CLUBHOUSE

BRADLEY HEIGHTS APARTMENTS

Pierce County, Washington

Bradley Heights SS, LLC

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning
Engineering | Public Works
Fire | Traffic

PROJECT TEAM

Owner/Developer	Bradley Heights SS LLC 614 Boylston Ave E Seattle, WA 98102 (206) 557-7236
Architect:	Milbrandt Architects, Inc., P.S. 25 Central Way, Suite 210 Kirkland, WA 98033 (425) 454-7130
Structural Engineer	Solutions 4 Structure, Inc. 11605 135th St Ct E Puyallup, WA 98374 (253) 268-2923
Civil Engineer	Azure Green Consultants 409 East Pioneer Puyallup, WA 98372 (253) 770-3144
Landscape Architect	Nature By Design 1320 Alameda Avenue, Suite B Fircrest, WA 98466 (253) 460-6067
MEP Engineer	Robison Engineering Inc. 19401 40th Avenue W, Suite 302 Lynnwood, WA 98036 (206) 364-3343

PROJECT INFORMATION

Site Address:	2 206 27th Ave SE, Puyallup, WA 98374
Project Description:	Construction of one-story clubhouse for a 236 apartment Unit Development
Site Area:	7.785 acres (+/- 339,107 SQ. FT.)
Tax Parcel Number:	419036006
Type of Construction:	Type V-B construction, non-sprinkled
Occupancy Classification	Main Occupancy: A3
Building Area:	Interior Building Area: 4,644 SF Covered Outdoor Area: 642 SF Total Area: 5,286
Allowable Building Area:	6,000 SF (per IBC Table 506.2)
Separation of Occupancies	No separation
Applicable Codes:	2018 International Building Code 2018 Uniform Plumbing Code 2018 Washington State Energy Code 2018 International Mechanical code 2018 International Fire Code ICC/ANSI A117.1-2009 Standard Washington State Amendments as modified and adopted by the local jurisdiction.

FEDERALLY DECLARED SAFE HARBOR

Declared Safe Harbor: HUD Fair Housing Accessibility Guidelines published on March 6, 1991 and the Supplemental Notice to Fair Housing Accessibility Guidelines: Questions and Answers about the Guidelines, published on June 28, 1994.

ACCESSIBILITY

Design is based on the 2018 IBC Chapter 11 which has been amended by the State of Washington, & 2009 ICC A117.1 Accessible & Useable Buildings & Facilities.

None of the buildings are an elevator type building.

There are a total of 84 one-story dwelling units at ground level. All ground floor units are 1 or 2-bed unit designs. Provided total 84 accessible units: 12 Type A and 72 Type B units. Type A units meet the requirements for Type B units.

The 12 Type A units are proportioned as follows (see Site Plan):

- (7) 1-Bed units (1 BR) in each of Buildings A, C, D, E, F & G- for a total of 7.
- (5) 2-Bed units (2 BR) in Buildings A, D, E, F & G - for a total of 5.

Parking:

Section 1106.2 IBC requires 2% of each proposed parking stall type to be accessible.

Of the 354 total open stalls, 12 are accessible, including 5 van stalls. Each accessible open stall is indicated by the wheelchair symbol on the site plan and further designated by the detail symbols 10/A3.

GENERAL NOTES

1. Comply with 2018 IBC and all applicable codes and ordinances of the local jurisdiction and the State of Washington.
2. Do not scale drawings.
3. Verify all rough-in dimensions for equipment provided in this contract or by others.
   All rough-ins shall be approved and fireblocking shall be installed prior to framing inspection.
4. Verify size and location of and provide all openings through floors and walls, furring, anchors, inserts, rough bucks and backing for surface mounted items.
5. Provide furring as required to conceal mechanical and electrical work in all finished areas.
6. All swinging doors not located by dimensions on plans, interior elevations, or details shall be 3" from face of stud to edge of rough openings or centered between room partitions as shown.
7. Plans are drawn assuming the following rough openings:
   Swinging doors: Nominal size +2".
   Bi-Fold doors: Nominal size +1-1/2".
   Bi-Pass doors: Nominal size +0".
   Windows: Nominal size +0".
   Sliding glass doors: Nominal size +0".
8. Fill where required with earth free from organic material. Compact fill in 12" layers maximum.
9. "Finish Floor" refers to the top of concrete slab or top of wood floor sheathing .
10. Exterior walls shall be 2x6 studs at 16" o.c. and interior walls shall be 2x4 studs at 16" o.c., unless noted otherwise.
11. Unless otherwise noted, plan dimensions are to face of studs and face of concrete walls.
12. Refer to interior elevations for cabinet and counter lengths, dimensions, countertop materials and detail reference. Verify all existing dimensions before installation.
13. Provide caulking between sole plates and subfloor and between rim joists at both top plate and subfloor.
14. Hydrants shall be in service prior to start of framing.
15. Shall be no asbestos used on this project.
16. All Tub-Shower valves installed shall conform to UPC 408.3 & ASSE 1016 or ASME A112.18.1
17. Milbrandt Architects is not responsible for construction means, methods, techniques or procedures, or for the safety precautions and programs in connection with the work, and is not responsible for the failure of any contractor or subcontractor to carry out the work in accordance with the various contract documents and or governing jurisdiction, regardless of what is shown on these drawings.

FIRE SYSTEMS

The Club House is not required to have a fire sprinkler system per 2018 IBC Section 903.2.1.3.

ENERGY NOTES

1. Code: 2018 Washington State Energy Code, Commercial Provisions.
2. Fuel: Fuel for water and space heating is electricity.
3. Compliance: Chapter 4 - Commercial Energy Efficiency.
4. For installed insulation values, see the Insulation Box on the floor plan sheets.

Air barrier leakage test is required per Section C402.5.1.2 2015 Washington State Energy Code Commercial Provisions

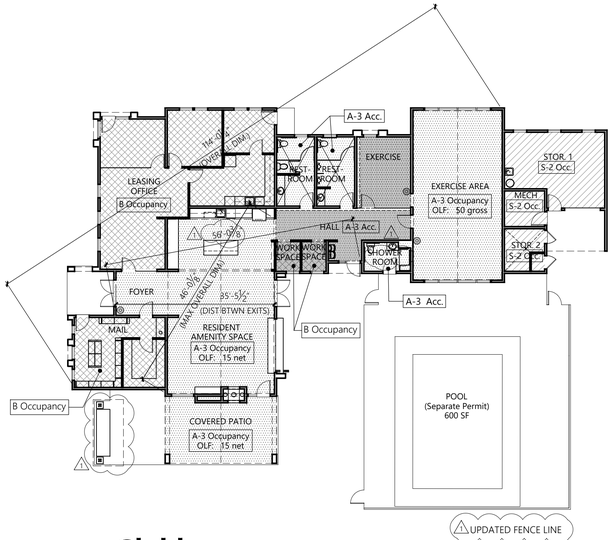
DESIGN LOADS

See structural notes. Sheet S1.0

Approval of submitted plans is not an approval of omissions or oversights by this office or non compliance with any applicable regulations of local government. The contractor is responsible for making sure that the building complies with all applicable codes and regulations of the local government.

The approved construction plans, documents, and all engineering must be posted on the job at all inspections in a visible and readily accessible location.

Full sized legible color plans are required to be provided by the permitee on site for inspection.



Clubhouse Occupancy Diagram

1/16" = 1'-0"

LEGEND

- A-3 Occupancy — OCCUP. LOAD FACTOR: 15 NET U.N.O.
- A-3 Accessory — ACCESSORY TO MAIN A-3 OCCUPANCY
- B Occupancy — OCCUP. LOAD FACTOR: 150 GROSS
- S-2 Occupancy — OCCUP. LOAD FACTOR: 300 GROSS

* Actual occupant load assigned by building official per IBC 1004.5

- Occupant Load Sign — EVERY ASSEMBLY OCCUPANCY ROOM/SPACE SHALL HAVE THE OCCUPANT LOAD POSTED IN A CONSPICUOUS PLACE, NEAR THE MAIN EXIT OR EXIT ACCESS DOORWAY. POSTED SIGNS SHALL BE OF AN APPROVED LEGIBLE PERMANENT DESIGN WITH 1 INCH LETTERS ON CONTRASTING BACKGROUND. SEE DETAIL 1/D3
- (x) Occupant Load at Egress Door Keynote — PER IBC 1004, 1005 & 1010 SEE OCCUPANT LOAD AT EGRESS DOOR TABLE

Clubhouse Occupant Load

Room Name	Occupancy	Area (Sq. Ft.)	Factor from the Table 1004.5	Occupant Load Assigned	Number of Exits
Residential Amenity & Foyer	A-3	966	15 net**	65	2
Exercise Area	A-3	965	50 gross	20	1
Covered Patio	A-3	336	15 net**	23	2
Mail	B	318	150 gross	3	1
Leasing Offices	B	1026	150 gross	7	1
Work Space	B	43	150 gross	1	1
Work Space	B	43	150 gross	1	1
Mech./Elec.	S-2	73	300 gross	1	1
Storage 1	S-2	341	300 gross	2	1
Storage 2	S-2	87	300 gross	1	1
Men's Restroom	A-3 acc.	133	accessory*	-	-
Women's Restroom	A-3 acc.	133	accessory*	-	-
Shower Room	A-3 acc.	65	accessory*	-	-
Hall	A-3 acc.	250	accessory*	-	-
			Total Clubhouse Occupant Load	124	

* Accessory use or same occupants as those using adjoining spaces; does not add to Ot.

** Design occupant load factor; actual occupant load assigned by building official per IBC 1004.5

Plumbing Fixtures Required for Clubhouse area

		Required # of Watercloset				Required # of Lavatories			
		Male		Female		Male		Female	
Clubhouse	A-3	1/125	0.43	1/65	0.83	1/200	0.27	1/200	0.27
	B	1/25	0.24	1/25	0.24	1/40	0.15	1/40	0.15
	S-2	1/100	0.02	1/100	0.02	1/100	0.02	1/100	0.02
Total Required		1		2		1		1	
Total Provided		1 WC + 2 Urinal		2		1		1	

Plumbing Fixtures Required for Limited Use Pool

Based on WAC 246-260-031, Table 031.6 for limited use pools with a bather load of less than 80* and serving living units within 1/4 mile

	# of Toilets	# of Showers	# of Sinks	# of changing Stations
Total Required	1	1	1	1
Total Provided	1	1	1	2

*Per WAC 246-260-041 Table 041.2, the bather load of a 600 sf outdoor pool is 40.

