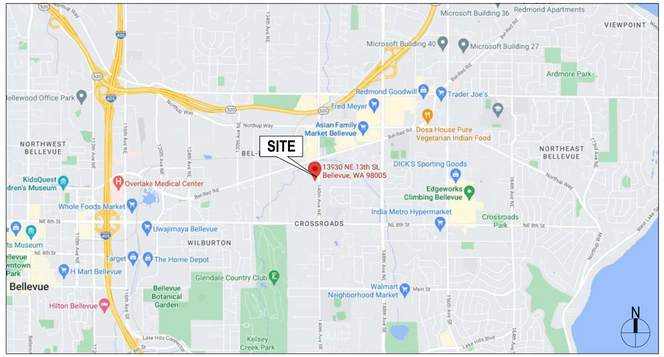
1. Contractor shall comply with the building codes as noted on drawings.
2. Contractor shall be responsible for providing all work and materials in accordance with all applicable city, county, and local building and fire codes as required.
3. Contractor shall obtain and pay for all necessary permits other than the building permit. Additionally, pay for all other charges, fees or costs associated with the work and charged by the municipality, utilities, or private companies
4. Contractor shall visit job site and verify all existing conditions and field dimensions prior to commencing work. Notify Architect if site conditions and/or Building Department require any modifications to these drawings.
5. Contractor is responsible for maintaining a safe and clean construction site.
6. Contractor is responsible for providing temporary bracing as required until all permanent structural assemblies and connections are secured.
7. Contractor shall establish an agreement with the Owner regarding allowable days and hours of work. Contractor shall not permit any construction activity to commence, or allow employees to cause noise on site, outside of the agreed-upon work periods.
8. Contractor shall coordinate all equipment or systems to be salvaged and given to the Owner, with the Owner. The Owner shall direct the Contractor as to the location of a storage area for salvaged items. The Contractor will be responsible for removing from the building and the construction site all construction debris and/or items not retained by the owner's representative.
9. No storage or use of flammable or combustible liquids, torch cutting or welding operations, open flame work, grinding that produces sparks, roofing operations, or use of flammable gas for temporary heating or drying shall be conducted on any construction site without first having obtained a specific permit from the City Fire Department for these hazardous activities. This includes demolition work. Please call the Fire Department permit information and application.
10. Egress, separation, fire protection systems, and emergency access shall meet the requirements of 2018 International Fire Code (IFC) chapter 33 during construction. Contractor materials and activities shall not block any exit, restrict emergency access, or impair fire separation in any building while the building is occupied. This includes demolition work and also applies to neighboring areas, spaces, and buildings.
11. The existing fire safety (fire alarm/sprinkler) system(s) shall remain online in the building(s) during the remediation project.
12. Deferred submittals may be required for any modification of the existing fire sprinkler and/or fire alarm system(s). Any and all proposed modifications must meet NFPA 13 and Municipal Code requirements.
13. If any of the fire safety (fire alarm/sprinkler) systems are offline during the course of the project, then a fire watch shall be posted while the system(s) are offline.

EXISTING BUILDING CODE

Existing Building Code Compliance: The work shall be in accordance with 2018 International Existing Building Code (IEBC), Chapter 7 & 8.

CONSTRUCTION TYPE (assumed): Type V-B per 2018 IBC.

VICINITY PLAN

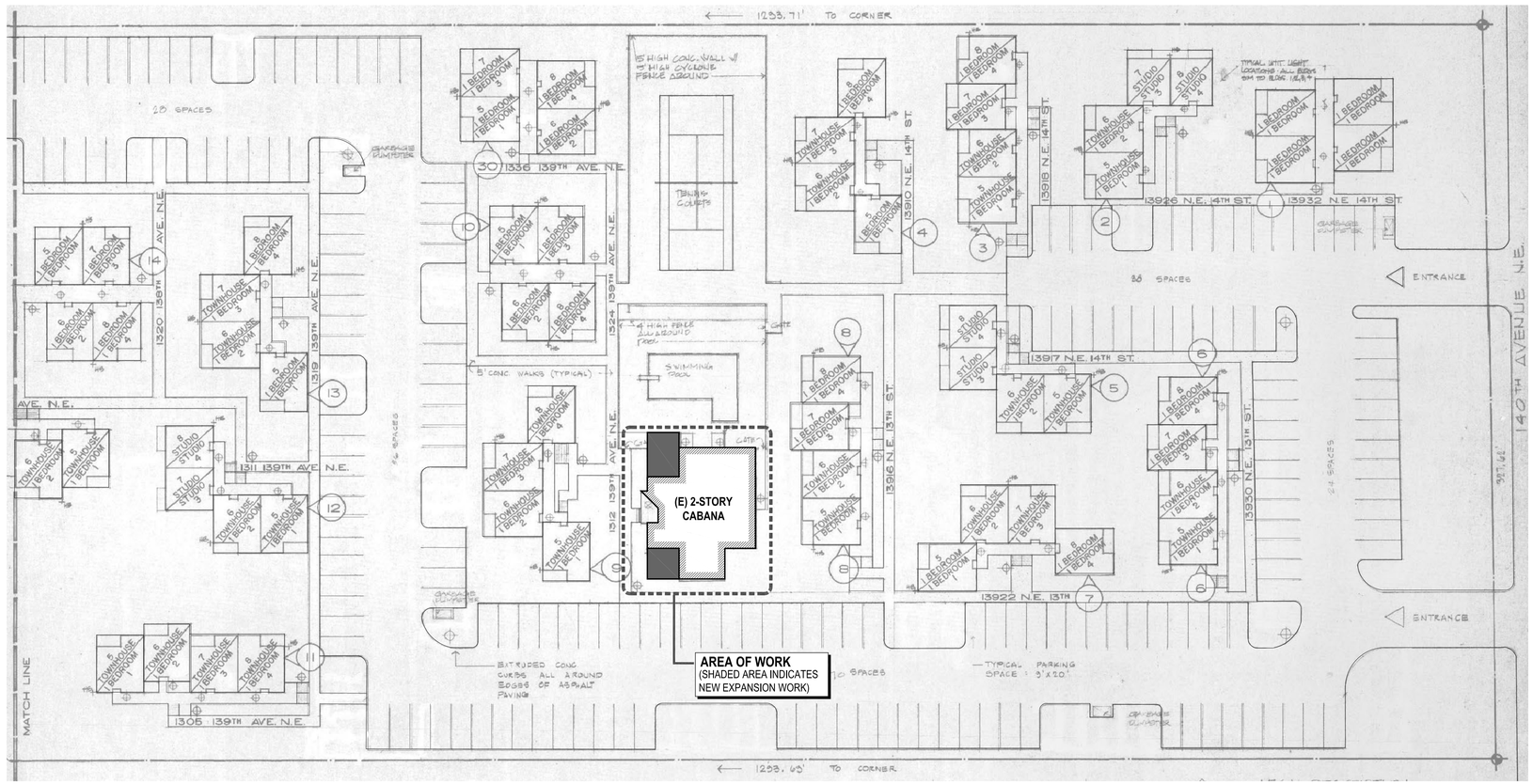


PROJECT DATA

PROJECT DESCRIPTION: Proposed office (183 SF) addition to the South of the existing cabana, which includes new entry door and new windows. Proposed new garage(265 SF) addition to the North of the existing cabana, which includes new roll-up door and man door.

PROPERTY ADDRESS:	1312 139th Ave NE Bellevue, WA 98005
PARCEL NUMBER:	272505-9014
LEGAL DESCRIPTION:	N 1/2 OF S 1/2 OF NE 1/4 OF SW 1/4 CO RD LESS
Q-S-T-R:	SW-27-25-5
LOT SIZE:	424,473 sq. ft. (9.74 Acres)
YEAR BUILT:	1974
BUILDINGS:	30 (no change)
DWELLING UNITS:	224 (no change)
STORIES:	2 (no change)
ZONING:	R-20 (no change)
USE:	Multiple Family (Low-Rise) (352) (no change)
JURISDICTION:	City of Bellevue
CLASS:	V - Wood Frame (no change)

SHEET INDEX



1 **SITE PLAN (FOR REFERENCE ONLY)**
SCALE: 1" = 30' - 0"

N

PROJECT TEAM

CLIENT / OWNER
KING COUNTRY HOUSING AUTHORITY (Main office)
600 Andover Park W.
Tukwila, WA 98188
t - 206.574.1100
f - 206.574.1104

ARCHITECT
KILBURN ARCHITECTS, LLC
135 Lake Street South, Suite 250
Kirkland, WA 98033
contact: H Todd Kilburn, AIA
todd@kilburnarchitects.com
t - 206.682.5211

STRUCTURAL ENGINEER
DIBBLE ENGINEERS, INC.
1029 Market St #200
Kirkland, WA 98033
contact: Robb Dibble, PE
robb@dibbleengineers.com
t - 425.828.4200

GENERAL CONTRACTOR
TBD

BUILDING ENCLOSURE DOCS. STATEMENT

The undersigned has provided building enclosure documents that in my professional judgment are appropriate to satisfy the requirements of RCW 64.55.005 through 64.55.090.

7302 REGISTERED ARCHITECT
H. TODD KILBURN
STATE OF WASHINGTON

BUILDING ENCLOSURE INSPECTOR

Kilburn Architects, LLC will fulfill the role of the qualified building enclosure inspector required per RCW 64.55.03 statement below:

"All multiunit residential buildings shall have the building enclosure inspected by a qualified inspector during the course of initial construction and during rehabilitative construction."

KILBURN
ARCHITECTS LLC

135 Lake Street South
Suite 250
Kirkland, WA 98033

Tel: 206.682.5211
Fax: 206.682.1403

www.kilburnarchitects.com

7302 REGISTERED ARCHITECT
H. TODD KILBURN
STATE OF WASHINGTON

Sandpiper East -

New Garage & New Office Addition to Cabana

1312 139th Ave NE
Bellevue, WA 98005

Release	Date
permit	11. 2. 2022

Cover and Site Plan

A-0.1

INSTRUCTIONS TO BIDDERS

1.0 BIDDER RESPONSIBILITY CRITERIA

A. It is the intent of Owner to award a contract to a responsible bidder submitting the lowest responsive bid. Before award, the bidder must meet the following bidder responsibility criteria to be considered a responsible bidder. The bidder may be required by the Owner to submit documentation demonstrating compliance with the criteria. The bidder must:

1. Have a current certificate of registration as a contractor in compliance with chapter 18.27 RCW, which must have been in effect at the time of bid submittal;
2. Have a current Washington Unified Business Identifier (UBI) number;
3. If applicable, have industrial insurance coverage for the bidder's employees working in Washington as required in Title 51 RCW; an employment security department number as required in Title 50 RCW; and a state excise tax registration number as required in Title 82 RCW;
4. Not be disqualified from bidding on any public works contract under RCW 39.06.010 or 39.12.065(3);
5. Have received training on the requirements related to public works and prevailing wage under chapter 39.04.350 RCW and chapter 39.12 RCW or be listed as exempt by the department of labor and industries on its website; and
6. Within the three-year period immediately preceding the date of the bid solicitation, not have been determined by a final and binding citation and notice of assessment issued by the department of labor and industries or through a civil judgment entered by a court of limited or general jurisdiction to have willfully violated, as defined in RCW 49.48.082, any provision of chapter 49.46, 49.48, or 49.52 RCW;
7. Before award of a public works contract, a bidder shall submit to the contracting agency a signed statement in accordance with RCW 9A.72.085 verifying under penalty of perjury that the bidder is in compliance with the responsible bidder criteria requirement of subsection A, 6 of this section.

1.1 SUBCONTRACTOR RESPONSIBILITY

A. The Contractor shall include the language of this section in each of its first tier subcontracts, and shall require each of its subcontractors to include the same language of this section in each of their subcontracts, adjusting only as necessary the terms used for the contracting parties. Upon request of the Owner, the Contractor shall promptly provide documentation to the Owner demonstrating that the subcontractor meets the subcontractor responsibility criteria below. The requirements of this section apply to all subcontractors regardless of tier.

B. At the time of subcontract execution, the Contractor shall verify that each of its first tier subcontractors meets the following bidder responsibility criteria:

1. Have a current certificate of registration in compliance with chapter 18.27 RCW, which must have been in effect at the time of subcontract bid submittal;
2. Have a current Washington Unified Business Identifier (UBI) number;
3. If applicable, have:

    a. Have Industrial Insurance (workers' compensation) coverage for the subcontractor's employees working in Washington, as required in Title 51 RCW;
    b. A Washington Employment Security Department number, as required in Title 50 RCW;

c. A Washington Department of Revenue state excise tax registration number, as required in Title 82 RCW;
d. An electrical contractor license, if required by Chapter 19.28 RCW;
e. An elevator contractor license, if required by Chapter 70.87 RCW.

4. Not be disqualified from bidding on any public works contract under RCW 39.06.010 or 39.12.065 (3);
5. Have received training on the requirements related to public works and prevailing wage under chapter 39.04.350 RCW and chapter 39.12 RCW or be listed as exempt by the department of labor and industries on its website; and
6. Within the three-year period immediately preceding the date of the bid solicitation, not have been determined by a final and binding citation and notice of assessment issued by the department of labor and industries or through a civil judgment entered by a court of limited or general jurisdiction to have willfully violated, as defined in RCW 49.48.082, any provision of chapter 49.46, 49.48, or 49.52 RCW.

1.2 SUPPLEMENTAL BIDDER RESPONSIBILITY CRITERIA

A. RCW 39.04.350(2) specifically authorizes municipalities to adopt relevant supplement criteria for determining bidder responsibility applicable to a particular project which the bidder must meet.

B. For the work in this project a responsible/qualified Bidder must meet the following standards:

1. Have a current certificate of registration as a contractor, in compliance with chapter 18.27 RCW, for the last three years under the same business name;
2. Have a good record of past performance that includes, but is not limited to, high quality work, ability to complete projects on time, contractor's integrity, compliance with public policy, financial, contractual and tax obligations, as well as Federal and State rules and regulations in performing construction contracts.
3. Have a current Experience Modification Rate (EMR) of 1.0 or less, or an average EMR rate of 1.0 or less over the last three years. The requirement may, at the Owner's sole discretion, be waived on review of a written explanation that includes details of accidents, L&I records, a Loss Ratio Report for the last five years, costs, dates of events, and changes that have been made by the contractor to reduce accidents. A current company Safety Plan shall also be reviewed.
4. Bidder shall provide evidence of previous successful completion of new construction and addition projects, of similar scope and complexity. Poor performance, lack or response, or failure to complete projects successfully within the contract time may be grounds for the rejection of bidder.

C. Subcontractors shall have had three years minimum experience licensed in Washington State in the specific specialty contracting business.

1.3 PREPARATION OF BIDS – CONSTRUCTION

A. Bids must be submitted on the Bid Form furnished by the Owner.

B. All fields and questions on required forms must be fully answered and complete. Failure to do so may result in the bid being declared non-responsive.

C. Bidders shall acknowledge receipt of all addenda to this solicitation by inserting the addenda numbers in the space provided on the Bid Form. Failure to do so may result in the bid being declared non-responsive.

1. Bidder is responsible for checking KCHA's website for addenda prior to submitting bid.

D. In order for a bid to be considered responsive, bidders must submit the following signed documents with their bid package:

1. Bid Form
2. Bidder's Information Form
3. Bid Guarantee

E. The Bidder agrees to hold the base bid prices for sixty (60) days from date of bid opening.

1.4 BID GUARANTEE

A. A bid guarantee in the amount of 5% of the base bid amount is required. Failure of the bidder to provide bid guarantee shall render the bid non-responsive.

B. Acceptable forms of bid guarantee are: A bid bond or postal money order, or certified check or cashier's check made payable to King County Housing Authority.

C. The Owner will return bid guarantees (other than bid bonds) to unsuccessful bidders as soon as practicable, but not sooner than the execution of a contract with the successful bidder. The successful bidder's bid guarantee will be returned to the successful bidder with its official notice to proceed with the work of the contract.

1.5 AMENDMENTS TO INVITATION TO BID

A. If this solicitation is amended, then all terms and conditions which are not modified remain unchanged.

B. Bidders shall acknowledge receipt of all addenda to this solicitation by inserting the addenda numbers in the space provided on the Bid Form. Failure to do so may result in the bid being declared non-responsive.

1. Bidder is responsible for checking KCHA's website for addenda prior to submitting bid.
2. Addenda will not be issued later than three (3) calendar days before the deadline for receipt of Bids except Addendum withdrawing the request for Bids or extending the deadline for receipt of Bids.

1.6 PRE-BID MEETING

A. All potential bidders are strongly encouraged to attend. Oral statements may not be relied upon and will not be binding or legally effective.

1.7 EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE

A. Before submitting a bid, the Bidder shall carefully examine each component of the Contract Documents prepared for the Work and any other available supporting data so as to be thoroughly familiar with all the requirements.

B. The Bidder shall obtain copies of all agencies and associations guidelines and standards cited in the Contract Documents and necessary to perform the Work, including full size reproductions of material provided by Owner, at their own expense.

C. The Bidder shall make a thorough and reasonable examination of the project site, facility and conditions under which the Work is to be performed, including but not limited to: Building access; resident occupancy; fire lanes; landscaping; obstacles and character of materials which may be encountered; traffic conditions; public and private utilities; the availability and cost of labor; and available facilities for transportation, handling, and storage of materials and equipment.

1.8 EXPLANATION TO PROSPECTIVE BIDDERS

A. Any prospective bidder desiring an explanation or interpretation of the solicitation, drawings, specifications, etc., must submit a request in writing to the Owner seven (7) calendar days before the bid due date. Oral explanations or instructions given before the award of a contract will not be binding. Questions shall be submitted to:

Michelle Jackson
King County Housing Authority
600 Andover Park W
Seattle, WA 98188
Email: MichelleJ@kcha.org

1.9 PREVAILING WAGES

A. Contractor shall pay no less than the Washington State Department of Labor and Industries (L&I) prevailing rate of wages to all workers, laborers, or mechanics employed in the performance of any part of the Work in accordance with RCW 39.12 and the rules and regulations of L&I. The schedule of prevailing wage rates for the locality or localities of the Work is determined by the Industrial Statistician of L&I. It is the Contractor's responsibility to verify the applicable prevailing wage rate.

1. L&I prevailing wage rates may be found at https://lni.wa.gov/licensing-permits/public-works-projects/prevailing-wage-rates/
2. The Owner has determined that the work does not meet the definition of residential construction.
3. The prevailing wage rates publication date is determined by the bid due date.
4. The work is to be performed in King County.
5. A copy of the prevailing wage rates is available at KCHA.
6. A copy of the prevailing wage rates may be mailed on request.

1.10 TAXES

A. All taxes imposed by law shall be included in the bid amount. The Contractor shall pay the WSST to the Department of Revenue and shall furnish proof of payment to the Owner if requested.

B. The retail sales tax does not apply to the gross contract price.

C. Prime and subcontractors are required to pay retail sales tax upon all purchases of materials, including prefabricated and precast items, equipment, leases or rentals of tools, consumables, and other tangible personal property which is installed, applied, attached, or otherwise incorporated in their work.

1.11 INSURANCE

Must, for the duration of the contract, procure and maintain Builders Risk insurance as stated in Part 2 of the General Conditions. This shall be in addition to General Liability and Automobile Liability Coverage.

1.12 ASSURANCE OF COMPLETION

A. Payment and performance bonds for 100% of the Contract Sum, including all Change Orders and taxes imposed by law, shall be furnished for the Work, and shall be in a form acceptable to the Owner.

1.13 BID ERROR

A. In the event Bidder discovers an error in its bid, the Bidder may, under certain conditions and if before the date and time that bids are due, modify, their bid, as detailed below:

1. Prior to Date and Time Bids are Due:

a. A Bidder may withdraw its bid at any time prior to the date and time bids are due upon written request.
b. After withdrawing an original submitted bid, a Bidder may modify and resubmit its bid at any time prior to the date and time bids are due.

2. After the Date and Time Bids are Due:

a. A bidder who submits an erroneous low bid may withdraw the bid. The bid withdrawal is permissible if there was an obvious error in the low bid, and the mistake is readily apparent from the bid itself.
b. Notification: Provide to the Owner, within 24 hours of bid opening, written notification of the bidder's intent to withdraw the bid due to error.
c. Documentation: Provide to the Owner within 48 hours of bid opening, documentation sufficient in content to justify bid withdrawal to the satisfaction of the Owner. Include description and evidence of the error.
d. Approval: the Owner will approve or reject the request for withdrawal in writing.
e. Any low bidder who withdraws its bid is prohibited from bidding on the same project if it is subsequently re-solicited.

1.14 ADDITIVE OR DEDUCTIVE BID ITEMS

A. The low bid, for purposes of award, shall be the lowest responsive bid from a qualified responsible bidder offering the low aggregate amount for the base bid, plus additive or deductive bid alternates selected by the Owner.

1.15 BID EVALUATION

A. Responsive Bids: A bid will be considered responsive if it meets the conditions of the solicitation, in addition to but not limited to the following requirements:

1. Bid is received not later than the time and date specified.
2. Bid is submitted in the proper format on the form(s) provided.
3. Bid includes the complete scope of work as defined in bid package.
4. Bid does not include any exclusions or qualifications.
5. Bid includes Unit and Lump Sum Costs as listed in Proposal Form.
6. Forms are complete.

B. After bid opening, bids will be checked for correctness of bid item prices, extensions and the total bid price. Discrepancies shall be resolved by accepting the bid item prices and the corrected extensions and total bid price.

C. Responsible Bidders: the Owner will award contracts only to responsible bidders who demonstrate the ability to successfully perform under the terms and conditions as set forth in the Contract Documents and have successfully completed projects similar in scope and complexity.

1. Bidders must demonstrate relevant experience on similar types of projects and submit detailed information as required on the Bidder Information Form.

D. The Owner reserves the right to contact references and investigate past performance and qualifications of the Bidder, subcontractor, and project team members, including contacting third parties and/or the references provided by the Bidder.

1. The Owner may contact references for other projects including those the Bidder did not identify and/or provided references.
2. References may be asked to rate the performance of and describe their experience with project team members and subcontractors. Bidder Information may be solicited and evaluated on the following subjects: type and features of work; overall quality of project performance and quality of work; experience and technical knowledge and competence of the Bidder and Project Team Members; ability, capacity and skill to perform the Work; ability to manage submittals, requests for information, prevailing wage filings, and other paperwork; compliance with laws, ordinances, and contract provisions; and other information as deemed necessary.
3. Poor reference(s) may be justification to determine a Bidder is not responsible.

E. At the Owner's request, provide any additional explanation or information, which would assist in evaluating the qualifications of the Bidder, subcontractors, project team members, and bid price.

F. The Owner will verify information submitted and if the lowest bidder is determined to be “not responsible,” the Owner will issue, in writing, the specific reasons for this determination. The bidder may appeal this decision. The appeal must be in writing and shall be delivered to the

Owner within two business days. The appeal may include additional information that was not included in the original bid documents. KCHA will make a final determination after the receipt of the appeal. The final determination may not be appealed.

1.16 CONTRACT AWARD

A. Bonding and Insurance: Contract award will be contingent on ability to secure payment/performance bonding, and Contractor's ability to meet the Owner insurance requirements as detailed in the Bid Documents.