LIST OF DRAWINGS

City of Puyallup Building REVIEWED FOR COMPLIANCE
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05/28/2025
3:45:50 PM
CITY OF PUYALLUP STATE OF WASHINGTON

MILBRANDT ARCHITECTS
PRCNC20240278

25 Central Way, Suite 210
Kirkland, Washington 98033
P: 425.454.7130 F: 425.658.1208
Web: www.milbrandtarch.com

11063 REGISTERED ARCHITECT
ANNA P. THOMPSON
STATE OF WASHINGTON

Clubhouse
Cover Sheet

Bradley Heights Apartments
Puyallup, Wa

Timberlane Partners

Revisions

No.	Date	Description
1	8-30-24	Owner Changes/ Permit Corrections

Initial Publish Date:
Date Plotted: 5-7-25
Job No.: 23-06
Drawn By: DJV/HDM/MLR
Sheet No.: A1

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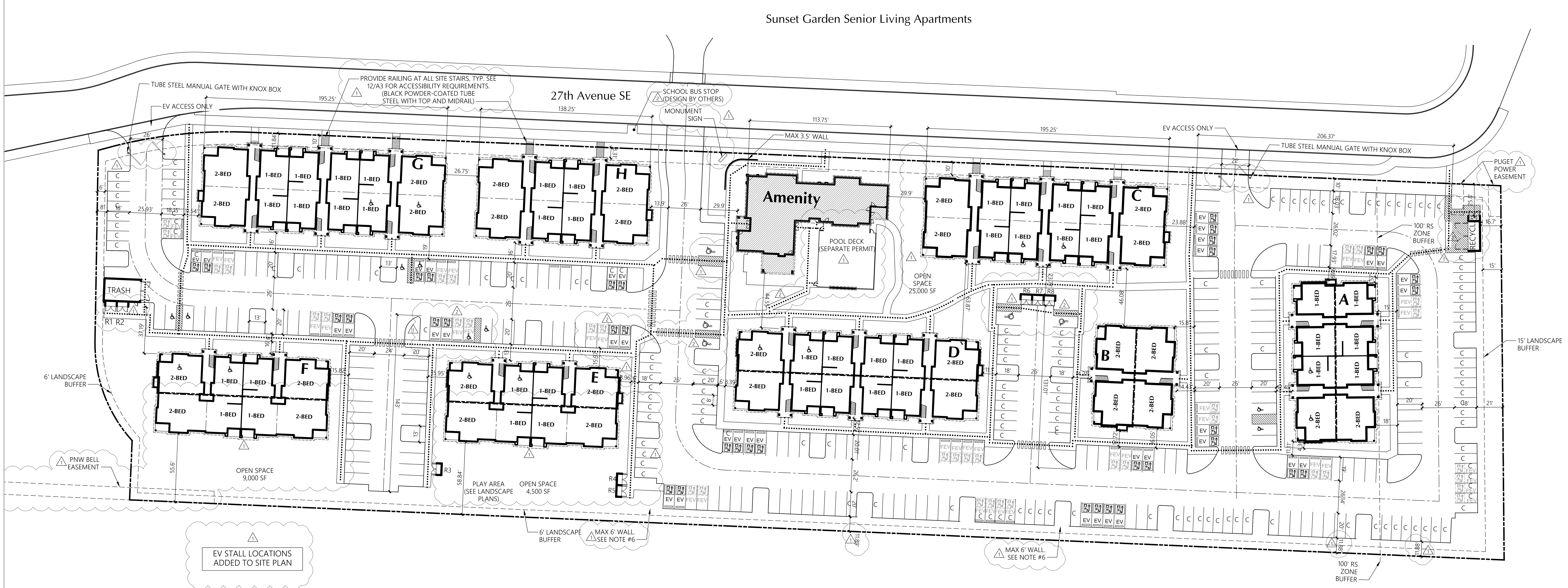

SITE PLAN

1" = 40'

236 UNITS

SITE INFORMATION

SITE ADDRESS: 206 27th Ave SE, Puyallup, WA

PARCEL #: 419036006

SITE AREA: 339,107 SF (7.785 Acres)

ZONE: RM-CORE

SETBACKS:
NORTH/FRONT : 10 FT setback to buildings
WEST/SIDE : 0 FT Building setback - 6 FT landscape buffer
SOUTH/REAR : 0 FT Building setback - 6 FT landscape buffer
EAST/SIDE : 25 FT Building setback - 15 ft landscape buffer

BUILDING HEIGHT: 50' Max

DENSITY: Min 16 units per acre (125 units)
no Max density

LOT COVERAGE: Max 90%

LANDSCAPE AREA: Min 10% of net lot area (33,910 SF)

OPEN SPACE: 10% of net lot area (33,910 SF)
38,500 SF provided

PRIVATE OPEN SPACE: 60 SF per ground floor unit
10' x 6' per upper story unit

PARKING: 1.5 PARKING SPACES PER UNIT
Required Parking: 354 Stalls
Provided Parking: 354 Stalls

EASEMENTS: no existing easements on site

PARKING SUMMARY

Parking Stalls Required	354		
Standard Stalls	125		
Compact Stalls 41.5%	99		
Parallel Stalls	0		
Carport Stalls	117		
Attached Garage Stalls	0		
Detached Garage Stalls	0		
Accessible Standard Stalls	6		
Accessible Van Stalls	4		
Accessible Parallel Stalls	0		
Accessible Carport Stalls	2		
Accessible Garage Stalls	0		
Tandem Stalls	0		
Tandem Garage Stalls	0		
Subtotal	353	1.50	Stalls / D.U.
Aprons	0		
Total Parking Stalls Provided	353	1.50	Stalls / D.U.

UNIT COUNT

1 BED	137 (58%)
2 BED	99 (42%)
TOTAL	**236**

EV STALL COUNT

Electric Vehicle Charging stations
Provided: 36 Stalls (10% of provided parking)
Required: 0 Stalls^

Future Electric Vehicle Stall Infrastructure
Provided: 36 Stalls (10%of provided parking)
Required: 36 Stalls (10% of provided parking)^

Electrical panels sized to accommodate 72 EV Stalls (20% of provided parking)^

^ Requirements from section 429 of 2018 IBC Washington State Amendment.

PERMIT BLDG NAME	PUYALLUP ADDRESS
A	206 27TH AVE SE, BLDG J
B	206 27TH AVE SE, BLDG H
C	206 27TH AVE SE, BLDG G
D	206 27TH AVE SE, BLDG E
E	206 27TH AVE SE, BLDG C
F	206 27TH AVE SE, BLDG A
G	206 27TH AVE SE, BLDG B
H	206 27TH AVE SE, BLDG D
CLUBHOUSE	206 27TH AVE SE, BLDG F

SITE NOTES

1) TYPICAL SIDEWALK WIDTH IS 6'
2) A MINIMUM CLEAR WIDTH OF 44" IS REQUIRED FOR ALL EXTERIOR ACCESSIBLE ROUTES PER WASHINGTON STATE AMENDMENT SECTION 1101.2.1
3) SEE SHEET A3 FOR SITE ACCESSIBILITY STANDARDS
4) SEE CIVIL SITE PLAN PERMIT DRAWINGS FOR SPECIFIC UTILITY, ROAD AND GRADING INFORMATION
5) POOL TO BE UNDER SEPARATE PERMIT
6) ANY WALLS 4' OR HIGHER REQUIRE A SEPARATE CITY BUILDING PERMIT. SEE CIVIL PLAN SET FOR SITE WALL DETAILS.

SITE KEY

2'-6" STEP LOCATION

TYPICAL STANDARD STALL (20' x 9')

TYPICAL COMPACT STALL (18' x 8')

CARPORT LOCATION

ACCESSIBLE ROUTE OF TRAVEL (A.R.T.)*
RUNNING SLOPE NOT TO EXCEED 1:20
CROSS SLOPE NOT TO EXCEED 1:48
RAMPS NOT TO EXCEED 1:12

FIRE HYDRANT LOCATIONS

EV — ELECTRIC VEHICLE CHARGING STALL*

FEV — FUTURE ELECTRIC VEHICLE CHARGING STALL INFRASTRUCTURE

* Future electric vehicle stalls shall provide conduit from the electrical panel to either a pull box in the vicinity of the designated future electric vehicle charging locations or stub above grade in the vicinity of the designated future electric vehicle charging locations, protected from vehicles by a wheel stop.

MILBRANDT ARCHITECTS

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11063 REGISTERED ARCHITECT
ANNA P. THOMPSON
STATE OF WASHINGTON

Site Plan
Amenity Building

Bradley Heights Apartments
Puyallup, Wa

Timberlane Partners

Revisions

No.	Date	Description
1	8-30-24	Owner Changes/ Permit Corrections
2	4-24-25	Permit Corrections

Initial Publish Date:
Date Plotted: 5-6-25
Job No.: 23-06
Drawn By: APT/HDM
Sheet No.: A2

CODE REFERENCES ARE TO ICC A117.1-2009 UNLESS NOTED OTHERWISE

NOTE: ALL DIMENSIONS ARE FROM FINISHED SURFACE

City of Puyallup Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

CHANGES IN LEVEL

CHANGES IN LEVEL OF ¼" MAX. SHALL BE PERMITTED TO BE VERTICAL AND WITHOUT EDGE TREATMENT.

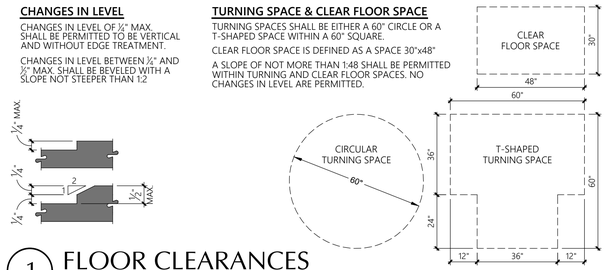
CHANGES IN LEVEL BETWEEN ¼" AND ½" MAX. SHALL BE BEVELED WITH A SLOPE NOT STEEPER THAN 1:2

TURNING SPACE & CLEAR FLOOR SPACE

TURNING SPACES SHALL BE EITHER A 60" CIRCLE OR A T-SHAPED SPACE WITHIN A 60" SQUARE.

CLEAR FLOOR SPACE IS DEFINED AS A SPACE 30"x48"

A SLOPE OF NOT MORE THAN 1:48 SHALL BE PERMITTED WITHIN TURNING AND CLEAR FLOOR SPACES. NO CHANGES IN LEVEL ARE PERMITTED.



1 FLOOR CLEARANCES

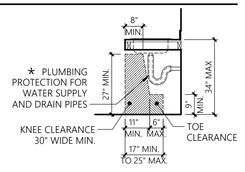
3/8"=1'-0"

KNEE AND TOE CLEARANCE

TOE OR KNEE CLEARANCE SHALL BE 30" WIDE MIN.

THE DIP OF THE OVERFLOW ON A SINK SHALL NOT BE CONSIDERED IN DETERMINING KNEE AND TOE CLEARANCE.

★ WATER SUPPLY & DRAINPIPES UNDER LAVATORIES AND SINKS SHALL BE INSULATED OR OTHERWISE CONFIGURED TO PROTECT AGAINST CONTACT. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES AND SINKS.



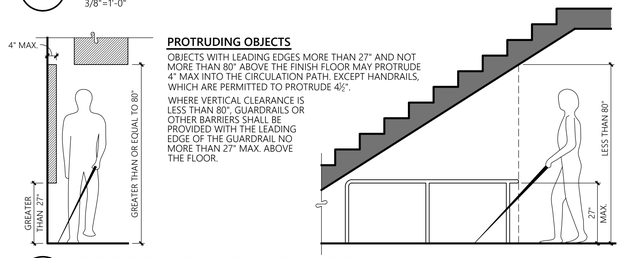
2 KNEE AND TOE SPACE

3/8"=1'-0"

PROTRUDING OBJECTS

OBJECTS WITH LEADING EDGES MORE THAN 27" AND NOT MORE THAN 80" ABOVE THE FINISH FLOOR MAY PROTRUDE 4" MAX INTO THE CIRCULATION PATH, EXCEPT HANDRAILS, WHICH ARE PERMITTED TO PROTRUDE 4½".

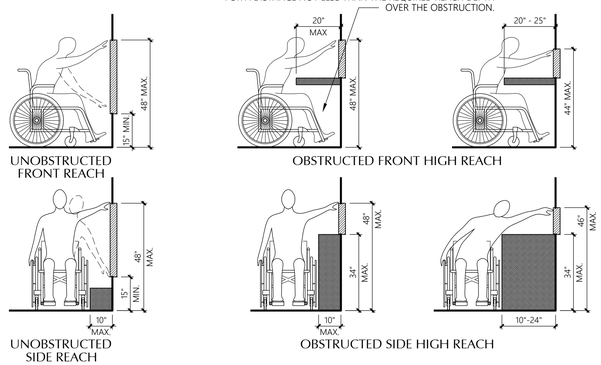
WHERE VERTICAL CLEARANCE IS LESS THAN 80", GUARDRAILS OR OTHER BARRIERS SHALL BE PROVIDED WITH THE LEADING EDGE OF THE GUARDRAIL NO MORE THAN 27" MAX. ABOVE THE FLOOR.



3 PROTRUDING OBJECTS

3/8"=1'-0"

CLEAR FLOOR SPACE SHALL EXTEND BENEATH THE ELEMENT FOR A DISTANCE NOT LESS THAN THE REQUIRED REACH DEPTH OVER THE OBSTRUCTION.



OPERABLE PARTS

A 30"x48" CLEAR FLOOR SPACE SHALL BE PROVIDED AT ALL OPERABLE PARTS. ALL OPERABLE PARTS SHALL BE WITHIN ONE OR MORE OF THE REACH RANGES.

OPERABLE PARTS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5.0 lbs MAX.

4 REACH RANGES

3/8"=1'-0"

BUILDING BLOCKS
CHAPTER 3

ACCESSIBLE ROUTE (PER IBC SECTION 1104)

AT LEAST ONE ACCESSIBLE ROUTE WITHIN THE SITE SHALL BE PROVIDED FROM PUBLIC TRANSPORTATION STOPS, ACCESSIBLE PARKING, ACCESSIBLE PASSENGER LOADING ZONES, AND PUBLIC STREETS OR SIDEWALKS TO THE ACCESSIBLE BUILDING ENTRANCES SERVED.

WHEN A BUILDING OR PORTION OF A BUILDING IS REQUIRED TO BE ACCESSIBLE, AT LEAST ONE ACCESSIBLE ROUTE SHALL BE PROVIDED TO EACH PORTION OF THE BUILDING, TO ACCESSIBLE BUILDING ENTRANCES CONNECTING ACCESSIBLE WALKWAYS AND TO THE PUBLIC WAY.

ACCESSIBLE ROUTES SHALL COINCIDE WITH OR BE LOCATED IN THE SAME AREAS AS A GENERAL CIRCULATION PATH.

ACCESSIBLE ROUTES SHALL CONSIST OF ONE OR MORE OF THE FOLLOWING COMPONENTS: WALKING SURFACES WITH A SLOPE NOT STEEPER THAN 1:20, DOORS & DOORWAYS, RAMPS, CURB RAMPS EXCLUDING THE FLARED SIDES, ELEVATORS, AND PLATFORM LIFTS.

WALKING SURFACES

SLOPE: THE RUNNING SLOPE OF WALKING SURFACES SHALL NOT BE STEEPER THAN 1:20. THE CROSS SLOPE OF A WALKING SURFACE SHALL NOT BE STEEPER THAN 1:48.

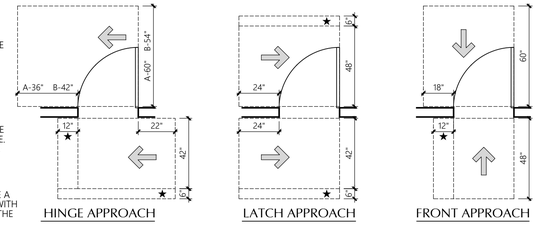
CHANGES IN LEVEL: CHANGES IN LEVEL SHALL COMPLY WITH SECTION 303 **(see detail 1 ACC sheets)**

CLEAR WIDTH: THE WIDTH OF AN ACCESSIBLE ROUTE SHALL BE 36" MIN. THE CLEAR WIDTH SHALL BE PERMITTED TO BE REDUCED TO 32" MIN. FOR A LENGTH OF 24" MAX. PROVIDED THE REDUCED WIDTH SEGMENTS ARE SEPARATED BY SEGMENTS THAT ARE 48" MIN. IN LENGTH AND 36" MIN. IN WIDTH. FOR EXTERIOR ROUTES OF TRAVEL, THE CLEAR WIDTH SHALL BE 44" MIN.

PASSING SPACE: AN ACCESSIBLE ROUTE WITH A CLEAR WIDTH LESS THAN 60" SHALL PROVIDE PASSING SPACES AT MAXIMUM INTERVALS OF 200 FEET. PASSING SPACES SHALL BE EITHER A 60"x60" MIN. SPACE, OR AN INTERSECTION OF WALKING SURFACES WITH A T-SHAPED TURNING SPACE **(See detail 1 ACC sheets)**, PROVIDED THE BASE AND ARMS OF THE T-SHAPED SPACE EXTEND 48" MIN. BEYOND THE INTERSECTION.

5 ACCESSIBLE ROUTE

★ ADDITIONAL CLEARANCE IF DOOR HAS BOTH CLOSER AND LATCH



MANEUVERING CLEARANCES

MIN. MANEUVERING CLEARANCES SHALL COMPLY WITH THESE DIAGRAMS AND SHALL NOT INCLUDE KNEE & TOE CLEARANCE. THE FLOOR SURFACE WITHIN THE MANEUVERING CLEARANCE SHALL HAVE A SLOPE NOT GREATER THAN 1:48

DOORS

DOORWAY CLEAR WIDTH: DOOR OPENINGS SHALL PROVIDE A CLEAR WIDTH OF 32" MIN. CLEAR OPENING OF DOORWAYS WITH SWINGING DOORS SHALL BE MEASURED FROM THE FACE OF THE DOOR TO THE STOP WITH THE DOOR OPEN 90°

THRESHOLDS: IF PROVIDED, THRESHOLDS SHALL BE ½" MAX. IN HEIGHT & SHALL COMPLY WITH SECTIONS 302 & 303. **(See detail 1 ACC sheets)**

DOOR HARDWARE: HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERABLE PARTS ON ACCESSIBLE DOORS SHALL HAVE A SHAPE THAT IS EASY TO GRASP WITH ONE HAND AND DOES NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST TO OPERATE. OPERABLE PARTS OF SUCH HARDWARE SHALL BE 34" MIN. AND 48" MAX. ABOVE THE FLOOR

CLOSING SPEED: DOORS WITH CLOSERS SHALL BE ADJUSTED SO THAT FROM A 90° OPEN POSITION, THE TIME REQUIRED TO MOVE THE DOOR TO A POSITION OF 12" FROM THE LATCH IS 5 SECONDS MIN.

DOORS WITH A SPRING HINGE SHALL BE ADJUSTED SO THAT FROM A 70° OPEN POSITION, THE TIME REQUIRED TO MOVE THE DOOR TO A CLOSED POSITION IS 1.5 SECONDS MIN.

DOOR OPENING FORCE: HINGED, SLIDING OR FOLDING DOORS OTHER THAN FIRE DOORS SHALL HAVE AN OPENING FORCE AS FOLLOWS: INTERIOR DOORS: 5 lbs. MAX. EXTERIOR DOORS: 10 lbs. MAX.