B. Must, for the duration of the contract, procure and maintain Builders Risk insurance as stated in Part 2 of the General Conditions. This shall be in addition to General Liability, Automobile Liability, and Professional Liability/Errors and Omissions (if applicable) Coverage.

C. Bonding, insurance certificate with endorsements, and an approved Statement of Intent to Pay Prevailing Wages shall be submitted to the Owner within 14 days of contract award. A Notice to Proceed shall be issued immediately after receipt.

D. Right to Reject Bids/Waiver: The Owner reserves the right to reject any or all bids or to waive any informalities or irregularities in the bidding.

E. Retainage Funds: The Owner will not pay interest to the Contractor for accounts where retainage funds are maintained by the Owner. As part of the procurement by which the Contractor was selected for this work, the Contractor agrees to waive any other options and has made allowances for this waiver.

GENERAL CONDITIONS

PART 1 - GENERAL PROVISIONS

1.1 DEFINITIONS

A. “Authority Having Jurisdiction (AHJ)”: A federal, state, local, or other regional department, or an individual such as a fire official, labor department, health department, building official, or other individual having statutory authority.

B. "Contract Documents" means the Instructions to Bidders, Specifications, Plans, General Conditions, Prevailing Wage Rates, Bid Form, Contract Form, other Special Forms, Drawings and Specifications, and all Addenda and modifications thereof.

C. "Contract Sum" is the total amount payable by Owner to Contractor for performance of the Work in accordance with the Contract Documents.

D. "Contract Time" is the number of consecutive Days allotted in the Contract Documents for achieving completion of the Work.

E. "Contracting Officer" means the person delegated the authority by King County Housing Authority to enter into, and/or terminate this Contract. The term includes any successor Contracting Officer and any duly authorized representative of the Contracting Officer.

F. "Contractor" means the person or other entity entering into the Contract with King County Housing Authority to perform all of the services or work required under the Contract.

G. "Day" means calendar day, unless otherwise specified.

H. "Final Acceptance" means the acceptance by Owner that the Contractor has completed the requirements of the Contract Documents.

I. "Force Majeure" means those acts entitling Contractor to request an equitable adjustment in the Contract Time, including, but not limited to, unusually severe weather conditions which could not have been reasonably anticipated.

J. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

K. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

L. "Liquidated Damages" means the amount prescribed in the Contract Documents to be deducted from any payments due or to become due Contractor, for each day's delay in completion of the Work beyond the time allowed in the Contract Documents as stated in the Notice to Proceed, plus any extensions of such time.

M. "Manager" means the person who is an authorized agent of the King County Housing Authority to administer the Contract.

N. "Notice to Proceed" means a notice from Owner to Contractor that defines the date on which the Contract Time begins to run.

O. "Owner" means the King County Housing Authority or its authorized representative with the authority to enter into, administer, and/or terminate the Work in accordance with the Contract Documents and make related determinations and findings.

P. "Property Manager" means the property management company, its officers and employees.

Q. "Provide": Furnish and install, complete and ready for the intended use.

R. "Subcontract" means any contract, purchase order, or other purchase agreement, including modifications and change orders to the foregoing, entered into by a Subcontractor to furnish supplies, materials, equipment, and services for the performance of the prime Contract or a subcontract.

S. "Subcontractor" means any supplier, vendor, or firm that furnishes supplies, materials, equipment, or services to or for the Contractor or another Subcontractor.

T. "Work" means the construction and services required by the Contract Documents, and includes, but is not limited to, labor, materials, supplies, equipment, services, permits, and the manufacture and fabrication of components, performed, furnished, or provided in accordance with the Contract Documents.

1.2 EXECUTION AND INTENT

A. The intent of the Specifications and Drawings is to describe a complete Project to be constructed in accordance with the Contract Documents. Contractor shall furnish all labor, materials, equipment, tools, transportation, permits, and supplies, and perform the Work required in accordance with the Contract Documents.

B. All work is to be executed in accordance with the Building Codes, as adopted by the Authority Having Jurisdiction, and other applicable codes and generally accepted industry standards. All products and materials are to be new and handled and applied in accordance with the manufacturer's recommendations.

C. Contractor makes the following representations to Owner:

1. The Contract Sum is reasonable compensation for the Work and the Contract Time is adequate for the performance of the Work, as represented by the Contract Documents;
2. Contractor has carefully reviewed the Contract Documents, had an opportunity to visit and examine the Project site, has become familiar with the local conditions in which the Work is to be performed, and has satisfied itself as to the nature, location, character, quality and quantity of the Work, the labor, materials, equipment, goods, supplies, work, permits, services and other items to be furnished and all other requirements of the Contract Documents, as well as the surface and subsurface conditions and other matters that may be encountered at the Project site or affect performance of the Work or the cost or difficulty thereof.

D. The Contract Documents are complementary. What is required by one part of the Contract Documents shall be binding as if required by all. Anything mentioned in the Specifications and not shown on the Drawings, or shown on the Drawings and not mentioned in the Specifications, shall be of like effect as if shown or mentioned in both.

PART 2 - INSURANCE AND BONDS

2.1 INSURANCE REQUIREMENTS FOR BUILDING TRADES CONTRACTORS

A. Contractor shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property that may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees or Subcontractors.

2.2 MINIMUM SCOPE OF INSURANCE

A. Contractors shall maintain coverages no less than:

1. Insurance Services Office Commercial General Liability coverage including Products/Completed Operations.
2. Insurance Services Office covering Automobile Liability, code 1 (any auto).
3. Workers' Compensation insurance as required by State law and Employer's Liability Insurance.
4. Builders Risk (Property / Course of Construction insurance covering for all risks of loss for all projects in excess of $250,000.00).

2.3 MINIMUM LIMITS OF INSURANCE

A. Contractor shall maintain limits no less than:

1. General Liability: $1,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit of $2,000,000.
2. Automobile Liability: $1,000,000 per accident for bodily injury and property damage.
3. Employer's Liability: $1,000,000 per accident for bodily injury/sickness or disease.
4. Builders Risk (Property) / Course of Construction: Completed value of project.

2.4 DEDUCTIBLES AND SELF INSURED RETENTION

A. Any deductibles or self-insured retentions must be declared to and approved by the Owner. At the option of the Owner, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the Owner, its officers, officials, employees and volunteers; or the Contractor shall provide a financial guarantee satisfactory to the Owner guaranteeing payment of losses and related investigations, claim administration and defense expenses. **NOTE: If this contract deals with hazardous materials or activities (i.e. lead based paint, asbestos, armed security guards) additional provisions covering those exposures must be included in order to protect the Owner's interests.**

2.5 OTHER INSURANCE PROVISIONS

A. The policies are to contain, or be endorsed to contain, the following provisions:

1. The Owner, the Property Manager, its officers, officials, employees, partners, agents and volunteers are to be covered as additional insureds under a "completed operations" type of additional insured endorsement with respect to general liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts or equipment furnished in connection with such work or operations. The endorsement(s) effectuating the foregoing additional insured coverage shall be ISO form CG 20 10 11 85, or CG 20 10 10 01 issued concurrently with CG 20 37 10 01, or their equivalent as long as it provides additional insured coverage, without limitation, for completed operations; (ii) automobile liability arising out of vehicles owned, leased, hired, or borrowed by or on behalf of the Contractor; (iii) any insurance written on a claims made basis, shall have a retroactive date that coincides with, or precede, the commencement of any work under this contract. Evidence of such coverage shall be maintained for a minimum of six (_6_) years beyond the expiration of the project.
2. King County will not accept Certificates of Insurance Alone. Improperly Completed Endorsements will be returned to your insured for correction by an authorized representative of the insurance company.
3. For any claims related to this project, the Contractor's insurance coverage shall be primary insurance as respects the Owner, its officers, officials, agents, partners, employees, and volunteers. Any insurance or self-insurance maintained or expired by the Owner, its officers, officials, agents, partners, employees, volunteers, or shall be excess of the Contractor's insurance and shall not contribute with it. King County Housing Authority's Insurance is Non-Contributory in Claims Settlement Funding.
4. The "General description of agreement(s) and/or activity(s) insured" shall include reference to the activity and/or to either specific King County Housing Authority's; project of site name, contract number, lease number, permit number or construction approval number.
5. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be canceled or materially changed, except after thirty (30) days' [ten (10) days for non-payment of premium] prior written notice by certified mail, return receipt requested, has been given to the Owner.
6. Maintenance of the proper insurance for the duration of the contract is a material element of the contract. Material changes in the required coverage or cancellation of the coverage shall constitute a material breach of the contract.
7. Builders Risk / Course of Construction policies shall contain the following provisions:

    a. The King County Housing Authority shall be named as loss payee.
    b. The insurer shall waive all rights of subrogation against the Owner and the Property Manager, its officers, officials, employees and volunteers.

2.6 ACCEPTABILITY OF INSURERS

A. Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A-:VII. The name of the Insurance Company underwriting the coverage and its address shall be noted on the endorsement form. Contractors must provide written verification of their insurer's rating.

2.7 VERIFICATION OF COVERAGE

A. Contractor shall furnish the Owner with original certificates and amendatory endorsements effecting coverage required by this clause. All certificates and endorsements are to be received and approved by the Owner before work commences in sufficient time to permit contractor to remedy any deficiencies. The Owner reserves the right to require complete, certified copies of all required insurance policies or pertinent parts thereof, including endorsements affecting the coverage required by these specifications at any time.

2.8 SUBCONTRACTORS

A. Subcontractors shall include the Contractor as additional insured under their policies. All coverage's for subcontractors shall be subject to all of the requirements stated herein. Contractor shall be responsible for the adequacy of required coverages for subcontractors, and compile related certificates of insurance and endorsements evidencing subcontractors' compliance.

2.9 PAYMENT AND PERFORMANCE BONDS

A. Payment and performance bonds for 100% of the Contract Award Amount shall be furnished for the Work, using the Payment Bond and Performance Bond form AIA – form A312. Change order increases of cumulative 15% increments require revisions to the bond to match the new Contract Sum.

PART 3 - PERFORMANCE

3.1 CONTRACTOR CONTROL AND SUPERVISION

A. Contractor shall be solely responsible for, and have control over construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the Work, and shall be responsible to Owner for acts and omissions of Contractor, Subcontractors, and their employees and agents.

B. Contractor shall enforce strict discipline and good order among Contractor's employees and other persons performing the Work. Contractor shall not permit employment of persons not skilled in tasks assigned to them. Owner may, by Notice, request Contractor to remove from the Work or Project site any employee Owner reasonably deems incompetent, careless, or otherwise objectionable.

C. The Contractor shall perform on the site, and with its own organization, work equivalent to at least 12% of the total amount of work to be performed under the contract.

D. Work Hours: The Contractor's allowable hours of operation shall be limited to those hours between 8:00 A.M. and 6:00 P.M. Monday to Friday excluding public holidays.

3.2 PERMITS, FEES, AND NOTICES

A. Unless otherwise provided in the Contract Documents, Contractor shall pay for and obtain all permits, licenses, and coordinate inspections necessary for proper execution and completion of the Work. Prior to final payment, the approved, signed permits shall be delivered to Owner.

3.3 PREVAILING WAGES

A. Statutes of the State of Washington RCW 39.12 as amended shall apply to this contract. Requirements, in brief, are stated below:

1. There shall be paid each laborer or mechanic of the Contractor or sub-Contractor engaged in work on the project under this contract in the trade or occupation listed in the schedule of Wage Rates, as determined by the Department of Labor and Industries, not less than the hourly wage rate listed therein, regardless of any contractual relationship which may be alleged to exist between the Contractor and any sub-contractor and such laborers and mechanics.
2. The "prevailing rate or wage" contained in the wage determination include health and welfare fund contributions and other fringe benefits collectively bargained for by the various management and labor organizations. Prevailing wages shall be paid based on the most recent semi-annual list as required by the Department of Labor and Industries (L&I).
3. In case any dispute arises as to what are the prevailing rates for wages of work of a similar nature, and such disputes cannot be resolved by the parties involved, including labor and management representatives, the matter shall be referred for arbitration to the Director of the Department of Labor and Industries of the State of Washington, and the Director's decision shall be final and conclusive and binding on all parties involved in the dispute.

B. Before commencing the Work, Contractor shall file a statement of "Intent to Pay Prevailing Wages."

C. After completion of the Work, Contractor shall file an "Affidavit of Wages Paid."

3.4 EQUAL EMPLOYMENT OPPORTUNITY

A. During performance of the Work:

1. Contractor shall not discriminate against any employee or applicant for employment because of race, creed, color, national origin, sex, age, marital status, the presence of any physical, sensory, or mental disability, sexual orientation, Vietnam-era veteran status, disabled veteran status or political affiliation, nor commit any unfair practices as defined in RCW 49.60.
2. The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, national origin, of any physical, sensory, or mental disability, sexual orientation, Vietnam-era veteran status, disabled veteran status, or political affiliation.
3. The Contractor shall give all notices and comply with all applicable laws, ordinances, rules, regulations and orders in regard to Equal Employment Opportunity including but not limited to Executive Order 11246, as amended, Section 503 of the Rehabilitation Act of 1973, as amended, and the rules, regulations, and orders of the Secretary of Labor. The Contractor shall include the terms of this Clause in every subcontract so that such term shall be binding on each Subcontractor.
4. Non-Discrimination R.C.W. 49.60: These special requirements establish minimum requirements for affirmative action and are intended to define and implement the basic discrimination provisions of these specifications. Failure to comply with these requirements may constitute grounds for application of contract default.

3.5 SAFETY PRECAUTIONS

A. In performing this contract, the Contractor shall provide for protecting the lives and health of employees and other persons; preventing damage to property, materials, supplies, and equipment; and avoid work interruptions. For these purposes, the Contractor shall:

1. Follow Washington Industrial Safety and Health Act (WISHA) regional directives and provide a site-specific safety program that will require an accident prevention and hazard analysis plan for the contractor and each subcontractor on the work site. The Contractor shall submit a site-specific safety plan to the Owner's representative prior to the initial scheduled construction meeting.
2. Provide adequate safety devices and measures including, but not limited to, the appropriate safety literature, notice, training, permits, placement and use of barricades, signs, signal lights, ladders, scaffolding, staging, runways, hoist, construction elevators, shoring, temporary lighting, grounded outlets, wiring, hazardous materials, vehicles, construction processes, and equipment required by Chapter 19.27 RCW, State Building Code (Uniform Building, Electrical, Mechanical, Fire, and Plumbing Codes); Chapter 212-12 WAC, Fire Marshal Standards, Chapter 49.17 RCW, WISHA; Chapter 296-155 WAC, Safety Standards for Construction Work; Chapter 296-65 WAC; WISHA Asbestos Standard; WAC 296-62-071, Respirator Standard; WAC 296-62, General Occupation Health Standards, WAC 296-24, General Safety and Health Standards, WAC 296-24, General Safety and Health Standards, Chapter 49.70 RCW, and Right to Know Act.

3. Comply with the State Environmental Policy Act (SEPA), Clean Air Act, Shoreline Management Act, and other applicable federal, state, and local statutes and regulations dealing with the prevention of environmental pollution and the preservation of public natural resources.
4. Post all permits, notices, and/or approvals in a conspicuous location at the construction site.
5. Provide any additional measures that the Owner determines to be reasonable and necessary for ensuring a safe environment in areas open to the public. Nothing in this part shall be construed as imposing a duty upon the Owner to prescribe safety conditions relating to employees, public, or agents of the Contractors.

B. Contractor to maintain safety records: Contractor shall maintain an accurate record of exposure data on all incidents relating to the Work resulting in death, traumatic injury, occupational disease, or damage to property, materials, supplies, or equipment. Contractor shall immediately report any such incident to Owner. Owner shall, at all times, have a right of access to all records of exposure.

C. Contractor to provide HazMat training: Contractor shall provide all persons working on the Project site with information and training on hazardous chemicals in their work at the time of their initial assignment, and whenever a new hazard is introduced into their work area.

1. Information. At a minimum, Contractor shall inform persons working on the Project site of:

   a. WAC: The requirements of chapter 296-62 WAC, General Occupational Health Standards;
   b. Presence of hazardous chemicals: Any operations in their work area where hazardous chemicals are present; and
   c. Hazard communications program: The location and availability of written hazard communication programs, including the required list(s) of hazardous chemicals and material safety data sheets required by chapter 296-62 WAC.

2. Training. At a minimum, Contractor shall provide training for persons working on the Project site which includes:

   a. Detecting hazardous chemicals: Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area (such as monitoring conducted by the employer, continuous monitoring devices, visual appearance or odor of hazardous chemicals when being released, etc.);
   b. Hazards of chemicals: The physical and health hazards of the chemicals in the work area;
   c. Protection from hazards: The measures such persons can take to protect themselves from these hazards, including specific procedures Contractor, or its Subcontractors, or others have implemented to protect those on the Project site from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment to be used; and
   d. Hazard communications program: The details of the hazard communications program developed by Contractor, or its Subcontractors, including an explanation of the labeling system and the material safety data sheet, and how employees can obtain and use the appropriate hazard information.

D. Hazardous, toxic or harmful substances: Contractor's responsibility for hazardous, toxic, or harmful substances shall include the following duties:

1. Illegal use of dangerous substances: Contractor shall not keep, use, dispose, transport, generate, or sell on or about the Project site, any substances now or hereafter designated as, or which are subject to regulation as, hazardous, toxic, dangerous, or harmful by any federal, state or local law, regulation, statute or ordinance (hereinafter collectively referred to as "hazardous substances"), in violation of any such law, regulation, statute, or ordinance, but in no case shall any such hazardous substance be stored on the Project site.
2. Contractor notifications of spills, failures, inspections, and fines: Contractor shall promptly notify Owner of all spills or releases of any hazardous substances which are otherwise required to be reported to any regulatory agency and pay the cost of cleanup. Contractor shall promptly notify Owner of all failures to comply with any federal, state, or local law, regulation, or ordinance; all inspections of the Project site by any regulatory entity concerning the same; all regulatory orders or fines; and all responses or interim cleanup actions taken by or proposed to be taken by any government entity or private party on the Project site.

E. Public safety and traffic: All Work shall be performed with due regard for the safety of the public. Contractor shall perform the Work so as to cause a minimum of interruption of vehicular traffic or inconvenience to pedestrians. All arrangements to care for such traffic shall be Contractor's responsibilities. All expenses involved in the maintenance of traffic by way of detours shall be borne by Contractor.

F. Contractor to act in an emergency: In an emergency affecting the safety of life or the Work or of adjoining property, Contractor is permitted to act, at its discretion, to prevent such threatened loss or injury, and Contractor shall so act if so authorized or instructed.

G. No duty of safety by Owner: Nothing provided in this section shall be construed as imposing any duty upon Owner with regard to, or as constituting any express or implied assumption of control or responsibility over, Project site safety, or over any other safety conditions relating to employees or agents of Contractor or any of its Subcontractors, or the public.

3.6 INDEPENDENT CONTRACTOR

A. The Contractor and Owner agree the Contractor is an independent contractor with respect to the services provided pursuant to this Contract. Nothing in this Contract shall be considered to create a relationship of employer and employee between the parties hereto. Neither the Contractor nor any employee of the Contractor shall be entitled to any benefits accorded Owner employees by virtue of the services provided under this Contract. The Owner shall not be responsible for withholding or otherwise deducting federal income tax or social security or contributing to the State Industrial Insurance Program, or otherwise assuming the duties of an employer with respect to the Contractor, or any employees of the Contractor.

3.7 OPERATIONS, MATERIAL HANDLING, AND STORAGE AREAS

A. Contractor shall confine all operations, including storage of materials, to Owner-approved areas.

B. Contractor shall be responsible for the proper care and protection of its materials and equipment delivered to the Project site.

C. Contractor shall protect and be responsible for any damage or loss to the Work, or to the materials or equipment until the date of Final Acceptance, and shall repair or replace without cost to Owner any damage or loss that may occur.

3.8 PRIOR NOTICE OF EXCAVATION

A. Prior to any excavation Contractor shall engage a locate service for all underground facilities or utilities. Contractor shall pay all fees for locator services and pay for all damages caused by excavation.

3.9 UNFORESEEN PHYSICAL CONDITIONS

A. Notice requirement for concealed or unknown conditions: If Contractor encounters conditions at the site which are subsurface or otherwise concealed physical conditions which differ materially from those indicated in the Contract Documents, or unknown physical conditions of an unusual nature which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, then Contractor shall give written notice to Owner promptly and in no event later than seven Days after the first observance of the conditions. Conditions shall not be disturbed prior to such notice.

B. Adjustment in Contract Time and Contract Sum: If such conditions differ materially and cause a change in Contractor's cost of, or time required for, performance of any part of the Work, the Contractor may be entitled to an equitable adjustment in the Contract Time or Contract Sum, or both, provided it makes a request therefore as provided in Part 5.

3.10 PROTECTION OF EXISTING STRUCTURES, EQUIPMENT, VEGETATION, UTILITIES, AND IMPROVEMENTS

A. Contractor shall protect from damage all existing conditions, including soils, structures, equipment, improvements, utilities, and vegetation at or near the Project site; and on adjacent property of a third party, the locations of which are made known to or should be known by Contractor. Contractor shall repair any damage, including that to the property of a third party, resulting from failure to comply with the requirements of the Contract Documents, any defects of equipment, material, workmanship or design furnished by the Contractor, or failure by Contractor or subcontractor at any tier to exercise reasonable care in performing the Work. If Contractor fails or refuses to repair the damage promptly, Owner may have the necessary work performed and charge the cost to Contractor.

B. New work which connects to existing work shall correspond in all respects with that to which it connects and/or be similar to existing work unless otherwise required by the Specifications.

3.11 MATERIAL AND EQUIPMENT

A. All equipment, material, and articles incorporated into the Work shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in the Contract Documents. References in the Specifications to equipment, material, articles, or patented processes by trade name, make, or catalog number, shall be regarded as establishing a standard quality and shall not be construed as limiting competition. Contractor may, at its option, use any equipment, material, article, or process that, in the judgment of Owner, is equal to that named in the Specifications, unless otherwise specifically provided in the Contract Documents.

B. Substitutions shall be considered where qualities and attributes including, but not limited to, cost, performance, weight, size, durability, visual effect, and specific features and requirements indicated are deemed equal or better by the Owner at the Owner's sole discretion. All requests for substitutions shall be made in writing to Owner and shall not be deemed to be approved unless approved in writing by Owner.

3.12 CORRECTION OF NONCONFORMING WORK

A. Contractor shall promptly correct Work found by Owner not to conform to the requirements of the Contract Documents, whether observed before or after Final Acceptance.

B. If Contractor fails to correct nonconforming Work, Owner may replace, correct, or remove the nonconforming Work and charge the cost thereof to the Contractor.

3.13 CLEAN UP

A. Contractor shall at all times keep the Project site, including hauling routes, infrastructures, utilities, and storage areas, free from accumulations of waste materials. Before completing the Work, Contractor shall remove from the premises its rubbish, tools, scaffolding, equipment, and materials. Upon completing the Work, Contractor shall leave the Project site in a clean, neat, and orderly condition satisfactory to Owner. If Contractor fails to clean up as provided herein, and after reasonable notice from Owner, Owner may do so and the cost thereof shall be charged to Contractor.