6 DOORS

1/4"=1'-0"

RAMPS

GENERAL: RAMP RUNS SHALL HAVE A RUNNING SLOPE GREATER THAN 1:20 AND NOT STEEPER THAN 1:12. THE MAX. CROSS SLOPE OF A RAMP SHALL BE 1:48. THE MAX. RISE FOR ANY RAMP RUN SHALL BE 30". LANDINGS SUBJECT TO WET CONDITIONS SHALL BE DESIGNED TO PREVENT THE ACCUMULATION OF WATER.

CHANGES IN LEVEL: CHANGES IN LEVEL SHALL COMPLY WITH SECTION 303 **(See detail 1 ACC sheets)**

CLEAR WIDTH: THE CLEAR WIDTH SHALL BE 36" MIN. FOR EXTERIOR ROUTES OF TRAVEL THE CLEAR WIDTH SHALL BE 44" MIN. THE HANDRAILS SHALL NOT PROJECT INTO THE REQUIRED CLEAR WIDTH OF THE RAMP RUN.

LANDINGS: RAMPS SHALL HAVE LANDINGS AT THE BOTTOM & TOP OF EACH RAMP RUN WITH A MAX. SLOPE OF 1:48. CLEAR WIDTH OF LANDINGS SHALL BE AS WIDE AS THE WIDEST RAMP RUN LEADING TO THE LANDING AND A MIN. CLEAR LENGTH OF 60". RAMPS THAT CHANGE DIRECTION AT THE LANDING SHALL BE SIZED TO PROVIDE A TURNING SPACE **(See detail 1 ACC sheets)**

HANDRAILS: RAMP RUNS WITH A RISE GREATER THAN 6" SHALL HAVE HANDRAILS

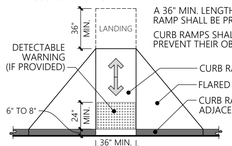
EDGE PROTECTION: THE FLOOR SURFACE OF THE RAMP RUN OR LANDING SHALL EXTEND 12" BEYOND THE INSIDE FACE OF A RAILING OR THERE SHALL BE A 4" MIN. HEIGHT CURB OR A BARRIER AT THE EDGE OF THE RAMP OR LANDING CONSTRUCTED SO THAT IT PREVENTS THE PASSAGE OF A 4" DIAMETER SPHERE

7 RAMPS

1/4"=1'-0"

CURB RAMPS

THE MIN. WIDTH OF CURB RAMPS SHALL BE 36". ALL ADJOINING GUTTERS AND ROAD SURFACES IMMEDIATELY ADJACENT TO THE CURB RAMP SHALL NOT BE STEEPER THAN 1:20. THE CURB RAMP SHALL HAVE A MAX. SLOPE OF 1:12 WITH A MAX. CROSS SLOPE OF 1:48. LANDINGS SUBJECT TO WET CONDITIONS SHALL BE DESIGNED TO PREVENT THE ACCUMULATION OF WATER.



A 36" MIN. LENGTH LANDING AT LEAST AS WIDE AS THE CURB RAMP SHALL BE PROVIDED AT THE TOP OF CURB RAMPS.

CURB RAMPS SHALL BE LOCATED OR PROTECTED TO PREVENT THEIR OBSTRUCTION BY PARKED VEHICLES.

CURB RAMP 1:12 MAX. SLOPE

FLARED SIDES 1:10 MAX. SLOPE

CURB RAMP FLARES PAINTED IF ADJACENT CURB IS PAINTED

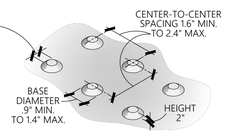
DETECTABLE WARNINGS

DETECTABLE WARNINGS SHALL CONTRAST VISUALLY WITH ADJACENT SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT.

DETECTABLE WARNING SURFACES IN INTERIOR LOCATIONS SHALL DIFFER FROM ADJOINING WALKING SURFACES IN RESILIENCY OR SOUND-ON-CANE CONTACT.

TRUNCATED DOMES SHALL BE ALIGNED IN A SQUARE PATTERN.

CHECK WITH LOCAL JURISDICTION ON WHERE DETECTABLE WARNINGS ARE REQUIRED. CURRENTLY IBC & ANSI A117.1 ONLY REQUIRE DETECTABLE WARNINGS AT LIMITED & SPECIFIC LOCATIONS.



8 CURB RAMPS AND DETECTABLE WARNINGS

1/4"=1'-0"

ACCESSIBLE ROUTES
CHAPTER 4

ACCESSIBLE PARKING SPACES

LOCATION: PER IBC SECTION 1106.6, ACCESSIBLE PARKING SPACES SHALL BE LOCATED ON THE SHORTEST ACCESSIBLE ROUTE OF TRAVEL FROM ADJACENT PARKING TO AN ACCESSIBLE BUILDING ENTRANCE. WHERE PRACTICAL THE ACCESSIBLE ROUTE SHALL NOT CROSS LANES OF TRAFFIC. WHERE CROSSING TRAFFIC LANES IS NECESSARY, THE ROUTE SHALL BE DESIGNATED AND MARKED AS A CROSSWALK.

PARKING STALL SIZE: CAR AND VAN PARKING SPACES SHALL BE 96" MIN. WIDTH. ACCESS AISLES SERVING CAR PARKING SPACES SHALL BE 60" MIN. IN WIDTH. ACCESS AISLES SERVING VAN PARKING SPACES SHALL BE 96" MIN. IN WIDTH.

ACCESS AISLE: CAR AND VAN PARKING SPACES SHALL HAVE AN ADJACENT ACCESS AISLE ON EITHER SIDE OF THE PARKING SPACE. THE ACCESS AISLES SHALL BE 60" MIN. IN WIDTH FOR CAR STALLS AND 96" MIN. IN WIDTH FOR VAN STALLS AND EXTEND THE FULL LENGTH OF AND AT THE SAME LEVEL AS THE PARKING SPACE THEY SERVE. ACCESS AISLES SHALL BE MARKED SO AS TO DISCOURAGE PARKING IN THEM

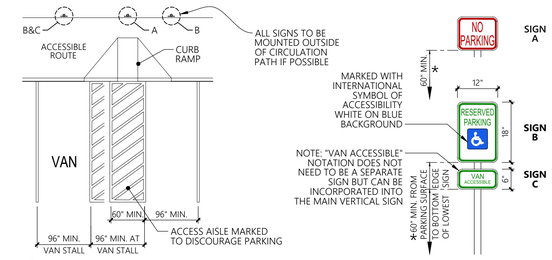
FLOOR SURFACES: PARKING STALLS & ADJACENT ACCESS AISLES SHALL HAVE A SURFACE SLOPE NOT GREATER THAN 1:48.

VERTICAL CLEARANCE: ACCESSIBLE VAN PARKING STALLS, ACCESS AISLES SERVING THEM, & VEHICULAR ROUTES SERVING THE VAN SPACE SHALL HAVE A VERTICAL CLEARANCE OF 98" MIN.

IDENTIFICATION: ACCESSIBLE PARKING SPACES SHALL BE INDICATED BY A VERTICAL SIGN. SIGNS SHALL INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY THAT IS WHITE WITH A BLUE BACKGROUND. SIGNS IDENTIFYING VAN PARKING SPACES SHALL CONTAIN THE DESIGNATION "VAN ACCESSIBLE". A VERTICAL "NO PARKING" SIGN SHALL BE ERECTED AT THE HEAD OF EACH ACCESS AISLE LOCATED ADJACENT TO AN ACCESSIBLE PARKING SPACE. THESE SIGNS MAY INCLUDE ADDITIONAL LANGUAGE SUCH AS, BUT NOT LIMITED TO, AN INDICATION OF THE AMOUNT OF THE MONETARY PENALTY FOR PARKING IN THE SPACE WITHOUT A VALID PERMIT OR THE ACCESS AISLE. THESE SIGNS SHALL BE 60" MIN. ABOVE THE FLOOR OF THE PARKING SPACE MEASURED TO THE BOTTOM OF THE SIGN.

SIGN MOUNTING: SIGNS ARE TO BE MOUNTED COMPLETELY OUTSIDE OF CIRCULATION PATHS WHEREVER POSSIBLE. WHERE MOUNTING IS NECESSARY WITHIN A PATH OF CIRCULATION, SIGNS SHALL MEET THE REQUIREMENTS OF **IBC SECTION 1003.3** FOR PROTRUDING OBJECTS AND POST-MOUNTED OBJECTS.

★ SIGNS MOUNTED ON POSTS WITHIN A CIRCULATION PATH SHALL BE INSTALLED WITH A VERTICAL CLEARANCE OF 80" MIN. FROM THE LOWEST POINT OF THE SIGN(S) TO THE WALKING SURFACE. IF A POST MOUNTED SIGN IS SIZED SUCH THAT IT PROTRUDES 4" MAX. FROM THE MOUNTING POST, THEN THE MOUNTING HEIGHT SHALL BE MOUNTED AT 60" MIN. ABOVE THE PARKING SURFACE SO AS TO NOT BE OBSTRUCTED BY ANY PARKED VEHICLES.



10 ACCESSIBLE PARKING SPACES

NTS

ACCESSIBLE STAIR REQUIREMENTS

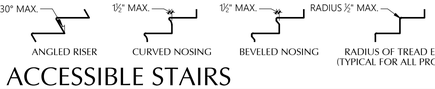
ALL STEPS ON A FLIGHT OF STAIRS SHALL HAVE UNIFORM RISER HEIGHTS AND UNIFORM TREAD DEPTHS. RISERS SHALL BE 4" HIGH MIN. AND 7" HIGH MAX. TREADS SHALL BE 11" DEEP MIN.

OPEN RISERS ARE NOT PERMITTED & TREADS SHALL HAVE A SLOPE NOT MORE THAN 1:48.

STAIR NOSINGS SHALL CONFORM TO THE DIAGRAMS SHOWN HERE AND THE LEADING 2" OF THE TREAD SHALL HAVE VISUAL CONTRAST OF DARK-ON-LIGHT OR LIGHT-ON-DARK FROM THE REMAINDER OF THE TREAD.

STAIR TREADS & LANDINGS SUBJECT TO WET CONDITIONS SHALL BE DESIGNED TO PREVENT ACCUMULATION OF WATER.