3.14 SUBCONTRACTORS AND SUPPLIERS

A. Contractor shall utilize Subcontractors and suppliers which are experienced and qualified.

B. By appropriate written agreement, Contractor shall require each Subcontractor to be bound to Contractor by terms of those Contract Documents, and to assume toward Contractor all the obligations and responsibilities which Contractor assumes toward Owner in accordance with the Contract Documents. Each Subcontract shall preserve and protect the rights of Owner in accordance with the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights. Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. However, nothing in this paragraph shall be construed to alter the contractual relations between Contractor and its Subcontractors with respect to insurance or bonds.

C. Contractor shall schedule, supervise, and coordinate the operations of all Subcontractors. No Subcontracting of any of the Work shall relieve Contractor from its responsibility for the performance of the Work in accordance with the Contract Documents or any other obligations of the Contract Documents.

D. It is the Contractor's responsibility to pay its Subcontractors and material suppliers on a timely basis. The Owner reserves the right to withhold a portion of the Contractor's payment if the Contractor fails to make timely payments to the Subcontractors and material suppliers.

E. The Contract Documents shall not be construed to create a contractual relationship of any kind between the Owner and any Subcontractor; or any persons other than Owner and Contractor.

F. The Contractor shall not enter into any subcontract with any subcontractor who has been suspended or debarred from participating in contracting programs by any agency of the United States Government or by any state, territory, or municipality.

3.15 INDEMNIFICATION

A. The Contractor hereby agrees to indemnify, defend, and hold harmless the Authority, its successors and assigns, director, officers, officials, employees, agents, partners and volunteers (all foregoing singly and collectively (Indemnities") from a and against any and all claims, losses, harm costs, liabilities, damages and expenses, including, but not limited to, reasonable attorney's fees arising or resulting from the performance of the services, or the acts or omissions of the Contractor its successors, and assigns, employees, subcontractors or anyone acting on the contractor's behalf in connection with this Contract or its performance of this Contract.

B. Provided, however, that the Contractor will not be required to indemnify, defend, or save harmless the indemnitee as provided in the preceding paragraphs of this section if the claim, suit, or action for injuries, death, or damages is caused by the sole negligence of the indemnitee. Where such claims, suites, or actions result from the concurrent negligence of (a) the indemnitee or the indemnitee's agents or employees and (b) the Contractor or the Contractor's agent or employee, the indemnity provisions provided in the proceeding paragraphs of this section shall be valid and enforceable only to the extent of the Contractor's negligence or the negligence of its agents and employees..

C. The foregoing indemnity is specifically and expressly intended to constitute a waiver of the Contractor's immunity under Washington's Industrial Insurance act, RCW Title 51. The parties acknowledge that these provisions were specifically negotiated and agreed upon by them. If any portion of this indemnity clause is invalid or unenforceable, it shall be deemed excised and the remaining portions of the clause shall be given full force and effect.

D. The Contractor hereby agrees to require all its Subcontractors or anyone acting under its direction or control or on its behalf in connection with or incidental to the performance of this Contract to execute an indemnity clause identical to the preceding clause, specifically naming the Owner as indemnity, and failure to do so shall constitute a material breach of this Contract by the Contractor.

3.16 PROHIBITION AGAINST LIENS

A. The Contractor is prohibited from placing a lien on the Owner's property. This prohibition shall apply to all subcontractors of any tier and all materials suppliers, in accordance with RCW 35.82.190.

3.17 DAMAGES FOR FAILURE TO ACHIEVE TIMELY COMPLETION

A. Liquidated Damages

1. Timely performance and completion of the Work is essential to Owner and time limits stated in the Contract Documents are of the essence. The liquidated damage amounts set forth will be assessed not as a penalty, but as liquidated damages for breach of the Contract Documents. This amount is fixed and agreed upon by and between the Contractor and Owner because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the Owner would in such event sustain. This amount shall be construed as the actual amount of damages sustained by the Owner, and may be retained by the Owner and deducted from any payments to the Contractor.

2. If different completion dates are specified in the contract for separate parts or stages of the work, the amount of liquidated damages shall be assessed on those parts or stages which are delayed.

3.18 WAIVER AND SEVERABILITY

A. The failure or delay of either party to insist on performance of any provision of the Contract, or to exercise any right or remedy available under the Contract, shall not be construed as a waiver of that provision, right, or remedy in any later instance. Waiver or breach of any provision of the Contract shall not be construed to be a waiver of any other or subsequent breach and shall not be construed to be a modification of the terms of the Contract, unless the Contract is modified pursuant to the Clause entitled "Contract Modifications" herein.

B. If any provision of the Contract is or becomes void or unenforceable by operation of law, the remaining provisions shall be valid and enforceable.

PART 4 - PAYMENTS AND COMPLETION

4.1 CONTRACT SUM

A. The Contract Sum shall include all taxes imposed by law and properly chargeable to the Project, including sales tax. The Contractor shall pay the WSST to the Department of Revenue and shall furnish proof of payment to the Owner if requested.

B. The retail sales tax does not apply to the gross contract price.

C. Prime and subcontractors are required to pay retail sales tax upon all purchases of materials, including prefabricated and precast items, equipment, leases or rentals of tools, consumables, and other tangible personal property which is installed, applied, attached, or otherwise incorporated in their work.

4.2 APPLICATION FOR PAYMENT

A. At monthly intervals, unless determined otherwise by Owner, Contractor shall submit to Owner an Application for Payment for Work completed in accordance with the Contract Documents. Each application shall be supported by such substantiating data as Owner may require.

B. Each invoice shall include the following statement: "I hereby certify that the items listed are proper charges for materials, merchandise or services provided to the King County Housing Authority, and that all goods and/or services have been provided; that prevailing wages have been paid in accordance with the approved statements of intent filed with the Department of Labor and Industries; and that sub-contractors and/or suppliers have been paid, less earned retainage, as their interest appears in the last payment received."

C. Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule. Each Application for Payment shall be consistent with previous applications and payments.

D. Owner shall retain 5% of the amount of each progress payment until 45 Days after Final Acceptance and receipt of all documents required by law or the Contract Documents, including releases by Washington State Employment Security Department and Washington State Department of Revenue, Department of Labor & Industries, and consent of surety to release of the retainage.

E. Waivers of Lien: With each Application for Payment, submit conditional waivers lien from every entity who is lawfully entitled to file a lien arising out of the Contract and related to the Work covered by the payment.

1. Submit partial waivers on each item for amount requested, before deduction for retainage, on each item.
2. When an application shows completion of an item, submit final or full waivers.
3. Owner reserves the right to designate which entities involved in the Work must submit waivers.

    a. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.

F. Final Payment Application: Submit final Application for Payment with releases and close out supporting documentation.

G. Approved payments shall be mailed to the Contractor within 30 days.

4.3 FINAL COMPLETION, ACCEPTANCE, AND PAYMENT

A. The Owner shall make a final inspection of the Work on receipt of (1) written notice from the Contractor that the Work is ready for final inspection and (2) a final Application for Payment. When the Owner finds the Work acceptable and fully performed under the Contract Documents, and the Contractor has delivered to the Owner all warranties, permits, and operations manuals, the Owner will issue a Notice of Final Completion.

B. Acceptance of final payment by Contractor, or any Subcontractor, shall constitute a waiver and release to Owner of all claims by Contractor, or any such Subcontractor, for an increase in the Contract Sum or the Contract Time, and for every act or omission of Owner relating to or arising out of the Work, except for those Claims made in accordance with the procedures, including the time limits, set forth in PART 7 - .

PART 5 - CHANGES

5.1 CHANGE IN THE WORK

A. Owner may, at any time and without notice to Contractor's surety, order additions, deletions, revisions, or other changes in the Work. These changes in the Work shall be incorporated into the Contract Documents through the execution of Change Orders. If any change in the Work ordered by Owner causes an increase or decrease in the Contract Sum or the Contract Time, an equitable adjustment shall be made as provided in 5.2 and 5.3.

B. Pending agreement on the terms of the Change Order, Owner may direct Contractor to proceed immediately with the Change Order Work. Contractor shall not proceed with any change in the Work until it has obtained Owner's approval.

C. The Contractor agrees that any change in the Contract Amount or Contract Time provided in a Change Order is full and complete compensation to the Contractor for the change(s) to the work, deleted work, modified work, direct or indirect impact on the Contractor's schedule, and for any equitable adjustment or time extension to which the Contractor may be entitled to in this Change Order, pursuant to the Contract between the Owner and Contractor.

5.2 CHANGE IN THE CONTRACT SUM

A. Change Order Pricing - Fixed Price: When the fixed price or time and materials method is used to determine the value of any Work covered by a Change Order, or of a request for an equitable adjustment in the Contract Sum, the following procedures shall apply:

1. Contractor's Change Order proposal, or request for adjustment in the Contract Sum, shall be accompanied by a complete itemization of the costs, including labor, material, subcontractor costs, and overhead and profit. The costs shall be itemized in the manner set forth below, and shall be submitted on breakdown sheets with documentation in a form approved by Owner.
2. Any request for adjustment of Contract Sum shall include only the following items:

    a. Craft labor costs for Contractors and Subcontractors.

        1) Basic wages and benefits: Hourly rates and benefits according to applicable prevailing wages.
        2) Direct supervision shall not to exceed 15% of the cost of direct labor. No supervision markup shall be allowed for a working supervisor's hours.
        3) Worker’s Insurance. Direct contributions to the State for industrial insurance, medical aid, and supplemental pension by the class and rates established by L&I.
        4) Federal Insurance. Direct contributions required by the Federal Insurance Compensation Act; Federal Unemployment Tax Act; and the State Unemployment Compensation Act.
        5) Safety and small tools: 4% of the sum of the amounts calculated in (1), (2), and (3) above.

b. Material Costs: Material costs and applicable sales tax shall be developed from actual known costs, supplier quotations or standard industry pricing guides and shall consider all available discounts. Freight costs, express charges, or special delivery charges shall be itemized.

c. Equipment Costs: Itemization of the type of equipment and the estimated or actual length of time the equipment appropriate for the Work is or will be used on the change in the Work. Costs will be allowed for equipment and applicable sales tax only if used solely for the changed Work, or for additional rental costs actually incurred by the Contractor. The Date Quest Rental Rate (Blue Book) shall be used as a basis for establishing rental rates of equipment not listed in the above sources. The maximum rate for standby equipment shall not exceed 50% of the applicable rate.

d. Allowance for Overhead: This allowance shall compensate Contractor for all noncraft labor, temporary construction facilities, field engineering, schedule updating, as-built drawings, home office cost, B&O taxes, office engineering, estimating costs, additional overhead because of extended time and any other cost incidental to the change in the Work. This allowance shall be strictly limited in all cases an amount not to exceed the following:

1) For Contractor, for any Work actually performed by Contractor's own forces, 16% of the cost.
2) For each Subcontractor (including lower tier subcontractors), for any Work actually performed by its own forces, 16% of the cost.
3) For Contractor, for any Work performed by its Subcontractor(s), 6% of the amount due each Subcontractor.
4) For each Subcontractor, for any Work performed by its Subcontractor(s) of any lower tier, 5% of the amount due the sub-Subcontractor.

e. Allowance for Profit:

1) For Contractor or Subcontractor of any tier for work performed by their forces, 5% of the cost developed in accordance with subsections a, b & c above.
2) For Contractor or Subcontractor of any tier for work performed by a subcontractor of a lower tier, 5% of the Subcontractor cost.

f. Insurance or Bond Premium: The costs of any change or additional premium of Contractor's liability insurance and public works bond arising directly from the changed Work. The costs of any change in insurance or bond premium shall be added after overhead and profit are calculated.

B. Change Order Pricing - Unit Prices

1. Work on a unit-price basis as stated in the Specifications and at the price submitted in the Bid Form or as subsequently modified.

a. Unit prices shall include reimbursement for all direct and indirect costs of the Work, including overhead and profit, and bond and insurance costs; and
b. Quantities must be supported by field measurement verified by Owner.

5.3 CHANGE IN THE CONTRACT TIME

A. The Contract Time shall only be changed by a Change Order. Contractor shall immediately notify Owner, and shall include any request for a change in the Contract Time in its Change Order proposal.

B. If the time of Contractor's performance is changed due to an act of Force Majeure, Contractor shall request for an equitable adjustment in the Contract Time in writing within 24-hours of the occurrence.

PART 6 - CLAIMS AND DISPUTE RESOLUTION

6.1 CLAIMS PROCEDURE

A. If the parties fail to reach agreement regarding any dispute arising from the Contract Documents, Contractor's only remedy shall be to file a Claim with Owner within 30 Days from Owner's final offer.

B. The Claim shall be deemed to cover all changes in cost and time (including direct, indirect, impact, and consequential) to which Contractor may be entitled. It shall be fully substantiated and documented.

C. After Contractor has submitted a fully-documented Claim, Owner shall respond, in writing, to Contractor with a decision within 30 Days from the date the Claim is received.

D. Contractor shall proceed with performance of the Work pending final resolution of any Claim. Owner's written decision as set forth above shall be final and conclusive as to all matters set forth in the Claim.

E. Any Claim of the Contractor against the Owner for damages, additional compensation, or additional time, shall be conclusively deemed to have been waived by the Contractor unless timely made in accordance with the requirements of this section.

6.2 ARBITRATION

A. If Contractor disagrees with Owner's decision rendered in accordance with paragraph 6.1C, Contractor shall provide Owner with a written demand for arbitration. No demand for arbitration of any such Claim shall be made later than 30 Days after the date of Owner's decision on such Claim; failure to demand arbitration within said 30 Day period shall result in Owner's decision being final and binding upon Contractor and its Subcontractors.

1. Notice of the demand for arbitration shall be filed with the American Arbitration Association (AAA), with a copy provided to Owner. The parties shall negotiate or mediate under the Voluntary Construction Mediation Rules of the AAA, or mutually acceptable service.

B. All Claims arising out of the Work shall be resolved by arbitration. The judgment upon the arbitration award may be entered, or review of the award may occur, in the superior court having jurisdiction thereof. No independent legal action relating to or arising from the Work shall be maintained.

6.3 CLAIMS AUDITS

A. All Claims filed against Owner shall be subject to audit at any time following the filing of the Claim. Failure of Contractor, or Subcontractors of any tier, to maintain and retain sufficient records to allow Owner to verify all or a portion of the Claim or to permit Owner access to the books and records of Contractor, or Subcontractors of any tier, shall constitute a waiver of the Claim and shall bar any recovery.

1. In support of Owner audit of any Claim, Contractor shall promptly make available to Owner all records relating to the Work.

PART 7 - TERMINATION OF THE WORK

7.1 TERMINATION BY OWNER FOR CAUSE

A. Owner may, upon a written Notice to Contractor and to its surety, terminate (without prejudice to any right or remedy of Owner) the Work, or any part of it, for cause upon the occurrence of any one or more of the following events:

1. Contractor fails to prosecute the Work or any portion thereof with sufficient diligence to ensure Completion of the Work within the Contract Time;
2. Contractor is adjudged bankrupt, makes a general assignment for the benefit of its creditors, or a receiver is appointed on account of its insolvency;
3. Contractor fails in a material way to replace or correct Work not in conformance with the Contract Documents;
4. Contractor repeatedly fails to supply skilled workers or proper materials or equipment;
5. Contractor repeatedly fails to make prompt payment due to Subcontractors, suppliers, or for labor;
6. Contractor materially disregards or fails to comply with laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction; or
7. Contractor is otherwise in material breach of any provision of the Contract Documents.

B. Upon termination, Owner may at its option:

1. Take possession of the Project site and take possession of or use all materials, equipment, tools, and construction equipment and machinery thereon owned by Contractor to maintain the orderly progress of, and to finish, the Work;
2. Finish the Work by whatever other reasonable method it deems expedient.

C. Owner's rights and duties upon termination are subject to the prior rights and duties of the surety, if any, obligated under any bond provided in accordance with the Contract Documents.

D. When Owner terminates the Work in accordance with this section, Contractor shall take the actions set forth in paragraph 7.2B, and shall not be entitled to receive further payment until the Work is accepted.

E. If the unpaid balance of the Contract Sum exceeds the cost of finishing the Work, including compensation for A/E services and expenses made necessary thereby and any other extra costs or damages incurred by Owner in completing the Work, or as a result of Contractor's actions, such excess shall be paid to Contractor. If such costs exceed the unpaid balance, Contractor shall pay the difference to Owner. Contractor shall also be liable for liquidated damages until such reasonable time as may be required for Completion. These obligations for payment shall survive termination.

F. Termination of the Work in accordance with this section shall not relieve Contractor or its surety of any responsibilities for Work performed.

G. If Owner terminates Contractor for cause, and it is later determined that none of the circumstances set forth in 7.1A exist, then such termination shall be deemed a termination for convenience pursuant to 7.2.

7.2 TERMINATION BY OWNER FOR CONVENIENCE

A. Owner may, upon Notice, terminate (without prejudice to any right or remedy of Owner) the Work, or any part of it, for the convenience of Owner.

B. Unless Owner directs otherwise, after receipt of a Notice of termination for either cause or convenience, Contractor shall promptly:

1. Stop performing Work on the date and as specified in the notice of termination;
2. Place no further orders or subcontracts for materials, equipment, services or facilities, except as may be necessary for completion of such portion of the Work as is not terminated;
3. Cancel all orders and subcontracts, upon terms acceptable to Owner, to the extent that they relate to the performance of Work terminated;

PART 8 - MISCELLANEOUS PROVISIONS

8.1 RECORDS KEEPING AND REPORTING

A. The Contractor and all Subcontractors shall maintain accounts and records in accordance with State Auditor’s procedures, including personnel, property, financial and programmatic records which sufficiently and properly reflect all direct and indirect costs of any nature expended and services performed in the performance of this Contract and other such records as may be deemed necessary by the Owner to ensure proper accounting for all funds contributed by the Owner to the performance of this Contract and compliance with this Contract.

B. The Contractor, and its Subcontractors, shall maintain these records for a period of six (6) years after the date of Final Acceptance.

8.2 AUDITS AND INSPECTIONS

A. The records and documents with respect to all matters covered by this Contract shall be subject at all times to inspection, review or audit by the Owner or any other government agency so authorized by law during the performance of this Contract. The Owner shall have the right to an annual audit of the Contractor’s financial statement and condition.

8.3 ORGANIZATION CONFLICTS OF INTEREST

A. The Contractor warrants that to the best of its knowledge and belief and except as otherwise disclosed, it does not have any organizational conflict of interest which is defined as a situation in which the nature of work under this Contract and the Contractor's organizational, financial, contractual or other interests are such that:

1. Award of the Contract may result in an unfair competitive advantage; or
2. The Contractor's objectivity in performing the Contract work may be impaired.

B. The Contractor agrees that if after award they discover an organizational conflict of interest with respect to this Contract, they shall make an immediate and full disclosure in writing to the Contracting Officer, which shall include a description of the action, which the Contractor has taken or intends to take to eliminate or neutralize the conflict. The Owner may, however, terminate the Contract if it deems the action to be in the best interest of the Owner.

C. In the event the Contractor was aware of an organizational conflict of interest before the award of this Contract and intentionally did not disclose the conflict to the Contracting Officer, the Owner may terminate the Contract for default.

D. The provisions of this Clause shall be included in all subcontracts and consulting agreements wherein the work to be performed is similar to the services provided by the Contractor. The Contractor shall include in such subcontracts and consulting agreements any necessary provisions to eliminate or neutralize conflicts of interest.

8.4 INTERESTS OF MEMBERS OF CONGRESS

A. No member of or delegate to the Congress of the United States of America shall be admitted to any share or part of this Contract or to any benefit to arise therefrom, but this provision shall not be construed to extend to this Contract if made with a corporation for its general benefit.

8.5 INTERESTS OF MEMBERS, OFFICERS, COMMISSIONERS AND EMPLOYEES, OR FORMER MEMBERS, OFFICERS AND EMPLOYEES

A. No member, officer, or employee of the King County Housing Authority, no member of the governing body of the locality in which the project is situated, no member of the governing body in which the Owner was activated, and no other public official or such locality or localities who exercises any functions or responsibilities with respect to the project, shall, during his or her tenure, or for one year thereafter, have any interest, direct or indirect, in this Contract or the proceeds thereof.

BID FORM

PROJECT NAME AND LOCATION:

Office Addition & New Garage **Contract Number: DW2301831**
Sandpiper East Apartments

BID FORM

The undersigned, Legal Name of Bidder: _____

on this date: _____, 2023, having familiarized him/herself with the contract documents, site conditions, and has field verified all measurements contained in the project manual as prepared by the Owner, hereby proposes to furnish labor, materials and necessary equipment – all including, but not limited to, demolition, disposal, new installation and the required applicable taxes and fees to complete the work for the following bid amounts:

BASE BID _____ **($**_____**)**
(Including sales tax indicated in Instructions to Bidders)

ADDENDA _____
Acknowledge receipt of any addenda by inserting the number(s) above

In submitting this bid, it is understood that the right is reserved by the Owner to reject any and all bids. The undersigned hereby agrees that this proposal shall be a valid and firm offer for a period of Sixty (60) calendar days from the date of Bid Opening.

Bidder agrees that Work will be substantially complete and ready for final payment in accordance with the Contract Documents on or before the date, within the number of calendar days indicated.

The undersigned Bidder hereby certifies that, within the three-year period immediately preceding the bid solicitation date for this Project, the bidder is not a "willful" violator, as defined in RCW 49.48.082, of any provision of chapters 49.46, 49.48, or 49.52 RCW, as determined by a final and binding citation and notice of assessment issued by the Department of Labor and Industries or through a civil judgment entered by a court of limited or general jurisdiction.

I certify (or declare) under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct.

_____ _____
Signature of Bidder Print Your Name

Submitted on _____ day of _____ 2023

_____ _____
City State

BIDDER INFORMATION

BIDDER INFORMATION

Name of Bidder (Company): _____

Address: _____

Contact Name: _____

Phone Number: _____ Email Address: _____

Business Type: General Contractor ☐ Other ☐ (Please specify): _____

Bidder is a(n): ☐ Individual ☐ Partnership ☐ Joint Venture ☐ Incorporated in the state of _____

List business names & associated UBI # used by Bidder during the past 5 years if different than above:

_____

Bidder has been in business continuously from: _____
Month, Year

Business License #: _____ Federal ID #: _____

Current UBI #: _____ Dept. of L&I Worker's Comp. Acct. #: _____

Bidder has experience in work "Similar in Scope and Complexity" comparable to that required for this Project:

As a prime contractor for _____ years. As a subcontractor for _____ years.

OWNER(S) OF COMPANY (List **all** owners):	OWNER'S SOCIAL SECURITY NUMBER (only required if sole proprietorship):

No. of regular full-time employees other than owner(s): _____

Indicate clearly the kind of work your company will actually perform in this project:

_____

Approximate % of work your company will actually perform: _____

List the supervisory personnel to be employed by the Bidder and available for, and intended to, work on this project:

Name	Title	How Long With Bidder
_____	_____	_____
_____	_____	_____

BIDDER INFORMATION

SUBCONTRACTORS

Do you intend to use Subcontractor(s) in this project? Yes ☐ No ☐ (If yes, you must show the name of the subcontractors. Attach additional pages as necessary.)

Subcontractors Name	Subcontractor's UBI#	Phone Number	Trade	Years in Business
1.				
2.				
3.				
4.				
5.				

BIDDER'S EXPERIENCE

Projects successfully supervised and completed by your company for work of similar scope and value as specified in bid documents in the last 5 years. Attach additional pages as necessary.

Name of Project	Completion Date	Duration (Months)	Nature of Work	Amount of Contract
1.				
2.				
3.				
4.				
5.				

Owner's Name (of project listed above)	Project Address	Contact Person	Phone Number
1.			
2.			
3.			
4.			
5.			

Has Bidder ever been found guilty of violating any State or Federal employment laws? ☐ No ☐ Yes
If yes, give details & attach additional pages as necessary:

Has Bidder ever filed for protection under any provision of the federal bankruptcy laws or state insolvency laws?
☐ No ☐ Yes If yes, give details & attach additional pages as necessary:

BIDDER INFORMATION

Has any lien, claim and/or adverse legal action related to construction been rendered against Bidder in the past five years? (i.e., open claims, lawsuits, warrants, judgements including but not limited to those that would show on the L&I website) ☐ No ☐ Yes If yes, give details & attach additional pages as necessary:

Has Bidder or any of its employees filed any claims with Washington State Worker's Compensation or other insurance company for accidents resulting in fatal injury or dismemberment in the past 5 years? ☐ No ☐ Yes
If yes, please state:

Date	Type of Injury	Agency Receiving Claim

Bidders current Experience Modification Rate (EMR): _____

(If Bidder is self-insured, attach proof of EMR stated, showing complete worksheet calculations)

The bidder hereby certifies that the information contained in this Bidder's Information is accurate, complete and current.

BY: _____ NAME: _____
(signature) (print)

TITLE: _____ DATE: _____

CONTRACT FORM

This Contract is entered into by and between the King County Housing Authority, hereinafter referred to as the "Owner" whose principal office is located at 600 Andover Park West, Seattle, WA 98188 and [Name of Contractor], referred to as the "Contractor", whose principal office is located at [Contractor's Address].

IN CONSIDERATION OF the mutual benefits and conditions hereinafter contained, the parties hereto agree as follows:

1.1 Contract Documents

A. The provisions set forth in the Contract Documents are hereby incorporated into and made part of the Contract. Contractor acknowledges receipt and review of all Contract Documents applicable to performance of the work. The Contract shall consist of the following component parts:

1. This Instrument
2. Addenda
3. Specifications
4. Plans
5. Bid Form
6. Pre-Bid Agenda
7. General Conditions
8. Instructions to Bidders
9. Prevailing Wage Rates
10. Performance and Payment Bonds
11. Hazardous Material Report

1.2 Scope of Services to be Performed by the Contractor: The Contractor shall provide all labor, materials, tools, equipment, transportation, supplies, and incidentals required to complete the work in accordance with the Contract Documents for:

Project: Office Renovation & New Garage at Sandpiper East Contract No.: DW2301831

1.3 Compensation: The total amount of the Contract shall be [$$$] dollars and [¢¢] cents ($[$$$.$$]) subject to additions and deductions provided therein.

1.4 Duration of Contract: The Contractor shall commence work after receipt of Notice to Proceed, follow the schedule specified in the contract documents, and all work must be completed within one hundred twenty (120) consecutive calendar days from the date of the Notice to Proceed unless sooner terminated pursuant to the General Conditions. Upon expiration of the original Contract term, the Contract, at the Owner's sole discretion, may be extended for a period determined by the Owner.

1.5 Liquidated Damages: Timely performance and completion of the Work is essential to Owner and time limits stated in the Contract Documents are of the essence. If Completion of the Work does not occur within the Contract Time, the Contractor agrees that Liquidated Damages in the amount of **$250.00** per day will be assessed for each calendar day that the Contractor exceeds the time for completion.

The individuals signing this Contract warrant and represent for themselves and for their respective organizations that they are duly authorized to sign this Contract and that upon such signing their respective organizations are bound thereby.

DATED this _____ day of _____, 2023

Contractor	Owner
_____	_____
President/Owner	[Name of Signer] [Title of Signer] KING COUNTY HOUSING AUTHORITY

CERTIFICATE OF INSURANCE

DATE(MM/DD/YY)
Issue Date

PRODUCER
Vendor's Insurance Agent
Street Address
City, State, Zip
Phone Number

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURED
Vendor Name
Street Address
City, State, Zip

COMPANIES AFFORDING COVERAGE

COMPANY **A**	**ABC Insurance Company**
COMPANY **B**	**DEF Insurance Company**
COMPANY **C**	**GHI Insurance Company**
COMPANY **D**	

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH REPSECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A	**GENERAL LIABILITY** [X] COMMERCIAL GENERAL LIABILITY [ ] CLAIMS MADE [X] OCCUR [ ] OWNER'S & CONTRACTOR'S PROT	**XXX123**	**01/01/00**	**01/01/01**	GENERAL AGGREGATE PRODUCTS-COMP/OP AGG PERSONAL & ADV INJURY EACH OCCURRENCE FIRE DAMAGE (Any one fire) MED EXP (Any one person)	**2,000,000** **1,000,000** **1,000,000** **1,000,000** **50,000** **5,000**
B	**AUTOMOBILE LIABILITY** [X] ANY AUTO [ ] ALL OWNED AUTOS [ ] SCHEDULED AUTOS [X] HIRED AUTOS [ ] NON-OWNED AUTOS	**XXX456**	**01/01/00**	**01/01/01**	COMBINED SINGLE LIMIT BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE	**1,000,000**
	GARAGE LIABILITY [ ] ANY AUTO				AUTO ONLY-EA ACCIDENT OTHER THAN AUTO ONLY: EACH ACCIDENT AGGREGATE	
	EXCESS LIABILITY [ ] UMBRELLA FORM [ ] OTHER THAN UMBRELLA FORM				EACH OCCURRENCE AGGREGATE	
C	**WORKERS' COMPENSATION AND EMPLOYER'S LIABILITY** THE PROPRIETOR/ PARTNERS/EXECUTIVE OFFICERS ARE: [ ] INCL [ ] EXCL	**XXX789**	**01/01/00**	**01/01/01**	[X] STATUTORY LIMITS EACH ACCIDENT DISEASE-POLICY LIMIT DISEASE-EACH EMPLOYEE	**1,000,000** **1,000,000** **1,000,000**
	OTHER					

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS

Allied Residential and King County Housing Authority are named as additional insureds with respect to above general liability and auto coverage. Re: Contract DW2301831 at Sandpiper East Apartments, 1312 139th Ave NE, Bellevue, WA 98005.

CERTIFICATE HOLDER
Allied Residential
King County Housing Authority
600 Andover Park West
Seattle, WA 98188-3326

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL **30** DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

Signature of Insured's Agent

PROVIDE

GENERAL LIABILITY ENDORSEMENT

and

AUTO LIABILITY ENDORSEMENT

Limited Hazardous Materials Survey Report

Sandpiper East Apartments
1312 139th Avenue NE
Bellevue, Washington

Prepared for:
King County Housing Authority
600 Andover Park West
Seattle, WA 98188

December 21, 2022
PBS Project No. 40573.246

PBS
214 EAST GALER STREET SUITE 300
SEATTLE, WA 98102
206.233.9639 MAIN
866.727.0140 FAX
PBSUSA.COM

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APPENDICES

1 INTRODUCTION

1.1 Background

PBS Engineering and Environmental, Inc. (PBS) performed a limited hazardous materials survey of the Sandpiper East Apartments located at 1312 139th Avenue NE in Bellevue, Washington. Accessible building areas included in the scope of work were inspected for the presence of asbestos-containing materials (ACMs) and lead-containing paint (LCP). The intent of this investigation is to ensure that the King County Housing Authority (KCHA) is in compliance with applicable regulatory requirements that a "good faith inspection" for ACMs be performed prior to renovation activities.

The following 5 buildings were included in the scope of PBS's survey:

- Building 1: 13932 NE 14th Street, Bellevue, WA 98005
- Building 2: 13926 NE 14th Street, Bellevue, WA 98005
- Building 3: 13918 NE 14th Street, Bellevue, WA 98005
- Building 4: 13910 NE 14th Street, Bellevue, WA 98005
- Cabana/Recreation: 13908 NE 13th Street, Bellevue, WA 98005

PBS inspected nineteen (19) units and building exteriors as well as the interior and exterior of the Cabana building as part of this investigation. At the request of KCHA, the leasing office was not included in the scope of this investigation. PBS accessed a representative number of units. The following units were accessed during investigation: Building 1 Units 1, 4, 5, & 8; Building 2 Units 2, 3, 6, 7, & 8; Building 3 Units 1, 3, 4, 6, & 7; and Building 4 Units 1, 3, 4, 5, & 8.

1.2 Building Description

The Sandpiper East Apartments consists of sixteen (16) two-story apartment buildings with 326 units, and a Cabana building. Flooring throughout residential units typically consists of carpeting throughout with the exception of sheet flooring in the kitchen, bathrooms and select closet spaces. Walls throughout are comprised of textured gypsum wallboard. Ceilings throughout generally consist of gypsum board with popcorn ceiling texture except for the kitchen and bathrooms which have a light texture. Attic spaces are insulated with a combination of blown-in insulation and fiberglass batting. Building exteriors are comprised of wood siding. Windows are vinyl framed. Roofs are pitched with asphalt tiles.

1.3 Survey Process

Accessible areas of the Sandpiper East Apartments included in the project scope were inspected by Asbestos Hazard Emergency Response Act (AHERA) certified building inspector Ferman Fletcher (Cert. 184489, Exp. 4/5/2023) on December 5-7, 2022.

When observed, suspect materials were sampled, assigned a unique identification number and transmitted for analysis to Seattle Asbestos Test, LLC (NVLAP # 200768-0) in Lynnwood, Washington. Samples were analyzed according to EPA Method 600R-93/116 using Polarized Light Microscopy (PLM), which has a reliable limit of quantification of 1% asbestos by volume. Information regarding the type and location of sampled materials can be found in the PLM Bulk Sample Inventory located in Appendix A.

Destructive investigation was not performed to investigate inaccessible areas. Inaccessible areas are defined as those requiring selective demolition, fall protection or confined-space entry protocols to gain access. While PBS has endeavored to identify concealed ACM, additional unidentified materials may be present in concealed locations that that were not accessed during this survey. Any materials encountered during renovation that have not been previously sampled should be sampled for asbestos content prior to impact.

2 FINDINGS

2.1 Asbestos-Containing Materials (ACMs)

Regulated asbestos-containing building materials are defined by EPA as containing greater than 1% asbestos by weight.

The following materials were sampled and found to contain **greater than 1%** asbestos.

- **Popcorn ceiling texture** – throughout (with the exception of kitchens, bathrooms and closets) in the following units:
    - Building 1, Units 1, 4, 5, & 8
    - Building 2 Units 3, 6, 7, & 8
    - Building 3 Units 3, 6, & 7
    - Building 4 Units 3, 4, 5 and 8
- **Black sink undercoating –** kitchen sinks in the following units:
    - Building 1, Units 1, 4, & 5
    - Building 2 Units 2 & 3
    - Building 3 Units 1, & 4
    - Building 4 Units 3, 5, & 8
- **Backing associated with sheet vinyl flooring (bottom layer of multiple layered flooring)** – kitchens and/or bathrooms in the following units:
    - Building 1: Unit 1 kitchen, Unit 5 kitchen and bathroom, Unit 8 bathroom
    - Building 2: Unit 6 kitchen; Unit 8 kitchen
    - Building 3: Unit 3 kitchen and bathroom, Unit 7 kitchen and bathroom
    - Building 4: Unit 5 kitchen and bathroom, Unit 8 bathroom

The materials identified above are presumed to be present in all units and building areas that were not accessed by PBS during this investigation.

The following materials were sampled and **did not** contain detectable concentrations of asbestos:

- Blown-in insulation – attics throughout
- Mortar and grout associated with ceramic floor tiles – Cabana
- Sink patches - underside of kitchen sinks throughout
- Orange peel wall and ceiling texture – throughout units and Cabana
- Knockdown wall texture – throughout Cabana loft, Building 1 Laundry, and exterior walls and soffits
- Cove base and associated mastic – kitchens, laundry closets and bathrooms throughout
- Brown and grey anti-skid deck coating – decks at 2nd and 3rd Floor units throughout
- Asphaltic shingles - Roofs throughout
- Gypsum wallboard and associated joint compound – Walls and ceilings throughout units and common spaces
- Caulking associated with windows – Cabana

Refer to Appendix A for a complete listing of representative bulk sampling and associated laboratory analysis.

2.2 Lead-Containing Paint

Twenty (20) representative painted coatings were sampled for lead content. The samples were assigned a unique identification number and transmitted to NVL Laboratories, Inc. (AIHA IH #101861) in Seattle, Washington under chain-of-custody protocols for analysis using Flame Atomic Absorption (EPA 3051/7000B).

The following painted coatings were sampled and found to contain **detectable lead**.

- **Green Paint** – exterior wood trim on Building 4 (0.010% lead)

The following painted coatings were sampled and were found **not** to contain lead.

- White paint - interior gypsum wallboard walls
- Grey paint – exterior wood siding
- Grey paint – exterior gypsum wallboard walls and soffits
- White paint – exposed wood beams within the Cabana
- Dark brown paint – Cabana fascia

Refer to Appendix B for a complete listing of paint samples for additional information including specific sample locations and results of paint sampling.

3 RECOMMENDATIONS

3.1 Asbestos-Containing Materials (ACM)

ACMs were found within the building areas included in the scope of this survey. The ACMs identified above are presumed to be present in all units and building areas that were not accessed by PBS during this investigation. Additional suspect ACMs may be present in areas not surveyed by PBS during this investigation.

PBS recommends ACMs to be impacted by renovation or demolition activities be removed prior to construction or only be impacted by properly trained and protected personnel in accordance with applicable local, state and federal regulations. A qualified asbestos abatement contractor licensed in the State of Washington should be employed for any removal and proper disposal of ACM in accordance with all applicable local, state and federal regulations.

The possibility exist that suspect ACM may be present in equipment, wall and ceiling cavities, and in select areas included in the scope of renovations. These may include, but are not limited to pipe insulation, below slab components, vapor barriers, and construction adhesives and wall mastics. If suspect ACM is uncovered during construction, contractors should stop work immediately and inform the owner promptly for confirmation testing. All untested materials should be presumed asbestos-containing or tested for asbestos content prior to impact.

3.2 Lead-Containing Paint (LCP)

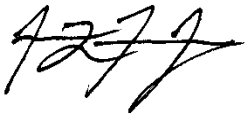
Samples of representative paint coatings contained detectable lead. Paint coatings may exist in inaccessible areas of the building or in secondary coatings on building components. Any previously unidentified painted coatings should be considered lead containing until sampled and proven otherwise.

Impact of paint with detectable concentrations of lead requires construction activities to be performed in accordance with the State of Washington Department of Labor and Industries (L&I) regulation for Lead in Construction (WAC 296-155-176).

All construction activities performed in pre-1978 residential buildings require compliance with the EPA and State of Washington lead paint regulations including but not limited to 40 CFR 745 Renovation, Repair and Painting (RRP) program regulations and 24 CFR 35 Lead-Based Paint Poisoning in Certain Residential Structures.

The paint sampling performed as part of this survey was intended to provide information regarding lead-content of representative painted surfaces for compliance with the L&I Lead in Construction regulations. The paint sampling was not intended to meet the requirements of the RRP regulations or the Housing and Urban Development (HUD) Guidelines for the Evaluation and Control of Lead-Based Paint in Housing.

Report prepared by:



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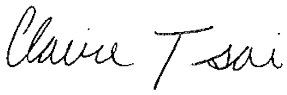
Report reviewed by:



Claire Tsai
Project Manager/AHERA Building Inspector
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APPENDIX A

PLM Bulk Sampling Information

PLM Bulk Sample Inventory

PLM Bulk Sample Laboratory Data Sheets

PLM Bulk Sample Chain of Custody Documentation

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
40573.246 -01	12" Stone Grid Pattern Sheet Vinyl Flooring	Bldg 1; Unit 5 Bathroom	Layer 1: Beige sheet vinyl	NAD	SAT
			Layer 2: Gray fibrous material with mastic	NAD	
			Layer 3: Gray sheet vinyl	NAD	
			Layer 4: Gray fibrous material with mastic	NAD	
			Layer 5: Brown sheet vinyl	NAD	
			Layer 6: Gray fibrous material with mastic	NAD	
			Layer 7: Beige sheet vinyl	NAD	
			Layer 8: Gray fibrous material with mastic	NAD	
			Layer 9: Brown sheet vinyl	NAD	
			Layer 10: Gray fibrous material with mastic	**50% Chrysotile**	
40573.246 -02	12" Stone Grid Pattern Sheet Vinyl Flooring	Bldg 1; Unit 5 Kitchen	Layer 1: Beige sheet vinyl	NAD	SAT
			Layer 2: Gray fibrous material with mastic	NAD	
			Layer 3: Gray sheet vinyl	NAD	
			Layer 4: Gray fibrous material with mastic	NAD	
			Layer 5: Brown sheet vinyl	NAD	
			Layer 6: Gray fibrous material with mastic	NAD	
			Layer 7: Beige sheet vinyl	NAD	
			Layer 8: Gray fibrous material with mastic	NAD	
			Layer 9: Brown sheet vinyl	NAD	
			Layer 10: Gray fibrous material with mastic	**50% Chrysotile**	
40573.246 -03	12" Stone Grid Pattern Sheet Vinyl Flooring	Bldg 1; Unit 1 Kitchen	Layer 1: Beige sheet vinyl	NAD	SAT
			Layer 2: Clear mastic	NAD	
			Layer 3: Gray brittle material	NAD	
			Layer 4: Gray sheet vinyl	NAD	
			Layer 5: Gray fibrous material with mastic	NAD	
			Layer 6: Brown sheet vinyl	NAD	
			Layer 7: Gray fibrous material with mastic	**50% Chrysotile**	
40573.246 -04	12" Stone Grid Pattern Sheet Vinyl Flooring	Bldg 1; Unit 1 Bathroom	Layer 1: Gray sheet vinyl	NAD	SAT
			Layer 2: Clear mastic	NAD	

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
			Layer 3: Gray sandy/brittle material	NAD	
40573.246 -05	12" Stone Grid Pattern Sheet Vinyl Flooring	Bldg 2; Unit 6 Kitchen	Layer 1: Beige sheet vinyl	NAD	SAT
			Layer 2: Gray fibrous material with mastic	NAD	
			Layer 3: Gray sheet vinyl	NAD	
			Layer 4: Gray fibrous material with mastic	NAD	
			Layer 5: Brown sheet vinyl	NAD	
			Layer 6: Gray fibrous material with mastic	NAD	
			Layer 7: Beige sheet vinyl	NAD	
			Layer 8: Gray fibrous material with mastic	NAD	
			Layer 9: Brown sheet vinyl	NAD	
			Layer 10: Gray fibrous material with mastic	**50% Chrysotile**	
40573.246 -06	12" Stone Grid Pattern Sheet Vinyl Flooring	Bldg 3; Unit 7 Bathroom	Layer 1: Beige sheet vinyl	NAD	SAT
			Layer 2: Gray fibrous material with mastic	NAD	
			Layer 3: Gray sheet vinyl	NAD	
			Layer 4: Gray fibrous material with mastic	NAD	
			Layer 5: Brown sheet vinyl	NAD	
			Layer 6: Gray fibrous material with mastic	NAD	
			Layer 7: Beige sheet vinyl	NAD	
			Layer 8: Gray fibrous material with mastic	NAD	
			Layer 9: Brown sheet vinyl	NAD	
			Layer 10: Gray fibrous material with mastic	**50% Chrysotile**	
40573.246 -07	12" Stone Grid Pattern Sheet Vinyl Flooring	Bldg 3; Unit 7 Kitchen	Layer 1: Beige sheet vinyl	NAD	SAT
			Layer 2: Gray fibrous material with mastic	NAD	
			Layer 3: Gray sheet vinyl	NAD	
			Layer 4: Gray fibrous material with mastic	NAD	
			Layer 5: Brown sheet vinyl	NAD	
			Layer 6: Gray fibrous material with mastic	NAD	
			Layer 7: Beige sheet vinyl	NAD	
			Layer 8: Gray fibrous material with mastic	NAD	

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
			Layer 9: Brown sheet vinyl	NAD	
			Layer 10: Gray fibrous material with mastic	**50% Chrysotile**	
40573.246 -08	12" Stone Grid Pattern Sheet Vinyl Flooring	Bldg 3; Unit 4 Kitchen	Layer 1: Brown sheet vinyl	NAD	SAT
			Layer 2: Gray fibrous material with mastic	NAD	
40573.246 -09	12" Stone Grid Pattern Sheet Vinyl Flooring	Bldg 4; Unit 8 Kitchen	Sample not submitted		SAT
40573.246 -10	12" Stone Grid Pattern Sheet Vinyl Flooring	Bldg 4; Unit 8 Bathroom	Layer 1: Brown sheet vinyl	NAD	SAT
			Layer 2: Gray fibrous material with mastic	NAD	
			Layer 3: Tan sheet vinyl	NAD	
			Layer 4: Gray fibrous material with mastic	**50% Chrysotile**	
40573.246 -11	12" Stone Grid Pattern Sheet Vinyl Flooring	Bldg 4; Unit 5 Bathroom	Layer 1: Beige sheet vinyl	NAD	SAT
			Layer 2: Gray fibrous material with mastic	NAD	
			Layer 3: Gray sheet vinyl	NAD	
			Layer 4: Gray fibrous material with mastic	NAD	
			Layer 5: Brown sheet vinyl	NAD	
			Layer 6: Gray fibrous material with mastic	NAD	
			Layer 7: Beige sheet vinyl	NAD	
			Layer 8: Gray fibrous material with mastic	NAD	
			Layer 9: Brown sheet vinyl	NAD	
			Layer 10: Gray fibrous material with mastic	**50% Chrysotile**	
40573.246 -12	4" Stone Grid Pattern Sheet Vinyl Flooring	Bldg 1; Unit 4; Bathroom	Layer 1: Beige sheet vinyl	NAD	SAT
			Layer 2: Gray fibrous material with mastic	NAD	
40573.246 -13	4" Stone Grid Pattern Sheet Vinyl Flooring	Bldg 2; Unit 8, Kitchen	Layer 1: Beige sheet vinyl	NAD	SAT
			Layer 2: Gray fibrous material with mastic	NAD	
			Layer 3: Tan sheet vinyl	NAD	
			Layer 4: Gray fibrous material with mastic	**50% Chrysotile**	