FLOOR IDENTIFICATION SIGNS SHALL BE LOCATED AT EACH FLOOR LANDING ADJACENT TO THE STAIRWELL DOOR LEADING INTO THE CORRIDOR. SIGNS SHALL BE IN RAISED CHARACTERS & BRAILLE. "EXIT" SIGNS SHALL BE LOCATED AT STAIRS LEADING TO THE EXTERIOR OF THE BUILDING. (See detail 21 ACC sheets)



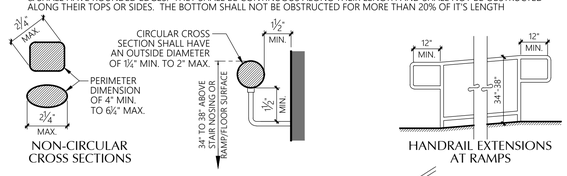
11 ACCESSIBLE STAIRS

3/8"=1'-0"

HANDRAILS

HANDRAILS SHALL BE PROVIDED ON BOTH SIDES OF STAIRS & RAMPS. THEY SHALL BE CONTINUOUS FOR THE FULL LENGTH OF EACH STAIR FLIGHT OR RAMP RUN. INSIDE HANDRAILS ON SWITCHBACKS SHALL BE CONTINUOUS BETWEEN FLIGHTS OR RUNS.

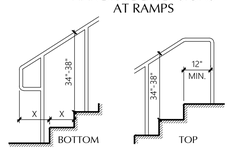
HANDRAIL GRIPPING SURFACES & ANY SURFACES ADJACENT TO THEM SHALL BE FREE OF SHARP OR ABRASIVE ELEMENTS & SHALL HAVE ROUNDED EDGES. THEY SHALL BE CONTINUOUS ALONG THEIR LENGTH AND SHALL NOT BE OBSTRUCTED ALONG THEIR TOPS OR SIDES. THE BOTTOM SHALL NOT BE OBSTRUCTED FOR MORE THAN 20% OF IT'S LENGTH



HANDRAIL EXTENSIONS

EXTENSIONS SHALL EXTEND BEYOND AND IN THE SAME DIRECTION OF A STAIR FLIGHT OR RAMP RUN EXCEPT FOR THE INSIDE CONTINUOUS HANDRAIL AT SWITCHBACK STAIRS OR RAMPS. HANDRAILS SHALL RETURN TO A WALL, GUARD OR THE LANDING SURFACE, OR BE CONTINUOUS TO THE HANDRAIL OF AN ADJACENT STAIR FLIGHT OR RAMP RUN.

AT THE BOTTOM OF A STAIR FLIGHT THE HANDRAIL SHALL EXTEND AT THE SLOPE OF THE STAIR FLIGHT FOR A HORIZONTAL DISTANCE EQUAL TO ONE TREAD DEPTH BEYOND THE BOTTOM TREAD NOSING.



12 HANDRAILS

1 1/2" = 1'-0" AND 3/8"=1'-0"

GENERAL SITE & BLDG. ELEMENTS
CHAPTER 5

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STATE OF WASHINGTON

Site Standards

Bradley Heights Apartments

Puyallup, Wa

Timberlane Partners

Revisions

No.	Date	Description

Initial Publish Date:

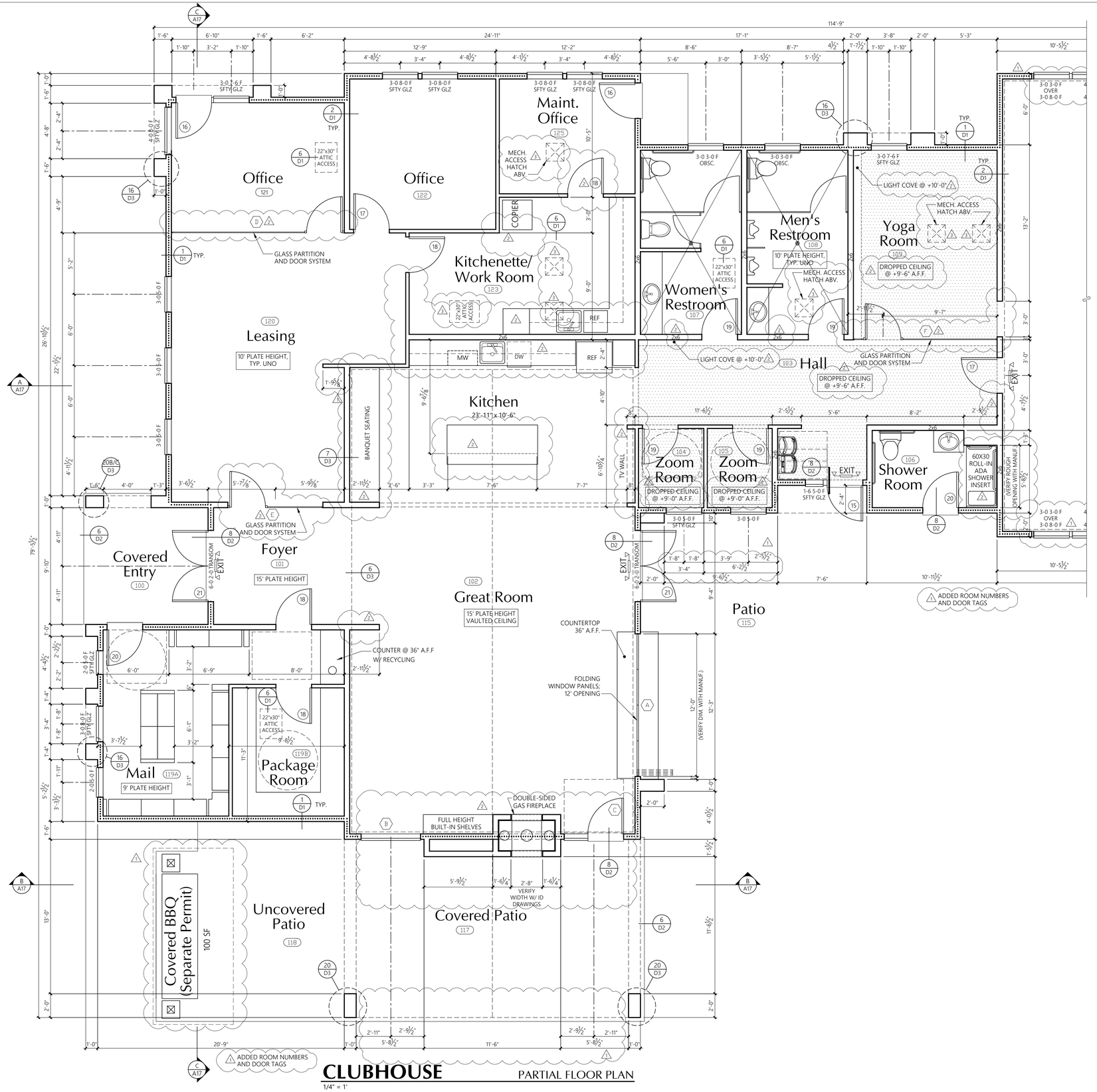
Date Plotted: 5-1-25

Job No.: 23-06

Drawn By: APT/DJV/JLL

Sheet No.: A3

If Shower Pans are proposed - a Shower Pan inspection is required. Manufacturer's specifications and installation details must be on site during Shower Pan test and inspection. Do not tile or otherwise cover the Shower Pan prior to inspection.



DOOR KEY:

(X) DOOR TAG. SEE D6 FOR SCHEDULE

WINDOW KEY:

TYPE:
FIX = FIXED/PICTURE
SL = SLIDER
SH = SINGLE HUNG
SGD = SLIDING GLASS DOOR

(X) STOREFRONT TAG. SEE D6 FOR SCHEDULE (1)

PLAN NOTES

FRAMING:
2x6's AT 16" O.C. EXTERIOR WALLS
2x4'S AT 16" O.C. INTERIOR WALLS U.N.O.

SEE BEARING WALL SCHEDULE FOR STRUCTURAL REQUIREMENTS.

R-21 BATT INSULATION

INDICATES SOFFIT

EXIT (I) INTERNALLY OR EXTERNALLY LIT EXIT SIGN & (T) TACTILE SIGN CONTAINING BOTH RAISED CHARACTERS AND BRAILLE COMPLYING WITH SECTION 1013.4 OF THE 2018 IBC AND ICC SECTION 703 LOCATED BETWEEN 40" AND 70" ABOVE THE FLOOR

SINKS TO BE UNDERMOUNT AND COMPLY WITH ADA ON SHEET A11

DOOR HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERATING DEVICES ON DOORS REQUIRED TO BE ACCESSIBLE BY CHAPTER 11 SHALL NOT REQUIRE TIGHT GRASPING, TIGHT PINCHING OR TWISTING OF THE WRIST TO OPERATE PER SECTION 1010.1.9.1 IBC 2018.

PORTABLE FIRE EXTINGUISHER (CLASS 3A:10B:C - U.N.O.). MAXIMUM TRAVEL DISTANCE TO EXTINGUISHER TO BE 75'. SEE DETAIL 12/D3.

GYPSUM WALLBOARD SCHEDULE

⅝" GYPSUM WALLBOARD (GWB) SHALL BE USED THROUGHOUT ON INTERIOR WALLS. INTERIOR SIDE OF EXTERIOR WALLS AND CEILINGS EXCEPT AT EXTERIOR WALLS AND COMMON WALLS REQUIRED TO HAVE A 1-HR OR 2-HR FIRE-RESISTANCE RATING IN WHICH CASE ½" TYPE 'X' GWB SHALL BE USED.

WINDOW HDR: 8'-0" A.F.F. U.N.O. WITH (X'X)

SEE SHEETS A10, A11, A12, & A13 FOR INTERIOR ELEVATIONS AND ACCESSIBILITY REQUIREMENTS (1)

INSULATION NOTES

- FOUNDATION PERIMETER
  R-10 RIGID INSULATION TO THE LESSER OF A DEPTH OF 24" OR TO TOP OF FOOTING AT HEATED PERIMETER
- WALLS
  2x6 WALLS WITH FIBERGLASS BATTS OR BLANKETS R21
- ATTICS AT TRUSSES
  R-49
- EXTERIOR DOORS (UNGLAZED)
  DOORS BETWEEN HEATED AND UNHEATED SPACES SHALL BE MAX. U=0.3 OR BETTER
- WINDOWS
  U=0.30, OR BETTER (1)
- ~~SGD & DOORS WITH~~ 50% OR MORE GLAZING MAX. U=0.30

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Clubhouse
Partial Floor Plan

Bradley Heights Apartments
Puyallup, Wa

Timberlane Partners

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2	4-24-25	Owner Changes/ Permit Corrections
3	5-28-25	Permit Corrections

Initial Publish Date:
Date Plotted: 5-28-25
Job No.: 23-06
Drawn By: APT/HDM
Sheet No.: A8

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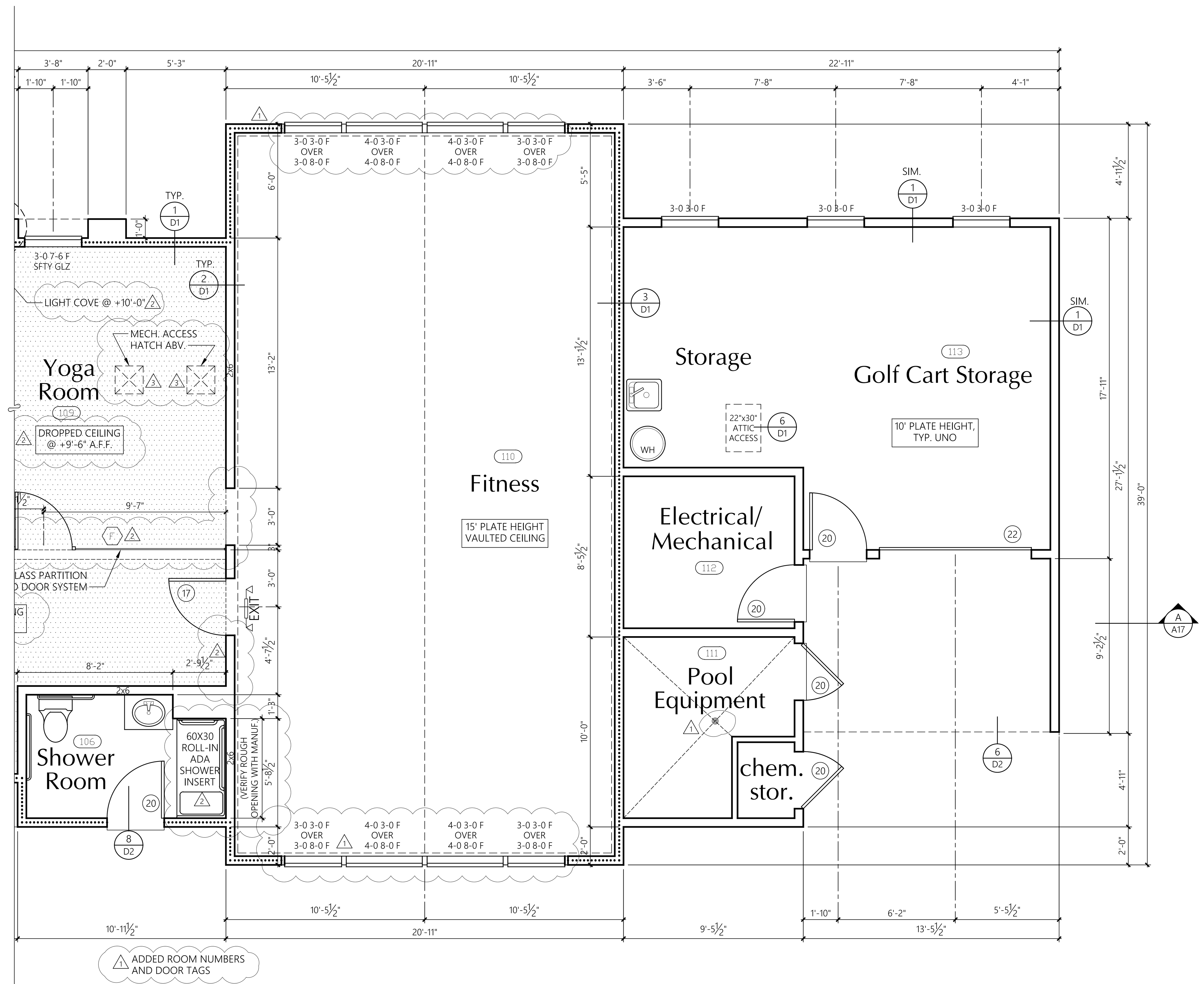

CLUBHOUSE — PARTIAL FLOOR PLAN

1/4" = 1'

DOOR KEY:

(X) DOOR TAG. SEE D6 FOR SCHEDULE

WINDOW KEY:

TYPE:
FIX = FIXED/PICTURE
SL = SLIDER
SH = SINGLE HUNG
SGD = SLIDING GLASS DOOR

(X) STOREFRONT TAG. SEE D6 FOR SCHEDULE

PLAN NOTES

FRAMING:
2x6's AT 16" O.C. EXTERIOR WALLS
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SEE BEARING WALL SCHEDULE FOR STRUCTURAL REQUIREMENTS.

• • • • • • • • • R-21 BATT INSULATION

INDICATES SOFFIT

EXIT — (1) INTERNALLY OR EXTERNALLY LIT EXIT SIGN & (1) TACTILE SIGN CONTAINING BOTH RAISED CHARACTERS AND BRAILLE COMPLYING WITH SECTION 1013.4 OF THE 2018 IBC AND ICC SECTION 703 LOCATED BETWEEN 40" AND 70" ABOVE THE FLOOR

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PFE — PORTABLE FIRE EXTINGUISHER (CLASS 3A:10B:C - U.N.O.), MAXIMUM TRAVEL DISTANCE TO EXTINGUISHER TO BE 75'. SEE DETAIL 12/D3.

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⅝" GYPSUM WALLBOARD (GWB) SHALL BE USED THROUGHOUT ON INTERIOR WALLS, INTERIOR SIDE OF EXTERIOR WALLS AND CEILINGS EXCEPT AT EXTERIOR WALLS AND COMMON WALLS REQUIRED TO HAVE A 1-HR OR 2-HR FIRE-RESISTANCE RATING IN WHICH CASE ⅝" TYPE 'X' GWB SHALL BE USED.

WINDOW HDR: 8'-0" A.F.F. U.N.O. WITH [x-x]

SEE SHEETS A10, A11, A12, & A13 FOR INTERIOR ELEVATIONS AND ACCESSIBILITY REQUIREMENTS

INSULATION NOTES

- FOUNDATION PERIMETER
  R-10 RIGID INSULATION TO THE LESSER OF A DEPTH OF 24" OR TO TOP OF FOOTING AT HEATED PERIMETER
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  2x6 WALLS WITH FIBERGLASS BATTS OR BLANKETS R21
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  U=0.30, OR BETTER
- SGD & DOORS WITH 50% OR MORE GLAZING
  MAX. U=0.30

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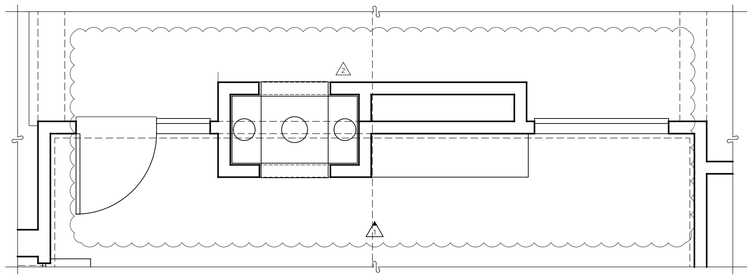
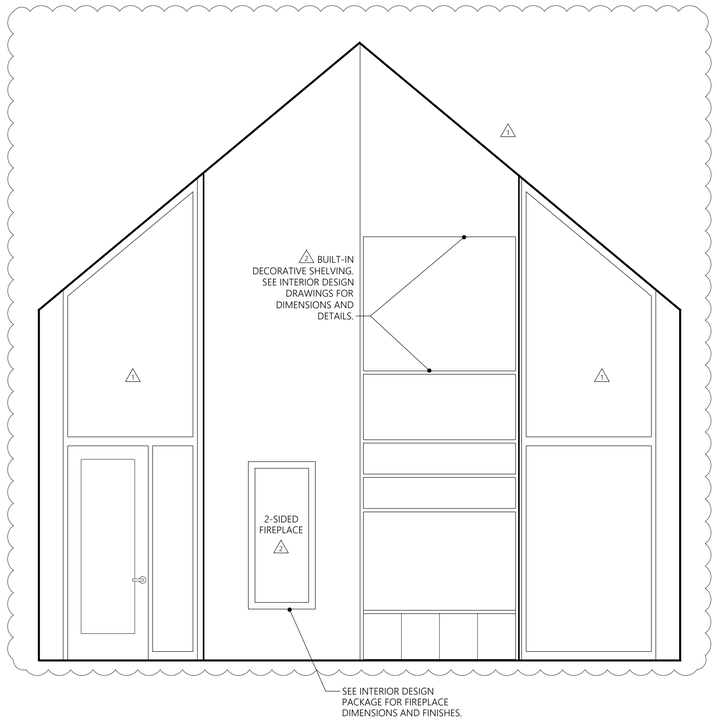
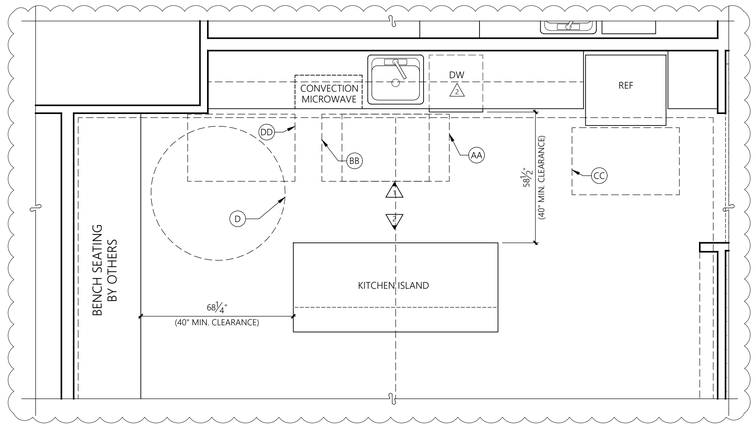