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
40573.246 -14	4" Stone Grid Pattern Sheet Vinyl Flooring	Bldg 1; Unit 4; Kitchen	Layer 1: Beige sheet vinyl	NAD	SAT
			Layer 2: Gray fibrous material with mastic	NAD	
40573.246 -15	2" Stone Grid Pattern Sheet Vinyl Flooring	Bldg 4 Unit 5, Bathroom	Layer 1: Tan sheet vinyl	NAD	SAT
			Layer 2: Gray fibrous material with mastic	**50% Chrysotile**	
40573.246 -16	Multi-color Square Stone Pattern Sheet Vinyl Flooring	Cabana; Tool Storage room	Layer 1: Multi-color sheet vinyl	NAD	SAT
			Layer 2: Gray fibrous material with mastic	NAD	
			Layer 3: Gray sandy/brittle material	NAD	
40573.246 -17	Wood Grain Sheet Vinyl Flooring	Bldg 1; Laundry Room	Layer 1: Gray sheet vinyl	NAD	SAT
			Layer 2: Gray fibrous material with mastic	NAD	
			Layer 3: Gray sheet vinyl	NAD	
			Layer 4: Gray fibrous material with mastic	NAD	
40573.246 -18	Wood Grain Sheet Vinyl Flooring	Bldg 1; Unit 8, Bathroom	Layer 1: Brown sheet vinyl	NAD	SAT
			Layer 2: Clear mastic	NAD	
			Layer 3: Beige sheet vinyl	NAD	
			Layer 4: Gray fibrous material with mastic	NAD	
			Layer 5: Tan sheet vinyl	NAD	
			Layer 6: Gray fibrous material with mastic	**50% Chrysotile**	
40573.246 -19	Wood Grain Sheet Vinyl Flooring	Bldg 1 Unit 8; Kitchen	Layer 1: Brown sheet vinyl	NAD	SAT
			Layer 2: Clear mastic	NAD	
			Layer 3: Beige sheet vinyl	NAD	
			Layer 4: Gray fibrous material with mastic	NAD	
40573.246 -20	Wood Grain Sheet Vinyl Flooring	Bldg 2; Unit 3 Kitchen	Layer 1: Brown sheet vinyl	NAD	SAT
			Layer 2: Clear mastic	NAD	
			Layer 3: Brown sheet vinyl	NAD	
			Layer 4: Green mastic	NAD	
			Layer 5: Beige sheet vinyl	NAD	

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
			Layer 6: Gray fibrous material with mastic	NAD	
40573.246 -21	Wood Grain Sheet Vinyl Flooring	Bldg 2; Unit 7, Bathroom	Layer 1: Brown vinyl	NAD	SAT
			Layer 2: Black tile	NAD	
			Layer 3: Clear mastic	NAD	
40573.246 -22	Wood Grain Sheet Vinyl Flooring	Bldg 2; Unit 7, Kitchen	Layer 1: Brown vinyl	NAD	SAT
			Layer 2: Black tile	NAD	
			Layer 3: Clear mastic	NAD	
			Layer 4: Beige sheet vinyl	NAD	
			Layer 5: Gray fibrous material with mastic	NAD	
			Layer 6: Gray brittle material	NAD	
40573.246 -23	Wood Grain Sheet Vinyl Flooring	Bldg 2; Unit 2, Kitchen	Layer 1: Brown sheet vinyl	NAD	SAT
			Layer 2: Clear mastic	NAD	
			Layer 3: Brown sheet vinyl	NAD	
			Layer 4: Yellow mastic	NAD	
			Layer 5: Gray fibrous material with mastic	NAD	
			Layer 7: Gray sandy/brittle material	NAD	
40573.246 -24	Wood Grain Sheet Vinyl Flooring	Bldg 2; Unit 2, Bathroom	Layer 1: Brown sheet vinyl	NAD	SAT
			Layer 2: Clear mastic	NAD	
			Layer 3: Brown sheet vinyl	NAD	
			Layer 4: Yellow mastic	NAD	
			Layer 5: Beige sheet vinyl	NAD	
			Layer 6: Gray fibrous material with mastic	NAD	
40573.246 -25	Wood Grain Sheet Vinyl Flooring	Bldg 2 Unit 3; Bathroom	Layer 1: Brown sheet vinyl	NAD	SAT
			Layer 2: Clear mastic	NAD	
			Layer 3: Brown sheet vinyl	NAD	
			Layer 4: Green mastic	NAD	
			Layer 5: Gray sandy/brittle material	NAD	

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
40573.246 -26	Wood Grain Sheet Vinyl Flooring	Bldg 2; Unit 6, Bathroom	Layer 1: Gray sheet vinyl	NAD	SAT
			Layer 2: Gray fibrous material with mastic	NAD	
			Layer 3: Brown sheet vinyl	NAD	
			Layer 4: Gray fibrous material with mastic	NAD	
40573.246 -27	Wood Grain Sheet Vinyl Flooring	Bldg 3; Unit 1, Kitchen	Layer 1: Brown sheet vinyl	NAD	SAT
			Layer 2: Yellow mastic	NAD	
40573.246 -28	Wood Grain Sheet Vinyl Flooring	Bldg 3; Unit 1,Bathroom	Layer 1: Brown sheet vinyl	NAD	SAT
			Layer 2: Gray fibrous material with mastic	NAD	
			Layer 3: Gray sheet vinyl	NAD	
			Layer 4: Gray fibrous material with mastic	NAD	
40573.246 -29	Wood Grain Sheet Vinyl Flooring	Bldg 3; Unit 3, Kitchen	Layer 1: Brown sheet vinyl	NAD	SAT
			Layer 2: Clear mastic	NAD	
			Layer 3: Gray sandy/brittle material	NAD	
40573.246 -30	Wood Grain Sheet Vinyl Flooring	Bldg 3; Unit 3, Bathroom	Layer 1: Brown sheet vinyl	NAD	SAT
			Layer 2: Clear mastic	NAD	
			Layer 3: Gray sheet vinyl	NAD	
			Layer 4: Gray fibrous material with mastic	NAD	
			Layer 5: Brown sheet vinyl	NAD	
			Layer 6: Gray fibrous material with mastic	NAD	
			Layer 7: Beige sheet vinyl	NAD	
			Layer 8: Gray fibrous material with mastic	NAD	
			Layer 9: Brown sheet vinyl	NAD	
			Layer 10: Gray fibrous material with mastic	**50% Chrysotile**	
40573.246 -31	Wood Grain Sheet Vinyl Flooring	Bldg 3; Unit 6, Kitchen	Layer 1: Brown sheet vinyl	NAD	SAT
			Layer 2: Clear mastic	NAD	

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
40573.246 -32	Wood Grain Sheet Vinyl Flooring	Bldg 3; Unit 6, Bathroom	Layer 1: Brown sheet vinyl	NAD	SAT
			Layer 2: Green mastic	NAD	
40573.246 -33	Wood Grain Sheet Vinyl Flooring	Bldg 4; Unit 1, Bathroom	Layer 1: Gray sheet vinyl	NAD	SAT
			Layer 2: Clear mastic	NAD	
			Layer 3: Brown sheet vinyl	NAD	
			Layer 4: Yellow mastic	NAD	
			Layer 5: Brown sheet vinyl	NAD	
			Layer 6: Yellow mastic	NAD	
40573.246 -34	Wood Grain Sheet Vinyl Flooring	Bldg 4; Unit 1, Kitchen	Layer 1: Gray sheet vinyl	NAD	SAT
			Layer 2: Clear mastic	NAD	
			Layer 3: Brown sheet vinyl	NAD	
			Layer 4: Yellow mastic	NAD	
			Layer 5: Brown sheet vinyl	NAD	
			Layer 6: Yellow mastic	NAD	
40573.246 -35	Wood Grain Sheet Vinyl Flooring	Bldg 4; Unit 3, Bathroom	Layer 1: Gray sheet vinyl	NAD	SAT
			Layer 2: Clear mastic	NAD	
			Layer 3: Brown sheet vinyl	NAD	
			Layer 4: Yellow mastic	NAD	
			Layer 5: Brown sheet vinyl	NAD	
			Layer 6: Yellow mastic	NAD	
40573.246 -36	Wood Grain Sheet Vinyl Flooring	Bldg 4; Unit 3, Kitchen	Layer 1: Gray sheet vinyl	NAD	SAT
			Layer 2: Clear mastic	NAD	
			Layer 3: Brown sheet vinyl	NAD	
			Layer 4: Yellow mastic	NAD	
			Layer 5: Brown sheet vinyl	NAD	
			Layer 6: Yellow mastic	NAD	
40573.246 -37	Older Wood Grain Sheet Vinyl Flooring	Bldg 4; Unit 5, Kitchen	Layer 1: Brown sheet vinyl	NAD	SAT

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
			Layer 2: Gray fibrous material with mastic	**50% Chrysotile**	
40573.246 -38	Ceramic Floor Tile Grout	Cabana; Entry Foyer	Layer 1: Cream brittle/sandy material	NAD	SAT
40573.246 -39	Ceramic Floor Tile Mortar	Cabana; Entry Foyer	Layer 1: Cream brittle/sandy material	NAD	SAT
40573.246 -40	Wall Texture Type I (Orange Peel)	Bldg 1; Unit 1; Living Room	Layer 1: White powdery material with paint	NAD	SAT
40573.246 -41	Wall Texture Type I (Orange Peel)	Bldg 1; Unit 1; Bathroom	Layer 1: White powdery material with paint Layer 2: Off-white chalky material with paper	NAD NAD	SAT
40573.246 -42	Wall Texture Type I (Orange Peel)	Bldg 1; Unit 4; Kitchen	Layer 1: White powdery material with paint Layer 2: Off-white chalky material with paper	NAD NAD	SAT
40573.246 -43	Wall Texture Type I (Orange Peel)	Bldg 1; Unit 8, Entry Closet	Layer 1: White powdery material with paint Layer 2: Off-white chalky material with paper	NAD	SAT
40573.246 -44	Wall Texture Type I (Orange Peel)	Bldg 1; Unit 8, Living Room	Layer 1: White powdery material with paint	NAD	SAT
40573.246 -45	Wall Texture Type I (Orange Peel)	Bldg 2; Unit 3, Bedroom	Layer 1: White powdery material with paint	NAD	SAT
40573.246 -46	Wall Texture Type I (Orange Peel)	Bldg 2; Unit 6, Bedroom Loft	Layer 1: White powdery material with paint	NAD	SAT
40573.246 -47	Wall Texture Type I (Orange Peel)	Bldg 2; Unit 6 Dining Room	Layer 1: White powdery material with paint	NAD	SAT
40573.246 -48	Wall Texture Type I (Orange Peel)	Bldg 3; Unit 3, Bedroom	Layer 1: White powdery material with paint	NAD	SAT
40573.246 -49	Wall Texture Type I (Orange Peel)	Bldg 3; Unit 3, Hallway	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD	SAT
40573.246 -50	Wall Texture Type I (Orange Peel)	Bldg 3; Unit 4, Bedroom	Layer 1: White powdery material with paint	NAD	SAT

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
40573.246 -51	Wall Texture Type I (Orange Peel)	Bldg 3; Unit 1, Bedroom	Layer 1: White powdery material with paint Layer 2: Off-white chalky material with paper	NAD NAD	SAT
40573.246 -52	Wall Texture Type I (Orange Peel)	Bldg 3; Unit 1, Bathroom	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40573.246 -53	Wall Texture Type I (Orange Peel)	Bldg 3; Unit 6, Entry Closet	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40573.246 -54	Wall Texture Type I (Orange Peel)	Bldg 3; Unit 6, Dining Room	Layer 1: White powdery material with paint and	NAD	SAT
40573.246 -55	Wall Texture Type I (Orange Peel)	Bldg 3; Unit 7; Hallway	Layer 1: White powdery material with paint and	NAD	SAT
40573.246 -56	Wall Texture Type I (Orange Peel)	Bldg 4; Unit 1 Entry Closet	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40573.246 -57	Wall Texture Type I (Orange Peel)	Bldg 4 Unit 4 Hallway	Layer 1: White powdery material with paint and paper	NAD	SAT
40573.246 -58	Wall Texture Type I (Orange Peel)	Bldg 4; Unit 5, Kitchen	Layer 1: White powdery material with paint and paper	NAD	SAT
40573.246 -59	Wall Texture Type I (Orange Peel)	Bldg 4 Unit 8; Hallway	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40573.246 -60	Wall Texture Type I (Orange Peel)	Cabana; Office	Layer 1: White powdery material with paint and paper	NAD	SAT
40573.246 -61	Wall Texture Type I (Orange Peel)	Cabana; Alcove	Layer 1: White powdery material with paint and paper	NAD	SAT
40573.246 -62	Wall Texture Type I (Orange Peel)	Cabana; Fireplace Lounge	Layer 1: White powdery material with paint	NAD	SAT

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
40573.246 -63	Wall Texture Type I (Orange Peel)	Cabana; Kitchen	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40573.246 -64	Wall Texture Type I (Orange Peel)	Cabana; Office	Layer 1: white powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40573.246 -65	Wall Texture Type II (Knockdown)	Cabana Loft	Layer 1: White powdery material with paint	NAD	SAT
40573.246 -66	Wall Texture Type II (Knockdown)	Cabana Loft	Layer 1: White powdery material with paint	NAD	SAT
40573.246 -67	Wall Texture Type II (Knockdown)	Cabana Loft	Layer 1: White powdery material with paint	NAD	SAT
40573.246 -68	Wall Texture Type III (Knockdown)	Bldg 1; Laundry	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40573.246 -69	Wall Texture Type III (Knockdown)	Bldg 1; Laundry	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40573.246 -70	Wall Texture Type III (Knockdown)	Bldg 1; Exterior wall	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40573.246 -71	Wall Texture Type III (Knockdown)	Bldg 1; Exterior wall	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40573.246 -72	Wall Texture Type III (Knockdown)	Bldg 2; Exterior Soffit	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40573.246 -73	Wall Texture Type III (Knockdown)	Bldg 2; Exterior Soffit	Layer 1: White powdery material with paint Layer 2: White chalky material with paper	NAD NAD	SAT
40573.246 -74	Wall Texture Type III (Knockdown)	Bldg 3; Exterior Soffit	Layer 1: White powdery material with paint	NAD	SAT

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
40573.246 -75	Wall Texture Type III (Knockdown)	Bldg 4; Exterior Soffit	Layer 1: White powdery material with paint	NAD	SAT
40573.246 -76	Wall Texture Type III /Gypsum Wallboard	Bldg 1; Laundry	Layer 1: White powdery material with paint and paper	NAD	SAT
	Joint Compound		Layer 2: White chalky material with paper	NAD	
40573.246 -77	Wall Texture Type I /Gypsum Wallboard	Bldg 1; Unit 5, Living Room	Layer 1: White powdery material with paint and paper	NAD	SAT
	Joint Compound		Layer 2: White chalky material with paper	NAD	
40573.246 -78	Wall Texture Type I /Gypsum Wallboard	Bldg 2; Unit 2, Living Room	Layer 1: White powdery material with paint and paper	NAD	SAT
	Joint Compound		Layer 2: White chalky material with paper	NAD	
40573.246 -79	Wall Texture Type I /Gypsum Wallboard	Bldg 2; Unit 3, Living Room	Layer 1: White powdery material with woven fibrous material	NAD	SAT
	Joint Compound		Layer 2: White chalky material with paper	NAD	
40573.246 -80	Wall Texture Type I /Gypsum Wallboard	Bldg 2; Unit 7, Living Room	Layer 1: White powdery material with paint and paper	NAD	SAT
	Joint Compound		Layer 2: White chalky material with paper	NAD	
40573.246 -81	Wall Texture Type I /Gypsum Wallboard	Bldg 3; Unit 1, Entry Closet	Layer 1: White powdery material with paint and paper	NAD	SAT
	Joint Compound		Layer 2: White chalky material with paper	NAD	
40573.246 -82	Wall Texture Type I /Gypsum Wallboard	Bldg 4; Unit 3, Entry Closet	Layer 1: White powdery material with woven fibrous material	NAD	SAT
	Joint Compound		Layer 2: White chalky material with paper	NAD	
40573.246 -83	Wall Texture Type I /Gypsum Wallboard	Bldg 4; Unit 4, Entry Closet	Layer 1: White powdery material with	NAD	SAT

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
			paint and paper		
	Joint Compound		Layer 2: White chalky material with paper	NAD	
40573.246 -84	Wall Texture Type I /Gypsum Wallboard	Cabana; Men's Room	Layer 1: White powdery material with paint and paper	NAD	SAT
	Joint Compound		Layer 2: White chalky material with paper	NAD	
40573.246 -85	Skimcoat on Wood	Cabana; Tool Storage Room	Layer 1: White powdery material with paint	NAD	SAT
			Layer 2: Brown wood block	NAD	
40573.246 -86	Skimcoat on Wood	Cabana; Tool Storage Room	Layer 1: White powdery material with paint	NAD	SAT
			Layer 2: Brown wood block	NAD	
40573.246 -87	Skimcoat on Wood	Cabana; Tool Storage Room	Layer 1: White powdery material with paint	NAD	SAT
			Layer 2: Brown wood block	NAD	
40573.246 -88	Grey Covebase/Covebase Mastic	Bldg 1; Laundry Room	Layer 1: Gray rubbery material	NAD	SAT
			Layer 2: Cream mastic	NAD	
40573.246 -89	White Covebase/Covebase Mastic	Bldg 1; Unit 1 Bathroom	Layer 1: White rubbery material	NAD	SAT
			Layer 2: Cream mastic	NAD	
40573.246 -90	White Covebase/Covebase Mastic	Bldg 2; Unit 6 Kitchen	Layer 1: White rubbery material	NAD	SAT
			Layer 2: Cream mastic	NAD	
40573.246 -91	White Covebase/Covebase Mastic	Bldg 3; Unit 1 Bathroom	Layer 1: White rubbery material	NAD	SAT
			Layer 2: Yellow mastic	NAD	
40573.246 -92	White Covebase/Covebase Mastic	Bldg 3; Unit 4 Bathroom	Layer 1: White rubbery material	NAD	SAT
			Layer 2: Cream mastic	NAD	
40573.246 -93	Tan Covebase/Covebase Mastic	Bldg 1; Unit 4, Bathroom	Layer 1: Tan rubbery material	NAD	SAT

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
			Layer 2: Cream mastic	NAD	
40573.246 -94	White Covebase/Covebase Mastic	Bldg 4; Unit 4 Bathroom	Layer 1: White rubbery material Layer 2: Yellow mastic	NAD NAD	SAT
40573.246 -95	Brown Covebase/Covebase Mastic	Cabana Stairwell	Layer 1: Brown rubbery material Layer 2: Tan mastic	NAD NAD	SAT
40573.246 -96	Popcorn Ceiling Texture	Bldg 1; Unit 1, Bedroom	Layer 1: White soft lumpy material with paint	**3% Chrysotile**	SAT
40573.246 -97	Popcorn Ceiling Texture	Bldg 1; Unit 4, Living Room	Layer 1: White soft lumpy material with paint	**3% Chrysotile**	SAT
40573.246 -98	Popcorn Ceiling Texture	Bldg 1; Unit 5, Living Room	Layer 1: White soft lumpy material with paint	**3% Chrysotile**	SAT
40573.246 -99	Popcorn Ceiling Texture	Bldg 1; Unit 8, Living Room	Layer 1: White soft lumpy material with paint	**3% Chrysotile**	SAT
40573.246 -100	Popcorn Ceiling Texture	Bldg 2; Unit 3, Living Room	Layer 1: White soft lumpy material with paint	**3% Chrysotile**	SAT
40573.246 -101	Popcorn Ceiling Texture	Bldg 2; Unit 6, Dining Room	Layer 1: White soft lumpy material with paint	**3% Chrysotile**	SAT
40573.246 -102	Popcorn Ceiling Texture	Bldg 2; Unit 7, Bedroom	Layer 1: White soft lumpy material with paint	**2% Chrysotile**	SAT
40573.246 -103	Popcorn Ceiling Texture	Bldg 2; Unit 8, Living Room	Layer 1: White soft lumpy material with paint	**2% Chrysotile**	SAT
40573.246 -104	Popcorn Ceiling Texture	Bldg 3; Unit 3, Living Room	Layer 1: White soft lumpy material with paint	**2% Chrysotile**	SAT
40573.246 -105	Popcorn Ceiling Texture	Bldg 3; Unit 6, Bedroom Loft	Layer 1: White soft lumpy material with paint	**2% Chrysotile**	SAT
40573.246 -106	Popcorn Ceiling Texture	Bldg 3; Unit 7, Living Room	Layer 1: White soft lumpy material with paint	**2% Chrysotile**	SAT
40573.246 -107	Popcorn Ceiling Texture	Bldg 4; Unit 3, Bedroom	Layer 1: White soft lumpy material with paint	**2% Chrysotile**	SAT

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
40573.246 -108	Popcorn Ceiling Texture	Bldg 4; Unit 4, Bedroom	Layer 1: White soft lumpy material with paint	**2% Chrysotile**	SAT
40573.246 -109	Popcorn Ceiling Texture	Bldg 4; Unit 8, Living Room	Layer 1: White soft lumpy material with paint	**2% Chrysotile**	SAT
40573.246 -110	Black Sink Undercoat	Bldg 1; Unit 1 Kitchen	Layer 1: Black soft/loose material	**2% Chrysotile**	SAT
40573.246 -111	Black Sink Undercoat	Bldg 1; Unit 4 Kitchen	Layer 1: Black soft/loose material	**2% Chrysotile**	SAT
40573.246 -112	Black Sink Undercoat	Bldg 1; Unit 5 Kitchen	Layer 1: Black soft/loose material	**2% Chrysotile**	SAT
40573.246 -113	Black Sink Undercoat	Bldg 2; Unit 2 Kitchen	Layer 1: Black soft/loose material	**2% Chrysotile**	SAT
40573.246 -114	Black Sink Undercoat	Bldg 2; Unit 3 Kitchen	Layer 1: Black soft/loose material	**3% Chrysotile**	SAT
40573.246 -115	Black Sink Undercoat	Bldg 3; Unit 1 Kitchen	Layer 1: Black soft/loose material	**2% Chrysotile**	SAT
40573.246 -116	Black Sink Undercoat	Bldg 3; Unit 4 Kitchen	Layer 1: Black soft/loose material	**2% Chrysotile**	SAT
40573.246 -117	Black Sink Undercoat	Bldg 4; Unit 3 Kitchen	Layer 1: Black soft/loose material	**3% Chrysotile**	SAT
40573.246 -118	Black Sink Undercoat	Bldg 4; Unit 5 Kitchen	Layer 1: Black soft/loose material	**2% Chrysotile**	SAT
40573.246 -119	Black Sink Undercoat	Bldg 4; Unit 8 Kitchen	Layer 1: Black soft/loose material	**2% Chrysotile**	SAT
40573.246 -120	Sink Patch	Bldg 3; Unit 3 Kitchen	Layer 1: Black soft/loose material	**2% Chrysotile**	SAT
40573.246 -121	Sink Patch	Bldg 3; Unit 6 Kitchen	Layer 1: Black soft material	NAD	SAT
40573.246 -122	Sink Patch	Bldg 4; Unit 1 Kitchen	Layer 1: Yellow soft material with paint	NAD	SAT
40573.246 -123	Sink Patch	Cabana Kitchen	Layer 1: Black soft material	NAD	SAT

PLM ASBESTOS SAMPLE INVENTORY

PBS Sample #	Material Type	Sample Location	Lab Description	Lab Result	Lab
40573.246 -124	Blown in Insulation	Bldg 2 Attic	Layer 1: White fibrous material	NAD	SAT
40573.246 -125	Blown in Insulation	Bldg 3 Attic	Layer 1: White fibrous material	NAD	SAT
40573.246 -126	Asphalt Shingle	Bldg 2 Roof	Layer 1: Black asphaltic material with sand	NAD	SAT
40573.246 -127	Asphalt Shingle	Bldg 3 Roof	Layer 1: Black asphaltic material with sand	NAD	SAT
40573.246 -128	Asphalt Shingle	Bldg 4 Roof	Layer 1: Black asphaltic material with sand	NAD	SAT
40573.246 -129	Asphalt Shingle	Cabana Roof	Layer 1: Black asphaltic material with sand Layer 2: Black asphaltic material	NAD NAD	SAT
40573.246 -130	Window Frame Caulk	Cabana	Layer 1: Gray soft/elastic material	NAD	SAT

SEATTLE ASBESTOS TEST, LLC

Lynnwood Laboratory: 19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel: 425.673.9850, Fax: 425.673.9810, NVLAP Lab Code: 200768-0

www.seattleasbestostest.com, admin@seattleasbestostest.com

Project Manager:	Ferman Fletcher	Date Analyzed:	12/12/2022
Client:	PBS Engineering and Environmental, Seattle	Client Job#:	40573.246
Address:	214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location:	KCHA Sandpiper East Apts
Tel:	206.233.9639	Laboratory batch#:	202211610
Date Report Issued:	12/12/2022	Samples Received:	32

Enclosed please find the test results for the bulk samples submitted to our laboratory for asbestos analysis. Analysis was performed using polarized light microscopy (PLM) in accordance with Test Method US EPA - 40 CFR Appendix E of Part 763, Interim Method of Determination of Asbestos in Bulk Insulation Samples and Test Method US EPA/600/R-93/116.

Percentages for this report are done by visual estimate and relate to the suggested acceptable error ranges by the method. Since variation in data increases as the quantity of asbestos decreases toward the limit of detection, the EPA recommends point counting for samples containing between <1% and 10% asbestos (NESHAP, 40 CFR Part 61). Statistically, point counting is a more accurate method. If you feel a point count might be beneficial, please feel free to call and request one.

The test results refer only to the samples or items submitted and tested. The accuracy with which these samples represent the actual materials is totally dependent on the acuity of the person who took the samples. This report must not be used by the client to claim product certification, approval, or endorsement by Seattle Asbestos Test, LLC, NVLAP, NIST, or any agency of the Federal government. The test report or calibration certificate shall not be reproduced except in full, without written approval of the laboratory. If the sample is inhomogeneous the sub-samples of the components are analyzed separately as layers.This report in its entirety consists of this cover leter, the customer sampling COC or data sheet, and the analytical report which is page numbered.

This report is highly confidential and will not be released without your consent. Samples are archived for 30 days after the analysis, and disposed of as hazardous waste thereafter.

Thank you for using our service and let us know if we can further assist you.

Sincerely

SZhang

Steve (Fanyao) Zhang
Approved Signatory

20221610

LABORATORY CHAIN OF CUSTODY

Project: KCHA: Sandpiper East Apts **Project #:** 40573.246 Page 1 of 1

Analysis requested: PLM **Date:** 12/8/2022

Relinq'd by/Signature: **Date/Time:** 12/8/2022

Received by/Signature: **Date/Time:** 12/12/22 9:10

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

- ☐ Willem Mager
- ☐ Gregg Middaugh
- ☐ Mark Hiley
- ☐ Tim Ogden
- ☐ Ryan Hunter
- ☐ Prudy Stoudt-McRae
- ☐ Janet Murphy
- ☐ Allison Welch
- ☐ Toan Nguyen
- ☐ Peter Stensland
- ☐ Claire Tsai
- ☐ Holly Tuttle
- ☐ Mike Smith
- ☒ Ferman Fletcher
- ☐ Cameron Budnick
- ☐ Mae Reilly
- ☐ Nick San
- ☐ Kameron DeMonnin
- ☐ _____

TURN AROUND TIME:

- ☐ 1 Hour
- ☐ 2 Hours
- ☐ 4 Hours
- ☒ 24 Hours
- ☐ 48 Hours
- ☐ 3-5 Days
- ☐ Other_____

SAMPLE DATA FORM

Sample #	Material	Location	Lab
40573.246-17	Wood Grain SVF	Bldg 1; Laundry Room	SAT
-18	"	Bldg 1; Unit 8, Bathroom	
-19	"	Bldg 1 Unit 8; Kitchen	
-20	"	Bldg 2; Unit 3 Kitchen	
-21	"	Bldg 2; Unit 7, Bathroom	
-22	"	Bldg 2; Unit 7, Kitchen	
-23	"	Bldg 2; Unit 2, Kitchen	
-24	"	Bldg 2; Unit 2, Bathroom	
-25	"	Bldg 2 Unit 3; Bathroom	
-26	"	Bldg 2; Unit 6, Bathroom	
-27	"	Bldg 3; Unit 1, Kitchen	
-28	"	Bldg 3; Unit 1,Bathroom	
-29	"	Bldg 3; Unit 3, Kitchen	
-30	"	Bldg 3; Unit 3, Bathroom	
-31	"	Bldg 3; Unit 6, Kitchen	
-32	"	Bldg 3; Unit 6, Bathroom	

2022116l0

LABORATORY CHAIN OF CUSTODY

Project: KCHA: Sandpiper East Apts **Project #:** 40573.246 Page 1 of 1

Analysis requested: PLM **Date:** 12/8/2022

Relinq'd by/Signature: **Date/Time:** 12/8/2022

Received by/Signature: **Date/Time:** 12/12/22 9:00

Email ALL INVOICES to: seattleap@pbsusa.com

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- ☐ Mae Reilly
- ☐ Nick San
- ☐ Kameron DeMonnin
- ☐ _____

TURN AROUND TIME:

- ☐ 1 Hour
- ☐ 2 Hours
- ☐ 4 Hours
- ☒ 24 Hours
- ☐ 48 Hours
- ☐ 3-5 Days
- ☐ Other_____

SAMPLE DATA FORM

Sample #	Material	Location	Lab
40573.246-01	12" Stone Grid Pattern SVF	Bldg 1; Unit 5 Bathroom	SAT
-02	"	Bldg 1; Unit 5 Kitchen	
-03	"	Bldg 1; Unit 1 Kitchen	
-04	"	Bldg 1; Unit 1 Bathroom	
-05	"	Bldg 2; Unit 6 Kitchen	
-06	"	Bldg 3; Unit 7 Bathroom	
-07	"	Bldg 3; Unit 7 Kitchen	
-08	"	Bldg 3; Unit 4 Kitchen	
-09	"	Bldg 4; Unit 8 Kitchen	
-10	"	Bldg 4; Unit 8 Bathroom	
-11	"	Bldg 4; Unit 5 Bathroom	
-12	4" Stone Grid Pattern SVF	Bldg 1; Unit 4; Bathroom	
-13	"	Bldg 2; Unit 8, Kitchen	
-14	"	Bldg 1; Unit 4; Kitchen	
-15	2" Stone Grid Pattern SVF	Bldg 4 Unit 5, Bathroom	
-16	Multi-color Square Stone Pattern SVF	Cabana; Tool Storage room	

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ANALYTICAL LABORATORY REPORT

[PLM] EPA – 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples; [PLM] EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Attn.: Ferman Fletcher
Client: PBS Engineering and Environmental, Seattle
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
Job#: 40573.246
Batch#: 202211610
Date Received: 12/12/2022
Samples Rec'd: 32
Date Analyzed: 12/12/2022
Samples Analyzed: 32
Project Loc.: KCHA Sandpiper East Apts

Analyzed by: Steve (Fanyao) Zhang
Approved Signatory: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40573.246-01	1	Beige sheet vinyl		None detected	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	66	Cellulose
		3	Gray sheet vinyl		None detected	Vinyl/binder		None detected
		4	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	64	Cellulose
		5	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		6	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	65	Cellulose
		7	Beige sheet vinyl		None detected	Vinyl/binder		None detected
		8	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	63	Cellulose
		9	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		10	Gray fibrous material with mastic	50	Chrysotile	Binder/filler, Mastic/binder	34	Cellulose
2	40573.246-02	1	Beige sheet vinyl		None detected	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	65	Cellulose
		3	Gray sheet vinyl		None detected	Vinyl/binder		None detected
		4	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	63	Cellulose
		5	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		6	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	64	Cellulose
		7	Beige sheet vinyl		None detected	Vinyl/binder		None detected
		8	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	66	Cellulose

SEATTLE ASBESTOS TEST

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Samples Analyzed: 32
Project Loc.: KCHA Sandpiper East Apts

Analyzed by: Steve (Fanyao) Zhang
Approved Signatory: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
2	40573.246-02	9	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		10	Gray fibrous material with mastic	50	Chrysotile	Binder/filler, Mastic/binder	35	Cellulose
3	40573.246-03	1	Beige sheet vinyl		None detected	Vinyl/binder		None detected
		2	Clear mastic		None detected	Mastic/binder	3	Cellulose
		3	Gray brittle material		None detected	Filler, Binder	2	Cellulose
		4	Gray sheet vinyl		None detected	Vinyl/binder		None detected
		5	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	63	Cellulose
		6	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		7	Gray fibrous material with mastic	50	Chrysotile	Binder/filler, Mastic/binder	33	Cellulose
4	40573.246-04	1	Gray sheet vinyl		None detected	Vinyl/binder		None detected
		2	Clear mastic		None detected	Mastic/binder	3	Cellulose
		3	Gray sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
5	40573.246-05	1	Beige sheet vinyl		None detected	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	65	Cellulose
		3	Gray sheet vinyl		None detected	Vinyl/binder		None detected
		4	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	63	Cellulose
		5	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		6	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	64	Cellulose
		7	Beige sheet vinyl		None detected	Vinyl/binder		None detected

SEATTLE ASBESTOS TEST

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ANALYTICAL LABORATORY REPORT

[PLM] EPA – 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples; [PLM] EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Attn.: Ferman Fletcher **Client:** PBS Engineering and Environmental, Seattle **Address:** 214 E Galer Street, Suite 300, Seattle, WA 98102

Job#: 40573.246 **Batch#:** 202211610 **Date Received:** 12/12/2022

Samples Rec'd: 32 **Date Analyzed:** 12/12/2022 **Samples Analyzed:** 32

Project Loc.: KCHA Sandpiper East Apts

Analyzed by: Steve (Fanyao) Zhang

Approved Signatory: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
5	40573.246-05	8	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	65	Cellulose
		9	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		10	Gray fibrous material with mastic	50	Chrysotile	Binder/filler, Mastic/binder	35	Cellulose
6	40573.246-06	1	Beige sheet vinyl		None detected	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	66	Cellulose
		3	Gray sheet vinyl		None detected	Vinyl/binder		None detected
		4	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	65	Cellulose
		5	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		6	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	64	Cellulose
		7	Beige sheet vinyl		None detected	Vinyl/binder		None detected
		8	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	63	Cellulose
		9	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		10	Gray fibrous material with mastic	50	Chrysotile	Binder/filler, Mastic/binder	34	Cellulose
7	40573.246-07	1	Beige sheet vinyl		None detected	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	65	Cellulose
		3	Gray sheet vinyl		None detected	Vinyl/binder		None detected
		4	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	63	Cellulose
		5	Brown sheet vinyl		None detected	Vinyl/binder		None detected

SEATTLE ASBESTOS TEST

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ANALYTICAL LABORATORY REPORT

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Date Received: 12/12/2022
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Samples Analyzed: 32
Project Loc.: KCHA Sandpiper East Apts

Analyzed by: Steve (Fanyao) Zhang
Approved Signatory: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
7	40573.246-07	6	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	64	Cellulose
		7	Beige sheet vinyl		None detected	Vinyl/binder		None detected
		8	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	66	Cellulose
		9	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		10	Gray fibrous material with mastic	50	Chrysotile	Binder/filler, Mastic/binder	35	Cellulose
8	40573.246-08	1	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	64	Cellulose
9	40573.246-09		Sample not submitted					
10	40573.246-10	1	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	64	Cellulose
		3	Tan sheet vinyl		None detected	Vinyl/binder		None detected
		4	Gray fibrous material with mastic	50	Chrysotile	Binder/filler, Mastic/binder	35	Cellulose
11	40573.246-11	1	Beige sheet vinyl		None detected	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	65	Cellulose
		3	Gray sheet vinyl		None detected	Vinyl/binder		None detected
		4	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	63	Cellulose
		5	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		6	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	64	Cellulose

SEATTLE ASBESTOS TEST

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ANALYTICAL LABORATORY REPORT

[PLM] EPA – 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples; [PLM] EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

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Analyzed by: Steve (Fanyao) Zhang
Approved Signatory: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
11	40573.246-11	7	Beige sheet vinyl		None detected	Vinyl/binder		None detected
		8	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	65	Cellulose
		9	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		10	Gray fibrous material with mastic	50	Chrysotile	Binder/filler, Mastic/binder	35	Cellulose
12	40573.246-12	1	Beige sheet vinyl		None detected	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	64	Cellulose
13	40573.246-13	1	Beige sheet vinyl		None detected	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	64	Cellulose
		3	Tan sheet vinyl		None detected	Vinyl/binder		None detected
		4	Gray fibrous material with mastic	50	Chrysotile	Binder/filler, Mastic/binder	35	Cellulose
14	40573.246-14	1	Beige sheet vinyl		None detected	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	65	Cellulose
15	40573.246-15	1	Tan sheet vinyl		None detected	Vinyl/binder		None detected
		2	Gray fibrous material with mastic	50	Chrysotile	Binder/filler, Mastic/binder	35	Cellulose
16	40573.246-16	1	Multi-color sheet vinyl		None detected	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	64	Cellulose
		3	Gray sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
17	40573.246-17	1	Gray sheet vinyl		None detected	Vinyl/binder		None detected

SEATTLE ASBESTOS TEST

Lynnwood Laboratory: 19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel: 425.673.9850, Fax: 425.673.9810, NVLAP Lab Code: 200768-0

ANALYTICAL LABORATORY REPORT

[PLM] EPA – 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples; [PLM] EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Attn.: Ferman Fletcher
Client: PBS Engineering and Environmental, Seattle
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
Job#: 40573.246
Batch#: 202211610
Date Received: 12/12/2022
Samples Rec'd: 32
Date Analyzed: 12/12/2022
Samples Analyzed: 32
Project Loc.: KCHA Sandpiper East Apts

Analyzed by: Steve (Fanyao) Zhang
Approved Signatory: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
17	40573.246-17	2	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	65	Cellulose
		3	Gray sheet vinyl		None detected	Vinyl/binder		None detected
		4	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	66	Cellulose
18	40573.246-18	1	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		2	Clear mastic		None detected	Mastic/binder	3	Cellulose
		3	Beige sheet vinyl		None detected	Vinyl/binder		None detected
		4	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	66	Cellulose
		5	Tan sheet vinyl		None detected	Vinyl/binder		None detected
		6	Gray fibrous material with mastic	50	Chrysotile	Binder/filler, Mastic/binder	35	Cellulose
19	40573.246-19	1	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		2	Clear mastic		None detected	Mastic/binder	3	Cellulose
		3	Beige sheet vinyl		None detected	Vinyl/binder		None detected
		4	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	66	Cellulose
20	40573.246-20	1	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		2	Clear mastic		None detected	Mastic/binder	3	Cellulose
		3	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		4	Green mastic		None detected	Mastic/binder	4	Cellulose
		5	Beige sheet vinyl		None detected	Vinyl/binder		None detected
		6	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	65	Cellulose

SEATTLE ASBESTOS TEST

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ANALYTICAL LABORATORY REPORT

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Analyzed by: Steve (Fanyao) Zhang
Approved Signatory: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
21	40573.246-21	1	Brown vinyl		None detected	Vinyl/binder		None detected
		2	Black tile		None detected	Vinyl/binder, Mineral grains	2	Cellulose
		3	Clear mastic		None detected	Mastic/binder	4	Cellulose
22	40573.246-22	1	Brown vinyl		None detected	Vinyl/binder		None detected
		2	Black tile		None detected	Vinyl/binder, Mineral grains	2	Cellulose
		3	Clear mastic		None detected	Mastic/binder	3	Cellulose
		4	Beige sheet vinyl		None detected	Vinyl/binder		None detected
		5	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	65	Cellulose
		6	Gray brittle material		None detected	Filler, Binder	2	Cellulose
23	40573.246-23	1	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		2	Clear mastic		None detected	Mastic/binder	3	Cellulose
		3	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		4	Yellow mastic		None detected	Mastic/binder	4	Cellulose
		5	Beige sheet vinyl		None detected	Vinyl/binder		None detected
		6	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	65	Cellulose
		7	Gray sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
24	40573.246-24	1	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		2	Clear mastic		None detected	Mastic/binder	3	Cellulose
		3	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		4	Yellow mastic		None detected	Mastic/binder	3	Cellulose
		5	Beige sheet vinyl		None detected	Vinyl/binder		None detected

SEATTLE ASBESTOS TEST

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ANALYTICAL LABORATORY REPORT

[PLM] EPA – 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples; [PLM] EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

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Samples Analyzed: 32
Project Loc.: KCHA Sandpiper East Apts

Analyzed by: Steve (Fanyao) Zhang
Approved Signatory: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
24	40573.246-24	6	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	65	Cellulose
25	40573.246-25	1	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		2	Clear mastic		None detected	Mastic/binder	3	Cellulose
		3	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		4	Green mastic		None detected	Mastic/binder	2	Cellulose
		5	Gray sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
26	40573.246-26	1	Gray sheet vinyl		None detected	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	65	Cellulose
		3	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		4	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	63	Cellulose
27	40573.246-27	1	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		2	Yellow mastic		None detected	Mastic/binder	3	Cellulose
28	40573.246-28	1	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		2	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	65	Cellulose
		3	Gray sheet vinyl		None detected	Vinyl/binder		None detected
		4	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	65	Cellulose
29	40573.246-29	1	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		2	Clear mastic		None detected	Mastic/binder	3	Cellulose
		3	Gray sandy/brittle material		None detected	Sand, Filler, Binder	3	Cellulose
30	40573.246-30	1	Brown sheet vinyl		None detected	Vinyl/binder		None detected

SEATTLE ASBESTOS TEST

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ANALYTICAL LABORATORY REPORT

[PLM] EPA – 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples; [PLM] EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Attn.: Ferman Fletcher **Client:** PBS Engineering and Environmental, Seattle **Address:** 214 E Galer Street, Suite 300, Seattle, WA 98102

Job#: 40573.246 **Batch#:** 202211610 **Date Received:** 12/12/2022

Samples Rec'd: 32 **Date Analyzed:** 12/12/2022 **Samples Analyzed:** 32

Project Loc.: KCHA Sandpiper East Apts

Analyzed by: Steve (Fanyao) Zhang Approved Signatory: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
30	40573.246-30	2	Clear mastic		None detected	Mastic/binder	3	Cellulose
		3	Gray sheet vinyl		None detected	Vinyl/binder		None detected
		4	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	63	Cellulose
		5	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		6	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	64	Cellulose
		7	Beige sheet vinyl		None detected	Vinyl/binder		None detected
		8	Gray fibrous material with mastic		None detected	Binder/filler, Mastic/binder	66	Cellulose
		9	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		10	Gray fibrous material with mastic	50	Chrysotile	Binder/filler, Mastic/binder	35	Cellulose
31	40573.246-31	1	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		2	Clear mastic		None detected	Mastic/binder	3	Cellulose
32	40573.246-32	1	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		2	Green mastic		None detected	Mastic/binder	2	Cellulose

SEATTLE ASBESTOS TEST, LLC

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www.seattleasbestostest.com, admin@seattleasbestostest.com

Project Manager:	Ferman Fletcher	Date Analyzed:	12/12/2022
Client:	PBS Engineering and Environmental, Seattle	Client Job#:	40573.246
Address:	214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location:	KCHA Sandpiper East Apts
Tel:	206.233.9639	Laboratory batch#:	202211611
Date Report Issued:	12/12/2022	Samples Received:	32

Enclosed please find the test results for the bulk samples submitted to our laboratory for asbestos analysis. Analysis was performed using polarized light microscopy (PLM) in accordance with Test Method US EPA - 40 CFR Appendix E of Part 763, Interim Method of Determination of Asbestos in Bulk Insulation Samples and Test Method US EPA/600/R-93/116.

Percentages for this report are done by visual estimate and relate to the suggested acceptable error ranges by the method. Since variation in data increases as the quantity of asbestos decreases toward the limit of detection, the EPA recommends point counting for samples containing between <1% and 10% asbestos (NESHAP, 40 CFR Part 61). Statistically, point counting is a more accurate method. If you feel a point count might be beneficial, please feel free to call and request one.

The test results refer only to the samples or items submitted and tested. The accuracy with which these samples represent the actual materials is totally dependent on the acuity of the person who took the samples. This report must not be used by the client to claim product certification, approval, or endorsement by Seattle Asbestos Test, LLC, NVLAP, NIST, or any agency of the Federal government. The test report or calibration certificate shall not be reproduced except in full, without written approval of the laboratory. If the sample is inhomogeneous the sub-samples of the components are analyzed separately as layers.This report in its entirety consists of this cover leter, the customer sampling COC or data sheet, and the analytical report which is page numbered.

This report is highly confidential and will not be released without your consent. Samples are archived for 30 days after the analysis, and disposed of as hazardous waste thereafter.

Thank you for using our service and let us know if we can further assist you.