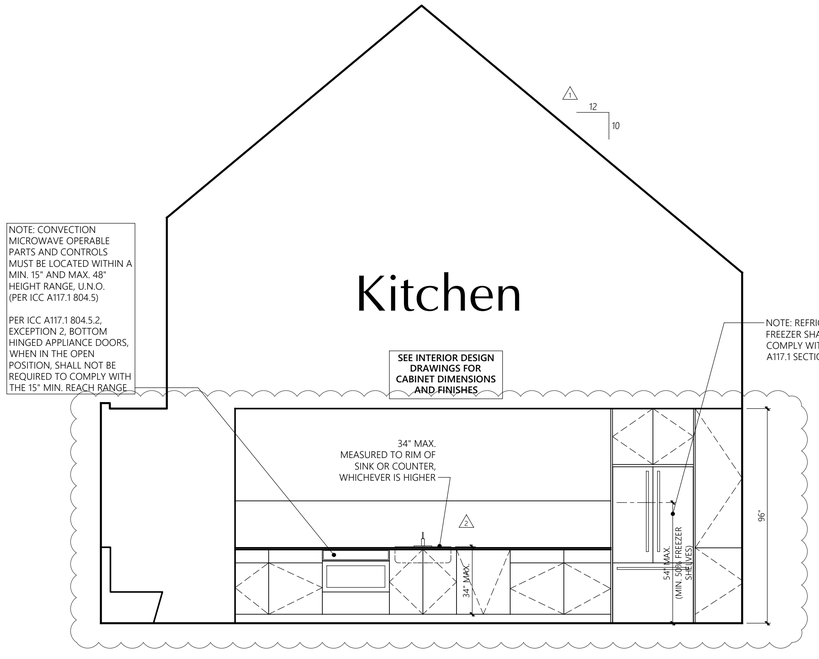
GREAT ROOM FIREPLACE PLAN



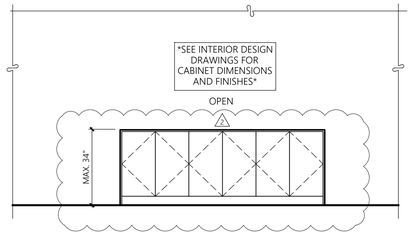
1 GREAT ROOM FIREPLACE



KITCHEN PLAN



1 KITCHEN



2 KITCHEN

1 NOTE: SEE SHEET A13 FOR ADA REQUIREMENTS

CLEAR FLOOR SPACE LEGEND

- (AA) 30"x48" CLEAR FLOOR SPACE AT SINK.
- (BB) 30"x48" CLEAR FLOOR SPACE AT DISHWASHER.
- (CC) 30"x48" CLEAR FLOOR SPACE AT REFRIGERATOR.
- (DD) 30"x48" CLEAR FLOOR SPACE AT OVEN
- (D) 60" DIAMETER TURNING CIRCLE OR T-SHAPE TURNING SPACE

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Sheet No.: **A10**

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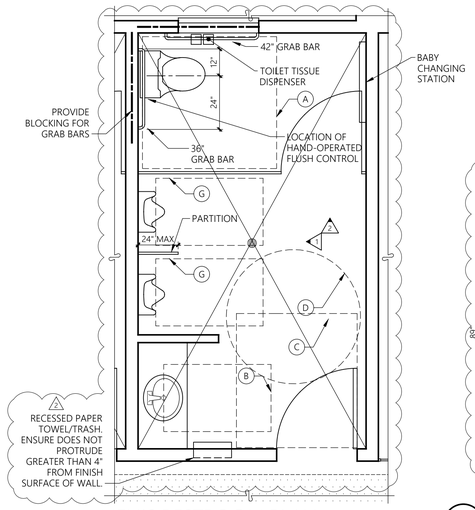
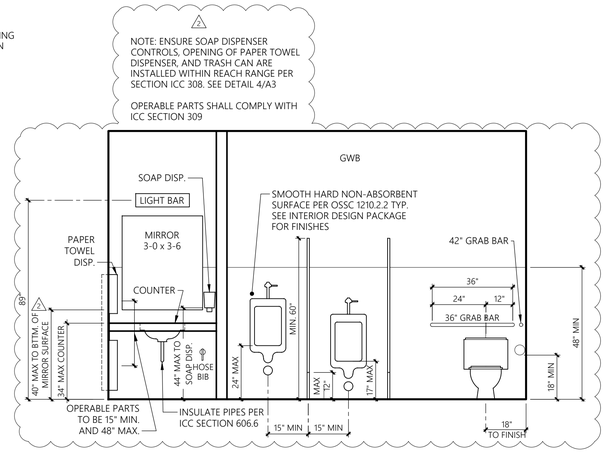
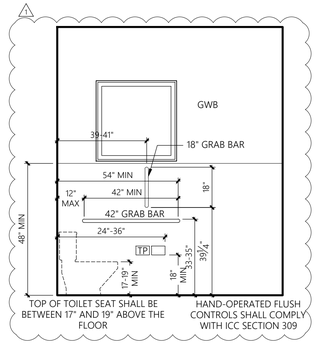


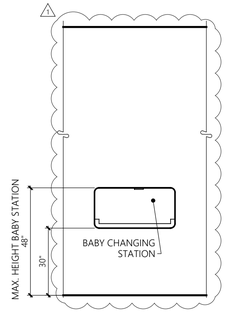
MEN'S RESTROOM PLAN



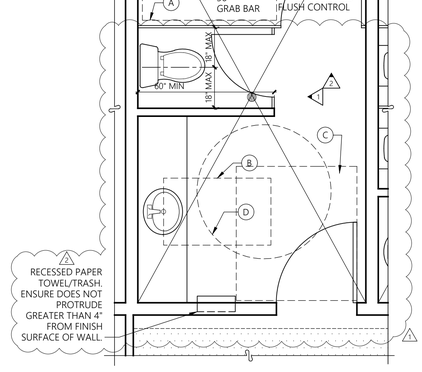
1 MEN'S ROOM



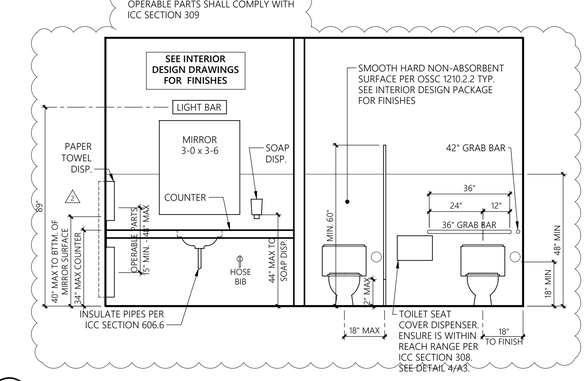
2 MEN'S ROOM



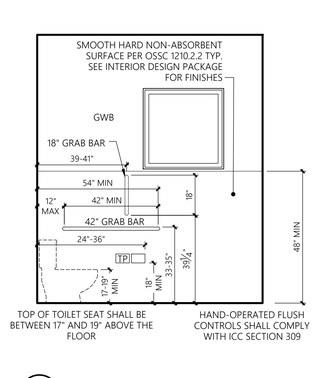
BABY CHANGING STATION



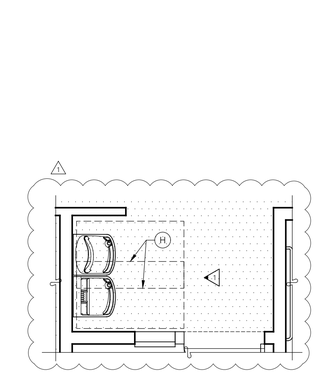
WOMEN'S RESTROOM PLAN



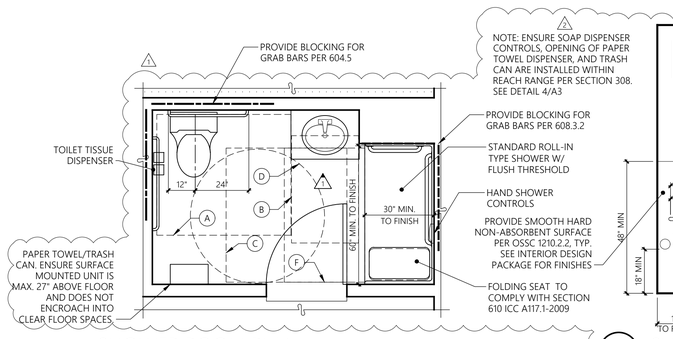
4 WOMEN'S ROOM



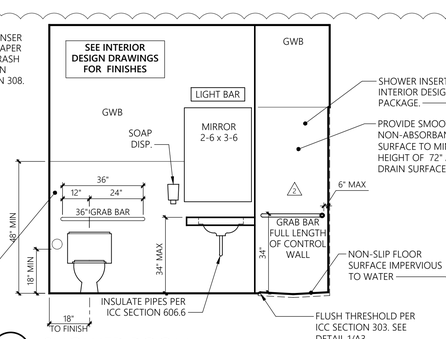
5 WOMEN'S ROOM



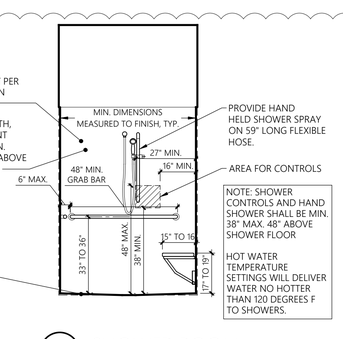
DRINKING FOUNTAIN PLAN 1 DRINKING FOUNTAIN



SHOWER ROOM PLAN



1 SHOWER ROOM



2 SHOWER ROOM

NOTE: SEE SHEET A13 FOR ADA REQUIREMENTS

CLEAR FLOOR SPACE LEGEND

- (A) 59"x60" CLEAR FLOOR SPACE AT TOILET.
- (B) 30"x48" CLEAR FLOOR SPACE CENTERED ON SINK.
- (C) CLEARANCE AT DOOR SWING PER ANSI FIG. 404.2.3.2
- (D) 60" DIAMETER TURNING CIRCLE OR T-SHAPE TURNING SPACE
- (F) 30"x60" CLEAR FLOOR SPACE AT SHOWER.
- (G) 30"x48" CLEAR FLOOR SPACE AT URINAL.
- (H) 30"x48" CLEAR FLOOR SPACE AT DRINKING FOUNTAIN.