Sincerely

SZhang

Steve (Fanyao) Zhang
Approved Signatory

20221611

LABORATORY CHAIN OF CUSTODY

PBS

Project: KCHA: Sandpiper East Apts

Project #: 40573.246 Page 1 of 1

Analysis requested: PLM

Date: 12/8/2022

Relinq'd by/Signature:

Date/Time: 12/8/2022

Received by/Signature:

Date/Time: 12/12/22 9:00

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

- ☐ Willem Mager
- ☐ Gregg Middaugh
- ☐ Mark Hiley
- ☐ Tim Ogden
- ☐ Ryan Hunter
- ☐ Prudy Stoudt-McRae
- ☐ Janet Murphy
- ☒ Allison Welch
- ☐ Toan Nguyen
- ☐ Peter Stensland
- ☐ Claire Tsai
- ☐ Holly Tuttle
- ☐ Mike Smith
- ☒ Ferman Fletcher
- ☐ Cameron Budnick
- ☐ Mae Reilly
- ☐ Nick San
- ☐ Kameron DeMonnin
- ☐ _____

TURN AROUND TIME:

- ☐ 1 Hour
- ☐ 2 Hours
- ☐ 4 Hours
- ☒ 24 Hours
- ☐ 48 Hours
- ☐ 3-5 Days
- ☐ Other_____

SAMPLE DATA FORM

Sample #	Material	Location	Lab
40573.246-49	Wall Texture Type I	Bldg 3; Unit 3, Hallway	SAT
-50	"	Bldg 3; Unit 4, Bedroom	
-51	"	Bldg 3; Unit 1, Bedroom	
-52	"	Bldg 3; Unit 1, Bathroom	
-53	"	Bldg 3; Unit 6, Entry Closet	
-54	"	Bldg 3; Unit 6, Dining Room	
-55	"	Bldg 3; Unit 7; Hallway	
-56	"	Bldg 4; Unit 1 Entry Closet	
-57	"	Bldg 4 Unit 4 Hallway	
-58	"	Bldg 4; Unit 5, Kitchen	
-59	"	Bldg 4 Unit 8; Hallway	
-60	"	Cabana; Office	
-61	"	Cabana; Alcove	
-62	"	Cabana; Fireplace Lounge	
-63	"	Cabana; Kitchen	
-64	"	Cabana; Office	

20221161

LABORATORY CHAIN OF CUSTODY

Project: KCHA: Sandpiper East Apts

Project #: 40573.246 Page 1 of 1

Analysis requested: PLM

Date: 12/8/2022

Relinq'd by/Signature:

Date/Time: 12/8/2022

Received by/Signature:

Date/Time: 12/12/22 9:00

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

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- ☐ _____

TURN AROUND TIME:

- ☐ 1 Hour
- ☐ 2 Hours
- ☐ 4 Hours
- ☒ 24 Hours
- ☐ 48 Hours
- ☐ 3-5 Days
- ☐ Other_____

SAMPLE DATA FORM

Sample #	Material	Location	Lab
40573.246-33	Wood Grain SVF	Bldg 4; Unit 1, Bathroom	SAT
-34	"	Bldg 4; Unit 1, Kitchen	
-35	"	Bldg 4; Unit 3, Bathroom	
-36	"	Bldg 4; Unit 3, Kitchen	
-37	Older Wood Grain SVF	Bldg 4; Unit 5, Kitchen	
-38	Ceramic Floor Tile Grout	Cabana; Entry Foyer	
-39	Ceramic Floor Tile Mortar	Cabana; Entry Foyer	
-40	Wall Texture Type I	Bldg 1; Unit 1; Living Room	
-41	"	Bldg 1; Unit 1; Bathroom	
-42	"	Bldg 1; Unit 4; Kitchen	
-43	"	Bldg 1; Unit 8, Entry Closet	
-44	"	Bldg 1; Unit 8, Living Room	
-45	"	Bldg 2; Unit 3, Bedroom	
-46	"	Bldg 2; Unit 6, Bedroom Loft	
-47	"	Bldg 2; Unit 6 Dining Room	
-48	"	Bldg 3; Unit 3, Bedroom	

SEATTLE ASBESTOS TEST

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ANALYTICAL LABORATORY REPORT

[PLM] EPA – 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples; [PLM] EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

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Batch#: 202211611
Date Received: 12/12/2022
Samples Rec'd: 32
Date Analyzed: 12/12/2022
Samples Analyzed: 32
Project Loc.: KCHA Sandpiper East Apts

Analyzed by: Steve (Fanyao) Zhang
Approved Signatory: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40573.246-33	1	Gray sheet vinyl		None detected	Vinyl/binder		None detected
		2	Clear mastic		None detected	Mastic/binder	3	Cellulose
		3	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		4	Yellow mastic		None detected	Mastic/binder	2	Cellulose
		5	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		6	Yellow mastic		None detected	Mastic/binder	4	Cellulose
2	40573.246-34	1	Gray sheet vinyl		None detected	Vinyl/binder		None detected
		2	Clear mastic		None detected	Mastic/binder	3	Cellulose
		3	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		4	Yellow mastic		None detected	Mastic/binder	4	Cellulose
		5	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		6	Yellow mastic		None detected	Mastic/binder	2	Cellulose
3	40573.246-35	1	Gray sheet vinyl		None detected	Vinyl/binder		None detected
		2	Clear mastic		None detected	Mastic/binder	4	Cellulose
		3	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		4	Yellow mastic		None detected	Mastic/binder	3	Cellulose
		5	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		6	Yellow mastic		None detected	Mastic/binder	4	Cellulose
4	40573.246-36	1	Gray sheet vinyl		None detected	Vinyl/binder		None detected
		2	Clear mastic		None detected	Mastic/binder	4	Cellulose
		3	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		4	Yellow mastic		None detected	Mastic/binder	3	Cellulose

SEATTLE ASBESTOS TEST

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Approved Signatory: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
4	40573.246-36	5	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		6	Yellow mastic		None detected	Mastic/binder	4	Cellulose
5	40573.246-37	1	Brown sheet vinyl		None detected	Vinyl/binder		None detected
		2	Gray fibrous material with mastic	50	Chrysotile	Binder/filler, Mastic/binder	35	Cellulose
6	40573.246-38	1	Cream brittle/sandy material		None detected	Binder, Sand	2	Cellulose
7	40573.246-39	1	Cream brittle/sandy material		None detected	Binder, Sand	3	Cellulose
8	40573.246-40	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
9	40573.246-41	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
		2	Off-white chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
10	40573.246-42	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
		2	Off-white chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
11	40573.246-43	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
		2	Off-white chalky material with paper		None detected	Binder/filler, Gypsum/binder	26	Cellulose
12	40573.246-44	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
13	40573.246-45	1	White powdery material with paint		None detected	Binder/filler, Paint	4	Cellulose
14	40573.246-46	1	White powdery material with paint		None detected	Binder/filler, Paint	6	Cellulose
15	40573.246-47	1	White powdery material with paint		None detected	Binder/filler, Paint	4	Cellulose
16	40573.246-48	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
17	40573.246-49	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
18	40573.246-50	1	White powdery material with paint		None detected	Binder/filler, Paint	4	Cellulose

SEATTLE ASBESTOS TEST

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Samples Rec'd: 32
Date Analyzed: 12/12/2022
Samples Analyzed: 32
Project Loc.: KCHA Sandpiper East Apts

Analyzed by: Steve (Fanyao) Zhang
Approved Signatory: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
19	40573.246-51	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
		2	Off-white chalky material with paper		None detected	Binder/filler, Gypsum/binder	26	Cellulose
20	40573.246-52	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
21	40573.246-53	1	White powdery material with paint		None detected	Binder/filler, Paint	4	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
22	40573.246-54	1	White powdery material with paint and paper		None detected	Binder/filler, Paint	35	Cellulose
23	40573.246-55	1	White powdery material with paint and paper		None detected	Binder/filler, Paint	34	Cellulose
24	40573.246-56	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
25	40573.246-57	1	White powdery material with paint and paper		None detected	Binder/filler, Paint	35	Cellulose
26	40573.246-58	1	White powdery material with paint and paper		None detected	Binder/filler, Paint	36	Cellulose
27	40573.246-59	1	White powdery material with paint		None detected	Binder/filler, Paint	4	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
28	40573.246-60	1	White powdery material with paint and paper		None detected	Binder/filler, Paint	35	Cellulose
29	40573.246-61	1	White powdery material with paint and paper		None detected	Binder/filler, Paint	34	Cellulose
30	40573.246-62	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
31	40573.246-63	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose

SEATTLE ASBESTOS TEST

Lynnwood Laboratory: 19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel: 425.673.9850, Fax: 425.673.9810, NVLAP Lab Code: 200768-0

ANALYTICAL LABORATORY REPORT

[PLM] EPA – 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples; [PLM] EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Attn.: Ferman Fletcher **Client:** PBS Engineering and Environmental, Seattle **Address:** 214 E Galer Street, Suite 300, Seattle, WA 98102

Job#: 40573.246 **Batch#:** 202211611 **Date Received:** 12/12/2022

Samples Rec'd: 32 **Date Analyzed:** 12/12/2022 **Samples Analyzed:** 32

Project Loc.: KCHA Sandpiper East Apts

Analyzed by: Steve (Fanyao) Zhang Approved Signatory: SZhang Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	**Asbestos Fibers**	Non-fibrous Components	%	Non-asbestos Fibers
32	40573.246-64	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	26	Cellulose

SEATTLE ASBESTOS TEST, LLC

Lynnwood Laboratory: 19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel: 425.673.9850, Fax: 425.673.9810, NVLAP Lab Code: 200768-0

www.seattleasbestostest.com, admin@seattleasbestostest.com

Project Manager:	Ferman Fletcher	Date Analyzed:	12/12/2022
Client:	PBS Engineering and Environmental, Seattle	Client Job#:	40573.246
Address:	214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location:	KCHA Sandpiper East Apts
Tel:	206.233.9639	Laboratory batch#:	202211609
Date Report Issued:	12/12/2022	Samples Received:	32

Enclosed please find the test results for the bulk samples submitted to our laboratory for asbestos analysis. Analysis was performed using polarized light microscopy (PLM) in accordance with Test Method US EPA - 40 CFR Appendix E of Part 763, Interim Method of Determination of Asbestos in Bulk Insulation Samples and Test Method US EPA/600/R-93/116.

Percentages for this report are done by visual estimate and relate to the suggested acceptable error ranges by the method. Since variation in data increases as the quantity of asbestos decreases toward the limit of detection, the EPA recommends point counting for samples containing between <1% and 10% asbestos (NESHAP, 40 CFR Part 61). Statistically, point counting is a more accurate method. If you feel a point count might be beneficial, please feel free to call and request one.

The test results refer only to the samples or items submitted and tested. The accuracy with which these samples represent the actual materials is totally dependent on the acuity of the person who took the samples. This report must not be used by the client to claim product certification, approval, or endorsement by Seattle Asbestos Test, LLC, NVLAP, NIST, or any agency of the Federal government. The test report or calibration certificate shall not be reproduced except in full, without written approval of the laboratory. If the sample is inhomogeneous the sub-samples of the components are analyzed separately as layers.This report in its entirety consists of this cover leter, the customer sampling COC or data sheet, and the analytical report which is page numbered.

This report is highly confidential and will not be released without your consent. Samples are archived for 30 days after the analysis, and disposed of as hazardous waste thereafter.

Thank you for using our service and let us know if we can further assist you.

Sincerely

SZhang

Steve (Fanyao) Zhang
Approved Signatory

20221109

LABORATORY CHAIN OF CUSTODY

Project: KCHA: Sandpiper East Apts **Project #:** 40573.246 Page 1 of 1

Analysis requested: PLM **Date:** 12/9/2022

Relinq'd by/Signature: **Date/Time:** 12/9/2022

Received by/Signature: **Date/Time:** 12/12/22 9:00

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

- ☐ Willem Mager
- ☐ Gregg Middaugh
- ☐ Mark Hiley
- ☐ Tim Ogden
- ☐ Ryan Hunter
- ☐ Prudy Stoudt-McRae
- ☐ Janet Murphy
- ☐ Allison Welch
- ☐ Toan Nguyen
- ☐ Peter Stensland
- ☐ Claire Tsai
- ☐ Holly Tuttle
- ☐ Mike Smith
- ☒ Ferman Fletcher
- ☐ Cameron Budnick
- ☐ Mae Reilly
- ☐ Nick San
- ☐ Kameron DeMonnin
- ☐ _____

TURN AROUND TIME:

- ☐ 1 Hour
- ☐ 2 Hours
- ☐ 4 Hours
- ☒ 24 Hours
- ☐ 48 Hours
- ☐ 3-5 Days
- ☐ Other_____

SAMPLE DATA FORM

Sample #	Material	Location	Lab
40573.246-81	Wall Texture Type I /JC/GWB	Bldg 3; Unit 1, Entry Closet	SAT
-82	"	Bldg 4; Unit 3, Entry Closet	
-83	"	Bldg 4; Unit 4, Entry Closet	
-84	"	Cabana; Men's Room	
-85	Skimcoat on Wood	Cabana; Tool Storage Room	
-86	"	Cabana; Tool Storage Room	
-87	"	Cabana; Tool Storage Room	
-88	Grey CB/CB Mastic	Bldg 1; Laundry Room	
-89	White CB/CB Mastic	Bldg 1; Unit 1 Bathroom	
90	"	Bldg 2; Unit 6 Kitchen	
-91	"	Bldg 3; Unit 1 Bathroom	
-92	"	Bldg 3; Unit 4 Bathroom	
-93	Tan CB/CB Mastic	Bldg 1; Unit 4, Bathroom	
-94	White CB/CB Mastic	Bldg 4; Unit 4 Bathroom	
-95	Brown CB/CB Mastic	Cabana Stairwell	
-96	Popcorn Ceiling Texture	Bldg 1; Unit 1, Bedroom	

20221609

LABORATORY CHAIN OF CUSTODY

Project: KCHA: Sandpiper East Apts **Project #:** 40573.246 Page 1 of 1

Analysis requested: PLM **Date:** 12/9/2022

Relinq'd by/Signature: **Date/Time:** 12/9/2022

Received by/Signature: **Date/Time:** 12/12/22 9:00

Email ALL INVOICES to: seattleap@pbsusa.com

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- ☐ Nick San
- ☐ Kameron DeMonnin
- ☐ _____

TURN AROUND TIME:

- ☐ 1 Hour
- ☐ 2 Hours
- ☐ 4 Hours
- ☒ 24 Hours
- ☐ 48 Hours
- ☐ 3-5 Days
- ☐ Other_____

SAMPLE DATA FORM

Sample #	Material	Location	Lab
40573.246-65	Wall Texture Type II	Cabana Loft	SAT
-66	"	Cabana Loft	
-67	"	Cabana Loft	
-68	Wall Texture Type III	Bldg 1; Laundry	
-69	"	Bldg 1; Laundry	
-70	"	Bldg 1; Exterior wall	
-71	"	Bldg 1; Exterior wall	
-72	"	Bldg 2; Exterior Soffit	
-73	"	Bldg 2; Exterior Soffit	
-74	"	Bldg 3; Exterior Soffit	
-75	"	Bldg 4; Exterior Soffit	
-76	Wall Texture Type III /JC/GWB	Bldg 1; Laundry	
-77	Wall Texture Type I /JC/GWB	Bldg 1; Unit 5, Living Room	
-78	"	Bldg 2; Unit 2, Living Room	
-79	"	Bldg 2; Unit 3, Living Room	
-80	"	Bldg 2; Unit 7, Living Room	

SEATTLE ASBESTOS TEST

Lynnwood Laboratory: 19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel: 425.673.9850, Fax: 425.673.9810, NVLAP Lab Code: 200768-0

ANALYTICAL LABORATORY REPORT

[PLM] EPA – 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples; [PLM] EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Attn.: Ferman Fletcher **Client:** PBS Engineering and Environmental, Seattle **Address:** 214 E Galer Street, Suite 300, Seattle, WA 98102

Job#: 40573.246 **Batch#:** 202211609 **Date Received:** 12/12/2022

Samples Rec'd: 32 **Date Analyzed:** 12/12/2022 **Samples Analyzed:** 32

Project Loc.: KCHA Sandpiper East Apts

Analyzed by: Steve (Fanyao) Zhang Approved Signatory: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40573.246-65	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
2	40573.246-66	1	White powdery material with paint		None detected	Binder/filler, Paint	4	Cellulose
3	40573.246-67	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
4	40573.246-68	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	26	Cellulose
5	40573.246-69	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
6	40573.246-70	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
7	40573.246-71	1	White powdery material with paint		None detected	Binder/filler, Paint	4	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
8	40573.246-72	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
9	40573.246-73	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
10	40573.246-74	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
11	40573.246-75	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
12	40573.246-76	1	White powdery material with paint and paper		None detected	Binder/filler, Paint	35	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
13	40573.246-77	1	White powdery material with paint and paper		None detected	Binder/filler, Paint	35	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose

SEATTLE ASBESTOS TEST

Lynnwood Laboratory: 19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel: 425.673.9850, Fax: 425.673.9810, NVLAP Lab Code: 200768-0

ANALYTICAL LABORATORY REPORT

[PLM] EPA – 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples; [PLM] EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Attn.: Ferman Fletcher | Client: PBS Engineering and Environmental, Seattle | Address: 214 E Galer Street, Suite 300, Seattle, WA 98102

Job#: 40573.246 | Batch#: 202211609 | Date Received: 12/12/2022

Samples Rec'd: 32 | Date Analyzed: 12/12/2022 | Samples Analyzed: 32

Project Loc.: KCHA Sandpiper East Apts

Analyzed by: Steve (Fanyao) Zhang | Approved Signatory: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
14	40573.246-78	1	White powdery material with paint and paper		None detected	Binder/filler, Paint	35	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	26	Cellulose
15	40573.246-79	1	White powdery material with woven fibrous material		None detected	Binder/filler	35	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
16	40573.246-80	1	White powdery material with paint and paper		None detected	Binder/filler, Paint	34	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
17	40573.246-81	1	White powdery material with paint and paper		None detected	Binder/filler, Paint	35	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	26	Cellulose
18	40573.246-82	1	White powdery material with woven fibrous material		None detected	Binder/filler	35	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	24	Cellulose
19	40573.246-83	1	White powdery material with paint and paper		None detected	Binder/filler, Paint	35	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	25	Cellulose
20	40573.246-84	1	White powdery material with paint and paper		None detected	Binder/filler, Paint	35	Cellulose
		2	White chalky material with paper		None detected	Binder/filler, Gypsum/binder	26	Cellulose
21	40573.246-85	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
		2	Brown wood block		None detected	Wood aggregates	4	Cellulose
22	40573.246-86	1	White powdery material with paint		None detected	Binder/filler, Paint	4	Cellulose
		2	Brown wood block		None detected	Wood aggregates	5	Cellulose

SEATTLE ASBESTOS TEST

Lynnwood Laboratory: 19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel: 425.673.9850, Fax: 425.673.9810, NVLAP Lab Code: 200768-0

ANALYTICAL LABORATORY REPORT

[PLM] EPA – 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples: [PLM] EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Attn.: Ferman Fletcher
Client: PBS Engineering and Environmental, Seattle
Address: 214 E Galer Street, Suite 300, Seattle, WA 98102
Job#: 40573.246
Batch#: 202211609
Date Received: 12/12/2022
Samples Rec'd: 32
Date Analyzed: 12/12/2022
Samples Analyzed: 32
Project Loc.: KCHA Sandpiper East Apts

Analyzed by: Steve (Fanyao) Zhang
Approved Signatory: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
23	40573.246-87	1	White powdery material with paint		None detected	Binder/filler, Paint	5	Cellulose
		2	Brown wood block		None detected	Wood aggregates	5	Cellulose
24	40573.246-88	1	Gray rubbery material		None detected	Rubber/binder	2	Cellulose
		2	Cream mastic		None detected	Mastic/binder	2	Cellulose
25	40573.246-89	1	White rubbery material		None detected	Rubber/binder	2	Cellulose
		2	Cream mastic		None detected	Mastic/binder	3	Cellulose
26	40573.246-90	1	White rubbery material		None detected	Rubber/binder	3	Cellulose
		2	Cream mastic		None detected	Mastic/binder	4	Cellulose
27	40573.246-91	1	White rubbery material		None detected	Rubber/binder	3	Cellulose
		2	Yellow mastic		None detected	Mastic/binder	3	Cellulose
28	40573.246-92	1	White rubbery material		None detected	Rubber/binder	2	Cellulose
		2	Cream mastic		None detected	Mastic/binder	3	Cellulose
29	40573.246-93	1	Tan rubbery material		None detected	Rubber/binder	2	Cellulose
		2	Cream mastic		None detected	Mastic/binder	2	Cellulose
30	40573.246-94	1	White rubbery material		None detected	Rubber/binder	3	Cellulose
		2	Yellow mastic		None detected	Mastic/binder	3	Cellulose
31	40573.246-95	1	Brown rubbery material		None detected	Rubber/binder	3	Cellulose
		2	Tan mastic		None detected	Mastic/binder	4	Cellulose
32	40573.246-96	1	White soft lumpy material with paint	3	Chrysotile	Synthetic foam, Filler, Binder, Paint	3	Cellulose

SEATTLE ASBESTOS TEST, LLC

Lynnwood Laboratory: 19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel: 425.673.9850, Fax: 425.673.9810, NVLAP Lab Code: 200768-0

www.seattleasbestostest.com, admin@seattleasbestostest.com

Project Manager:	Ferman Fletcher	Date Analyzed:	12/12/2022
Client:	PBS Engineering and Environmental, Seattle	Client Job#:	40573.246
Address:	214 E Galer Street, Suite 300, Seattle, WA 98102	Project Location:	KCHA Sandpiper East Apts
Tel:	206.233.9639	Laboratory batch#:	202211608
Date Report Issued:	12/12/2022	Samples Received:	34

Enclosed please find the test results for the bulk samples submitted to our laboratory for asbestos analysis. Analysis was performed using polarized light microscopy (PLM) in accordance with Test Method US EPA - 40 CFR Appendix E of Part 763, Interim Method of Determination of Asbestos in Bulk Insulation Samples and Test Method US EPA/600/R-93/116.

Percentages for this report are done by visual estimate and relate to the suggested acceptable error ranges by the method. Since variation in data increases as the quantity of asbestos decreases toward the limit of detection, the EPA recommends point counting for samples containing between <1% and 10% asbestos (NESHAP, 40 CFR Part 61). Statistically, point counting is a more accurate method. If you feel a point count might be beneficial, please feel free to call and request one.

The test results refer only to the samples or items submitted and tested. The accuracy with which these samples represent the actual materials is totally dependent on the acuity of the person who took the samples. This report must not be used by the client to claim product certification, approval, or endorsement by Seattle Asbestos Test, LLC, NVLAP, NIST, or any agency of the Federal government. The test report or calibration certificate shall not be reproduced except in full, without written approval of the laboratory. If the sample is inhomogeneous the sub-samples of the components are analyzed separately as layers.This report in its entirety consists of this cover leter, the customer sampling COC or data sheet, and the analytical report which is page numbered.

This report is highly confidential and will not be released without your consent. Samples are archived for 30 days after the analysis, and disposed of as hazardous waste thereafter.

Thank you for using our service and let us know if we can further assist you.

Sincerely

SZhang

Steve (Fanyao) Zhang
Approved Signatory

20221608

LABORATORY CHAIN OF CUSTODY

Project: KCHA: Sandpiper East Apts **Project #:** 40573.246 Page 1 of 1

Analysis requested: PLM **Date:** 12/9/2022

Relinq'd by/Signature: **Date/Time:** 12/9/2022

Received by/Signature: **Date/Time:** 12/12/22 9:00

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

- ☐ Willem Mager
- ☐ Gregg Middaugh
- ☐ Mark Hiley
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- ☐ Mae Reilly
- ☐ Nick San
- ☐ Kameron DeMonnin
- ☐ _____

TURN AROUND TIME:

- ☐ 1 Hour
- ☐ 2 Hours
- ☐ 4 Hours
- ☒ 24 Hours
- ☐ 48 Hours
- ☐ 3-5 Days
- ☐ Other_____

SAMPLE DATA FORM

Sample #	Material	Location	Lab
40573.246-97	Popcorn Ceiling Texture	Bldg 1; Unit 4, Living Room	SAT
-98	"	Bldg 1; Unit 5, Living Room	
-99	"	Bldg 1; Unit 8, Living Room	
-100	"	Bldg 2; Unit 3, Living Room	
-101	"	Bldg 2; Unit 6, Dining Room	
-102	"	Bldg 2; Unit 7, Bedroom	
-103	"	Bldg 2; Unit 8, Living Room	
-104	"	Bldg 3; Unit 3, Living Room	
-105	"	Bldg 3; Unit 6, Bedroom Loft	
-106	"	Bldg 3; Unit 7, Living Room	
-107	"	Bldg 4; Unit 3, Bedroom	
-108	"	Bldg 4; Unit 4, Bedroom	
-109	"	Bldg 4; Unit 8, Living Room	
-110	Black Sink Undercoat	Bldg 1; Unit 1 Kitchen	
-111	"	Bldg 1; Unit 4 Kitchen	
-112	"	Bldg 1; Unit 5 Kitchen	

20221608

LABORATORY CHAIN OF CUSTODY

Project: KCHA: Sandpiper East Apts **Project #:** 40573.246 Page 1 of 1

Analysis requested: PLM **Date:** 12/9/2022

Relinq'd by/Signature: **Date/Time:** 12/9/2022

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- ☐ _____

TURN AROUND TIME:

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- ☐ 4 Hours
- ☒ 24 Hours
- ☐ 48 Hours
- ☐ 3-5 Days
- ☐ Other_____

SAMPLE DATA FORM

Sample #	Material	Location	Lab
40573.246-113	Black Sink Undercoat	Bldg 2; Unit 2 Kitchen	SAT
-114	"	Bldg 2; Unit 3 Kitchen	
-115	"	Bldg 3; Unit 1 Kitchen	
-116	"	Bldg 3; Unit 4 Kitchen	
-117	"	Bldg 4; Unit 3 Kitchen	
-118	"	Bldg 4; Unit 5 Kitchen	
-119	"	Bldg 4; Unit 8 Kitchen	
-120	Sink Patch	Bldg 3; Unit 3 Kitchen	
-121	"	Bldg 3; Unit 6 Kitchen	
-122	"	Bldg 4; Unit 1 Kitchen	
-123	"	Cabana Kitchen	
-124	Blown in Insulation	Bldg 2 Attic	
-125	"	Bldg 3 Attic	
-126	Asphalt Shingle	Bldg 2 Roof	
-127	"	Bldg 3 Roof	
-128	"	Bldg 4 Roof	

20221608

LABORATORY CHAIN OF CUSTODY

Project: KCHA: Sandpiper East Apts **Project #:** 40573.246 Page 1 of 1

Analysis requested: PLM **Date:** 12/9/2022

Relinq'd by/Signature: **Date/Time:** 12/9/2022

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- ☐ Nick San
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- ☐ _____

TURN AROUND TIME:

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- ☐ 2 Hours
- ☐ 4 Hours
- ☒ 24 Hours
- ☐ 48 Hours
- ☐ 3-5 Days
- ☐ Other_____

SAMPLE DATA FORM

Sample #	Material	Location	Lab
40573.246-129	Asphalt Shingle	Cabana Roof	SAT
-130	Window Frame Caulk	Cabana	

SEATTLE ASBESTOS TEST

Lynnwood Laboratory: 19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel: 425.673.9850, Fax: 425.673.9810, NVLAP Lab Code: 200768-0

ANALYTICAL LABORATORY REPORT

[PLM] EPA – 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples; [PLM] EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Attn.: Ferman Fletcher **Client:** PBS Engineering and Environmental, Seattle **Address:** 214 E Galer Street, Suite 300, Seattle, WA 98102

Job#: 40573.246 **Batch#:** 202211608 **Date Received:** 12/12/2022

Samples Rec'd: 34 **Date Analyzed:** 12/12/2022 **Samples Analyzed:** 34

Project Loc.: KCHA Sandpiper East Apts

Analyzed by: Steve (Fanyao) Zhang

Approved Signatory: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	40573.246-97	1	White soft lumpy material with paint	3	Chrysotile	Synthetic foam, Filler, Binder, Paint	3	Cellulose
2	40573.246-98	1	White soft lumpy material with paint	3	Chrysotile	Synthetic foam, Filler, Binder, Paint	4	Cellulose
3	40573.246-99	1	White soft lumpy material with paint	3	Chrysotile	Synthetic foam, Filler, Binder, Paint	2	Cellulose
4	40573.246-100	1	White soft lumpy material with paint	3	Chrysotile	Synthetic foam, Filler, Binder, Paint	3	Cellulose
5	40573.246-101	1	White soft lumpy material with paint	3	Chrysotile	Synthetic foam, Filler, Binder, Paint	4	Cellulose
6	40573.246-102	1	White soft lumpy material with paint	2	Chrysotile	Synthetic foam, Filler, Binder, Paint	3	Cellulose
7	40573.246-103	1	White soft lumpy material with paint	2	Chrysotile	Synthetic foam, Filler, Binder, Paint	2	Cellulose
8	40573.246-104	1	White soft lumpy material with paint	2	Chrysotile	Synthetic foam, Filler, Binder, Paint	3	Cellulose
9	40573.246-105	1	White soft lumpy material with paint	2	Chrysotile	Synthetic foam, Filler, Binder, Paint	2	Cellulose
10	40573.246-106	1	White soft lumpy material with paint	2	Chrysotile	Synthetic foam, Filler, Binder, Paint	4	Cellulose
11	40573.246-107	1	White soft lumpy material with paint	2	Chrysotile	Synthetic foam, Filler, Binder, Paint	3	Cellulose
12	40573.246-108	1	White soft lumpy material with paint	2	Chrysotile	Synthetic foam, Filler, Binder, Paint	2	Cellulose
13	40573.246-109	1	White soft lumpy material with paint	2	Chrysotile	Synthetic foam, Filler, Binder, Paint	4	Cellulose
14	40573.246-110	1	Black soft/loose material	2	Chrysotile	Filler, Fine particles	5	Cellulose
15	40573.246-111	1	Black soft/loose material	2	Chrysotile	Filler, Fine particles	4	Cellulose
16	40573.246-112	1	Black soft/loose material	2	Chrysotile	Filler, Fine particles	5	Cellulose
17	40573.246-113	1	Black soft/loose material	2	Chrysotile	Filler, Fine particles	6	Cellulose
18	40573.246-114	1	Black soft/loose material	3	Chrysotile	Filler, Fine particles	4	Cellulose
19	40573.246-115	1	Black soft/loose material	2	Chrysotile	Filler, Fine particles	5	Cellulose
20	40573.246-116	1	Black soft/loose material	2	Chrysotile	Filler, Fine particles	4	Cellulose
21	40573.246-117	1	Black soft/loose material	3	Chrysotile	Filler, Fine particles	3	Cellulose
22	40573.246-118	1	Black soft/loose material	2	Chrysotile	Filler, Fine particles	5	Cellulose

SEATTLE ASBESTOS TEST

Lynnwood Laboratory: 19701 Scriber Lake Road, Suite 103, Lynnwood, WA 98036, Tel: 425.673.9850, Fax: 425.673.9810, NVLAP Lab Code: 200768-0

ANALYTICAL LABORATORY REPORT

[PLM] EPA – 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples; [PLM] EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Attn.: Ferman Fletcher **Client:** PBS Engineering and Environmental, Seattle **Address:** 214 E Galer Street, Suite 300, Seattle, WA 98102

Job#: 40573.246 **Batch#:** 202211608 **Date Received:** 12/12/2022

Samples Rec'd: 34 **Date Analyzed:** 12/12/2022 **Samples Analyzed:** 34

Project Loc.: KCHA Sandpiper East Apts

Analyzed by: Steve (Fanyao) Zhang Approved Signatory: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
23	40573.246-119	1	Black soft/loose material	2	Chrysotile	Filler, Fine particles	4	Cellulose
24	40573.246-120	1	Black soft/loose material	2	Chrysotile	Filler, Fine particles	3	Cellulose
25	40573.246-121	1	Black soft material		None detected	Filler, Binder	2	Cellulose
26	40573.246-122	1	Yellow soft material with paint		None detected	Filler, Binder, Paint	3	Cellulose
27	40573.246-123	1	Black soft material		None detected	Filler, Binder	2	Cellulose
28	40573.246-124	1	White fibrous material		None detected	Filler	90	Glass fibers
29	40573.246-125	1	White fibrous material		None detected	Filler	89	Glass fibers
30	40573.246-126	1	Black asphaltic material with sand		None detected	Asphalt/binder, Sand	25	Glass fibers
31	40573.246-127	1	Black asphaltic material with sand		None detected	Asphalt/binder, Sand	25	Glass fibers
32	40573.246-128	1	Black asphaltic material with sand		None detected	Asphalt/binder, Sand	25	Glass fibers
33	40573.246-129	1	Black asphaltic material with sand		None detected	Asphalt/binder, Sand	25	Glass fibers
		2	Black asphaltic material		None detected	Asphalt/binder	3	Cellulose
34	40573.246-130	1	Gray soft/elastic material		None detected	Binder, Filler	4	Cellulose

APPENDIX B

Lead in Paint Sampling Information

Paint Chip Sample Inventory

Paint Chip Laboratory Data Sheets

Paint Chip Chain of Custody Documentation

AA LEAD PAINT CHIP SAMPLE INVENTORY

PBS Sample #	Paint Color / Component or Substrate	Sample Location	Results (mg/kg)	Results (%)	Lab
40573.246 -Pb01	White/Gypsum Wallboard/Wall	Bldg. 1; Laundry Room	<53	<0.0053	NVL
40573.246 -Pb02	White/Gypsum Wallboard/Wall	Bldg. 1; Unit 5	<96	<0.0096	NVL
40573.246 -Pb03	Grey/Wood/Exterior siding	Bldg. 1	<57	<0.0057	NVL
40573.246 -Pb04	White/Gypsum Wallboard/Wall	Bldg. 1; Unit 4	<72	<0.0072	NVL
40573.246 -Pb05	Green/Wood/Exterior Trim	Bldg. 1	<95	<0.0095	NVL
40573.246 -Pb06	White/Gypsum Wallboard/Wall	Bldg. 2; Unit 2	<99	<0.0099	NVL
40573.246 -Pb07	Grey/Wood/Exterior siding	Bldg. 2	<55	<0.0055	NVL
40573.246 -Pb08	Green/Wood/Exterior Trim	Bldg. 2	<52	<0.0052	NVL
40573.246 -Pb09	White/Gypsum Wallboard/Wall	Bldg. 3; Unit 3	<52	<0.0052	NVL
40573.246 -Pb10	Grey/Wood/Exterior siding	Bldg. 3	<53	<0.0053	NVL
40573.246 -Pb11	Grey/Gypsum Wallboard/Exterior Soffit	Bldg. 3	<54	<0.0054	NVL
40573.246 -Pb12	Green/Wood/Exterior Trim	Bldg. 3	<55	<0.0055	NVL
40573.246 -Pb13	Grey/Wood/Exterior siding	Bldg. 4	<54	<0.0054	NVL
40573.246 -Pb14	Green/Wood/Exterior Trim	Bldg. 4	100	0.010	NVL
40573.246 -Pb15	White/Wood/Beam	Cabana Loft	<55	<0.0055	NVL
40573.246 -Pb16	White/Gypsum Wallboard/Wall	Cabana	<130	<0.013	NVL

mg/kg = Milligrams per kilogram
< = Less than the Limit of Detection

AA LEAD PAINT CHIP SAMPLE INVENTORY

PBS Sample #	Paint Color / Component or Substrate	Sample Location	Results (mg/kg)	Results (%)	Lab
40573.246 -Pb17	White/Gypsum Wallboard/Wall	Cabana Loft	<48	<0.0048	NVL
40573.246 -Pb18	Grey/Wood/Exterior siding	Cabana	<50	<0.0050	NVL
40573.246 -Pb19	Green/Wood/Exterior Trim	Cabana	<51	<0.0051	NVL
40573.246 -Pb20	Brown/Wood/Fascia	Cabana	<53	<0.0053	NVL

mg/kg = Milligrams per kilogram
< = Less than the Limit of Detection

December 13, 2022

Ferman Fletcher
PBS Environmental - Seattle
214 E Galer St. Suite. 300
Seattle, WA 98102

NVL Batch # 2221702.00

RE: Total Metal Analysis
Method: EPA 7000B Lead by FAA <paint>
Item Code: FAA-02

Client Project: 40573.246
Location: KCHA: Sandpiper East Apts

Dear Mr. Fletcher,

NVL Labs received 20 sample(s) for the said project on 12/12/2022. Preparation of these samples was conducted following protocol outlined in EPA 3051/7000B , unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with EPA 7000B Lead by FAA <paint>. The results are usually expressed in mg/Kg and percentage (%). Test results are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more detail.

At NVL Labs all analyses are performed under strict guidelines of the Quality Assurance Program. This report is considered highly confidential and will not be released without your approval. Samples are archived after two weeks from the analysis date. Please feel free to contact us at 206-547-0100, in case you have any questions or concerns.

Sincerely,

Shalini Patel, Manager Metals Lab

Enc.: Sample results

Analysis Report

Total Lead (Pb)

Client: PBS Environmental - Seattle
Address: 214 E Galer St. Suite. 300
Seattle, WA 98102

Attention: **Mr. Ferman Fletcher**
Project Location: KCHA: Sandpiper East Apts

Batch #: 2221702.00
Matrix: Paint
Method: EPA 3051/7000B
Client Project #: 40573.246
Date Received: 12/12/2022
Samples Received: 20
Samples Analyzed: 20

Lab ID	Client Sample #	Sample Weight (g)	RL in mg/Kg	Results in mg/Kg	Results in percent
22438172	40573.246-Pb01	0.1890	53	< 53	<0.0053
22438173	40573.246-Pb02	0.1038	96	< 96	<0.0096
22438174	40573.246-Pb03	0.1746	57	< 57	<0.0057
22438175	40573.246-Pb04	0.1381	72	< 72	<0.0072
22438176	40573.246-Pb05	0.1051	95	< 95	<0.0095
22438177	40573.246-Pb06	0.1011	99	< 99	<0.0099
22438178	40573.246-Pb07	0.1831	55	< 55	<0.0055
22438179	40573.246-Pb08	0.1919	52	< 52	<0.0052
22438180	40573.246-Pb09	0.1922	52	< 52	<0.0052
22438181	40573.246-Pb10	0.1884	53	< 53	<0.0053
22438182	40573.246-Pb11	0.1839	54	< 54	<0.0054
22438183	40573.246-Pb12	0.1826	55	< 55	<0.0055
22438184	40573.246-Pb13	0.1865	54	< 54	<0.0054
22438185	40573.246-Pb14	0.2007	50	100	0.010
22438186	40573.246-Pb15	0.1831	55	< 55	<0.0055
22438187	40573.246-Pb16	0.0382	130	< 130	<0.013
22438188	40573.246-Pb17	0.2093	48	< 48	<0.0048
22438189	40573.246-Pb18	0.2000	50	< 50	<0.0050
22438190	40573.246-Pb19	0.1957	51	< 51	<0.0051
22438191	40573.246-Pb20	0.1879	53	< 53	<0.0053

Comments: Small sample size (<0.05g) for 40573.246-Pb16.

Sampled by: Client
Analyzed by: Yasuyuki Hida
Reviewed by: Shalini Patel
Date Analyzed: 12/13/2022
Date Issued: 12/13/2022

Shalini Patel, Manager Metals Lab

mg/ Kg =Milligrams per kilogram
Percent = Milligrams per kilogram / 10000
RL = Reporting Limit
'<' = Below the reporting Limit
Note : Method QC results are acceptable unless stated otherwise.
Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

Bench Run No: 2022-1212-06
FAA-02

LEAD LABORATORY SERVICES

Company	PBS Environmental - Seattle	**NVL Batch Number**	**2221702.00**
Address	214 E Galer St. Suite. 300 Seattle, WA 98102	**TAT** 1 Day **AH** No **Rush TAT**	
Project Manager	Mr. Ferman Fletcher	**Due Date** 12/13/2022 **Time** 2:00 PM	
Phone	(206) 233-9639	**Email**	ferman.fletcher@pbsusa.com
Cell	(206) 491-1389	**Fax**	(866) 727-0140

Project Name/Number: 40573.246 **Project Location:** KCHA: Sandpiper East Apts

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 20 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	22438172	40573.246-Pb01		A
2	22438173	40573.246-Pb02		A
3	22438174	40573.246-Pb03		A
4	22438175	40573.246-Pb04		A
5	22438176	40573.246-Pb05		A
6	22438177	40573.246-Pb06		A
7	22438178	40573.246-Pb07		A
8	22438179	40573.246-Pb08		A
9	22438180	40573.246-Pb09		A
10	22438181	40573.246-Pb10		A
11	22438182	40573.246-Pb11		A
12	22438183	40573.246-Pb12		A
13	22438184	40573.246-Pb13		A
14	22438185	40573.246-Pb14		A
15	22438186	40573.246-Pb15		A
16	22438187	40573.246-Pb16		A
17	22438188	40573.246-Pb17		A
18	22438189	40573.246-Pb18		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Courier				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Fatima Khan		NVL	12/12/22	1400
Analyzed by	Yasuyuki Hida		NVL	12/13/22	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 12/12/2022
Time: 2:00 PM
Entered By: Kelly AuVu

LEAD LABORATORY SERVICES

Company	PBS Environmental - Seattle	**NVL Batch Number**	**2221702.00**
Address	214 E Galer St. Suite. 300 Seattle, WA 98102	**TAT** 1 Day **AH** No **Rush TAT**	
Project Manager	Mr. Ferman Fletcher	**Due Date** 12/13/2022 **Time** 2:00 PM	
Phone	(206) 233-9639	**Email**	ferman.fletcher@pbsusa.com
Cell	(206) 491-1389	**Fax**	(866) 727-0140

Project Name/Number: 40573.246 **Project Location:** KCHA: Sandpiper East Apts

Subcategory Flame AA (FAA)

Item Code FAA-02 EPA 7000B Lead by FAA <paint>

Total Number of Samples 20 Rush Samples

	Lab ID	Sample ID	Description	A/R
19	22438190	40573.246-Pb19		A
20	22438191	40573.246-Pb20		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Courier				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Fatima Khan		NVL	12/12/22	1400
Analyzed by	Yasuyuki Hida		NVL	12/13/22	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 12/12/2022
Time: 2:00 PM
Entered By: Kelly AuVu

PBS

LABORATORY C 2221702

Project: KCHA: Sandpiper East Apts **Project #:** 40573.246 Page 1 of 1

Analysis requested: AAS for Pb **Date:** 12/9/2022

Relinq'd by/Signature: **Date/Time:** 12/9/2022

Received by/Signature: **Date/Time:** 12/12 [illegible] courier

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

- ☐ Willem Mager
- ☐ Gregg Middaugh
- ☐ Mark Hiley
- ☐ Tim Ogden
- ☐ Ryan Hunter
- ☐ Prudy Stoudt-McRae
- ☐ Janet Murphy
- ☐ Allison Welch
- ☐ Toan Nguyen
- ☐ Peter Stensland
- ☐ Claire Tsai
- ☐ Holly Tuttle
- ☐ Mike Smith
- ☒ Ferman Fletcher
- ☐ Cameron Budnick
- ☐ Mae Reilly
- ☐ Nick San
- ☐ Kameron DeMonnin
- ☐ _____

TURN AROUND TIME:

- ☐ 1 Hour
- ☐ 2 Hours
- ☐ 4 Hours
- ☒ 24 Hours
- ☐ 48 Hours
- ☐ 3-5 Days
- ☐ Other_____

SAMPLE DATA FORM

Sample #	Material	Location	Lab
40573.246-Pb01	White/GWB/Wall	Bldg. 1; Laundry Room	NVL
-Pb02	White/GWB/Wall	Bldg. 1; Unit 5	
-Pb03	Grey/Wood/Exterior siding	Bldg. 1	
-Pb04	White/GWB/Wall	Bldg. 1; Unit 4	
-Pb05	Green/Wood/Exterior Trim	Bldg. 1	
-Pb06	White/GWB/Wall	Bldg. 2; Unit 2	
-Pb07	Grey/Wood/Exterior siding	Bldg. 2	
-Pb08	Green/Wood/Exterior Trim	Bldg. 2	
-Pb09	White/GWB/Wall	Bldg. 3; Unit 3	
Pb10	Grey/Wood/Exterior siding	Bldg. 3	
-Pb11	Grey/GWB/Exterior Soffit	Bldg. 3	
-Pb12	Green/Wood/Exterior Trim	Bldg. 3	
-Pb13	Grey/Wood/Exterior siding	Bldg. 4	
-Pb14	Green/Wood/Exterior Trim	Bldg. 4	
-Pb15	White/Wood/Beam	Cabana Loft	
-Pb16	White/GWB/Wall	Cabana	

214 EAST GALER STREET, SUITE 300, SEATTLE, WA 98102 ▪ 206.233.9639 MAIN ▪ 866.727.0140 FAX ▪ PBSUSA.COM

PBS

LABORATORY CH 2221702

Project: KCHA: Sandpiper East Apts **Project #:** 40573.246 Page 1 of 1

Analysis requested: AAS for Pb **Date:** 12/9/2022

Relinq'd by/Signature: **Date/Time:** 12/9/2022

Received by/Signature: **Date/Time:** 12/12/22 2pm courier

Email ALL INVOICES to: seattleap@pbsusa.com

E-mail results to:

- ☐ Willem Mager
- ☐ Gregg Middaugh
- ☐ Mark Hiley
- ☐ Tim Ogden
- ☐ Ryan Hunter
- ☐ Prudy Stoudt-McRae
- ☐ Janet Murphy
- ☐ Allison Welch
- ☐ Toan Nguyen
- ☐ Peter Stensland
- ☐ Claire Tsai
- ☐ Holly Tuttle
- ☐ Mike Smith
- ☒ Ferman Fletcher
- ☐ Cameron Budnick
- ☐ Mae Reilly
- ☐ Nick San
- ☐ Kameron DeMonnin
- ☐ _____

TURN AROUND TIME:

- ☐ 1 Hour
- ☐ 2 Hours
- ☐ 4 Hours
- ☒ 24 Hours
- ☐ 48 Hours
- ☐ 3-5 Days
- ☐ Other_____

SAMPLE DATA FORM

Sample #	Material	Location	Lab
40573.246-Pb17	White/GWB/Wall	Cabana Loft	NVL
-Pb18	Grey/Wood/Exterior siding	Cabana	
-Pb19	Green/Wood/Exterior Trim	Cabana	
-Pb20	Brown/Wood/Fascia	Cabana	

APPENDIX C

Certifications

Certificate of Completion

This is to certify that

Ferman L. Fletcher

has satisfactorily completed
4 hours of online refresher training as an

AHERA Building Inspector

to comply with the training requirements of
TSCA Title II, 40 CFR 763 (AHERA)

EPA Provider # 1085

184489
Certificate Number

ARGUS PACIFIC
TRAINING • CONSULTING
A Terracon COMPANY

Apr 5, 2022 Expires in 1 year.
Date(s) of Training

Exam Score: N/A
(if applicable)

Instructor: Andre Zwanenburg

ARGUS PACIFIC, INC / 21905 64th AVE W, SUITE 100 / MOUNTLAKE TERRACE, WASHINGTON 98043 / 206.285.3373 / ARGUSPACIFIC.COM

THIS IS TO CERTIFY THAT

CLAIRE TSAI

HAS SUCCESSFULLY COMPLETED THE TRAINING COURSE

for

ASBESTOS INSPECTOR REFRESHER

In accordance with TSCA Title II, Part 763, Subpart E, Appendix C of 40 CFR

Course Date: 11/10/2022

Course Location: Online

Certificate: IR-22-7316B

CCB #SRA0615 4-Hr Training

4-Hour AHERA Inspector Refresher Training; AHERA is the Asbestos Hazard Emergency Response Act enacting Title II of Toxic Substance Control Act (TSCA)

Expiration Date: 11/10/2023

For verification of the authenticity of this certificate contact:
PBS Engineering and Environmental Inc.
4412 S Corbett Avenue
Portland, OR 97239
503.248.1939

Andy Fridley, Instructor