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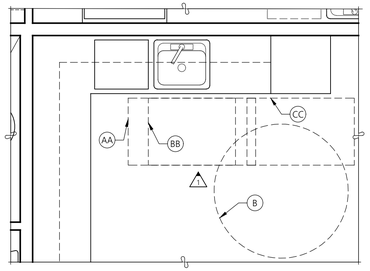
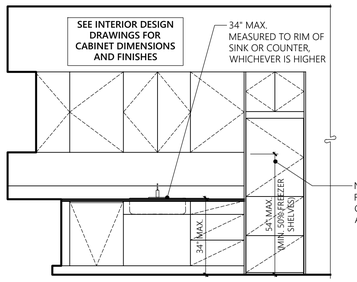
Sheet No.: A11

P:\2306 \CLUBHOUSE \INTERIOR ELEVATIONS.DWG



NOTE: OPERABLE PARTS AND CONTROLS MUST BE LOCATED WITHIN A MIN. 15" AND MAX. 48" HEIGHT RANGE, U.N.O. (PER ICC A117.1 804.5)

PER ICC A117.1 804.5.2, EXCEPTION 2, BOTTOM HINGED APPLIANCE DOORS, WHEN IN THE OPEN POSITION, SHALL NOT BE REQUIRED TO COMPLY WITH THE 15" MIN. REACH RANGE



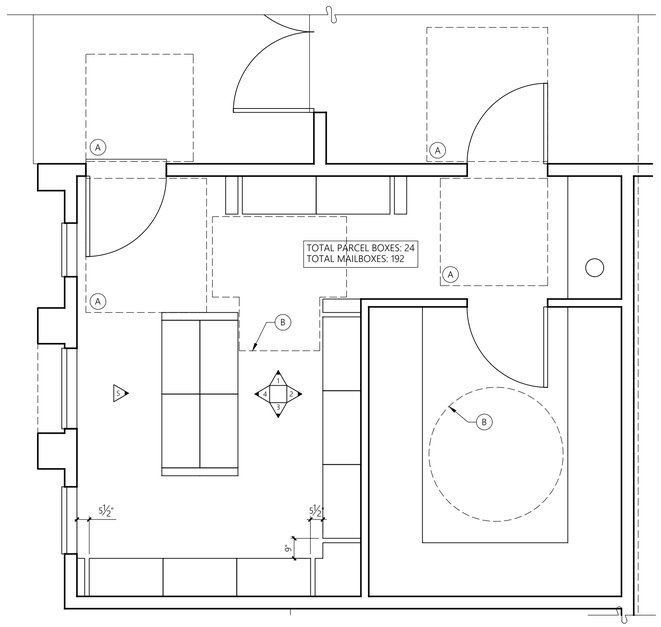
⚠2 LEASING OFFICE KITCHENETTE PLAN

1 LEASING OFFICE KITCHENETTE

NOTE: SEE SHEET A13 FOR ADA REQUIREMENTS

⚠2 CLEAR FLOOR SPACE LEGEND

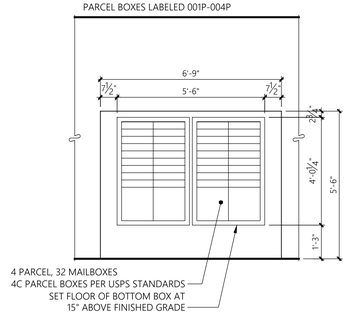
- (A) CLEARANCE AT DOOR SWING PER ANSI FIG. 404.2.3.2
- (B) 60" DIAMETER TURNING CIRCLE OR T-SHAPE TURNING SPACE
- (AA) 30"x48" CLEAR FLOOR SPACE AT SINK.
- (BB) 30"x48" CLEAR FLOOR SPACE AT DISHWASHER.
- (CC) 30"x48" CLEAR FLOOR SPACE AT REFRIGERATOR.



MAIL ROOM PLAN

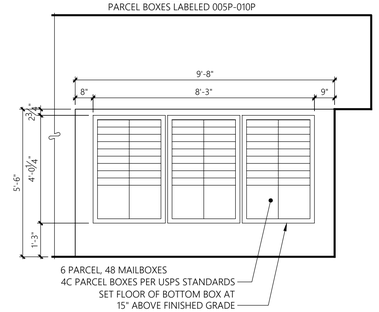
3/8" = 1'-0"

MAILBOXES LABELED 001-032
PARCEL BOXES LABELED 001P-004P



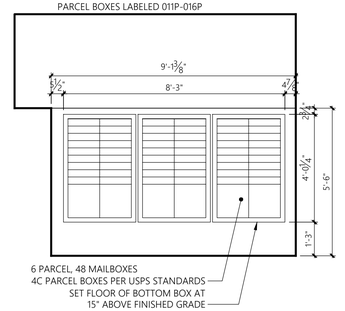
1 MAIL ROOM

MAILBOXES LABELED 033-080
PARCEL BOXES LABELED 005P-010P



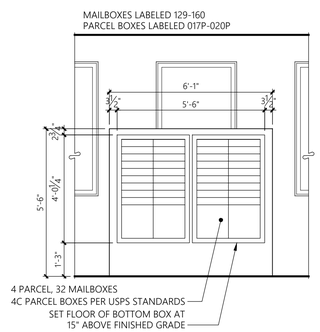
2 MAIL ROOM

MAILBOXES LABELED 081-128
PARCEL BOXES LABELED 011P-016P



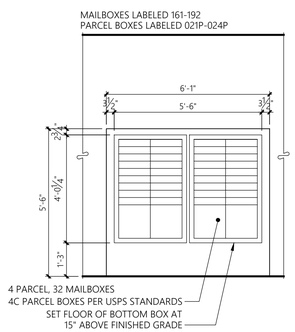
3 MAIL ROOM

MAILBOXES LABELED 129-160
PARCEL BOXES LABELED 017P-020P



4 MAIL ROOM

MAILBOXES LABELED 161-192
PARCEL BOXES LABELED 021P-024P



5 MAIL ROOM

SEE INTERIOR DESIGN DRAWINGS FOR FINISHES

⚠1 SHEET ADDED

MAIL ROOM INTERIOR ELEVATIONS

3/8" = 1'-0"

MILBRANDT ARCHITECTS
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ANNA P. THOMPSON
STATE OF WASHINGTON

Clubhouse
Interior Elevations

Bradley Heights Apartments
Puyallup, Wa

Timberlane Partners

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⚠1	8-30-24	Owner Changes/ Permit Corrections
⚠2	4-24-25	Owner Changes/ Permit Corrections

Initial Publish Date:
Date Plotted: 5-7-25
Job No.: 23-06
Drawn By: APT/HDM
Sheet No.: A12

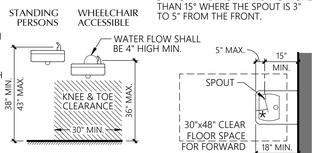
DRINKING FOUNTAIN REQUIREMENTS

IF DRINKING FOUNTAINS ARE PROVIDED, THERE SHALL BE ACCOMMODATIONS FOR BOTH WHEELCHAIR ACCESSIBILITY AND STANDING PERSONS PROVIDED.

DRINKING FOUNTAINS SHALL BE MOUNTED OUTSIDE OF THE PATH OF CIRCULATION OR SUCH THAT THEY MEET THE REQUIREMENTS FOR PROTRUDING OBJECTS. **(See detail 3 ACC sheets)** IF PROVIDED WITHIN AN ALCOVE, IT SHALL BE A MIN. 36" WIDTH BY 24" DEPTH AND COMPLY WITH ICC A117.1 SECTION 305.7

A 30"x48" CLEAR FLOOR SPACE FOR FORWARD APPROACH INCLUDING KNEE AND TOE CLEARANCE **(See detail 2 ACC sheets)** SHALL BE PROVIDED CENTERED ON THE DRINKING FOUNTAIN FOR WHEELCHAIR USE ONLY.

* IF THE WATER FLOW IS ANGLED AWAY FROM THE FACE OF THE DRINKING FOUNTAIN IT SHALL BE NO MORE THAN 30° IF THE SPOUT IS LESS THAN 3" FROM THE FRONT AND NO MORE THAN 15° WHERE THE SPOUT IS 3" TO 5" FROM THE FRONT.



13 DRINKING FOUNTAINS

3/8"=1'-0"

PUBLIC TOILET AND BATHING ROOMS

TURNING SPACE: A 60" TURNING SPACE SHALL BE PROVIDED WITHIN THE ROOM. THE REQUIRED TURNING SPACE SHALL NOT BE WITHIN A TOILET COMPARTMENT.

DOOR SWING: DOORS SHALL NOT SWING INTO THE CLEAR FLOOR SPACE OR CLEARANCE REQUIRED FOR ANY FIXTURE. EXCEPT WHERE THE ROOM IS FOR INDIVIDUAL USE AND A 30"x48" CLEAR FLOOR SPACE IS PROVIDED WITHIN THE ROOM OUTSIDE THE DOOR SWING.

MIRRORS: MIRRORS ABOVE LAVATORIES SHALL HAVE THE BOTTOM EDGE AT 40" MAX. ABOVE THE FLOOR. IF NOT ABOVE LAVATORIES THAN THE BOTTOM EDGE IS TO BE 35" MAX. ABOVE THE FLOOR.

FLOOR SURFACES: FLOOR FINISH MATERIALS IN TOILET AND BATHING ROOMS SHALL HAVE A SMOOTH, HARD, NONABSORBENT SURFACE. THIS SURFACE SHALL EXTEND UP ONTO THE WALLS TO A HEIGHT OF NOT LESS THAN 4".

WALL SURFACES: WALLS AND PARTITIONS WITHIN 2'-0" OF SERVICE SINKS, URINALS AND WATER CLOSETS SHALL HAVE A SMOOTH, HARD, NONABSORBENT SURFACE TO A HEIGHT OF NOT LESS THAN 4'-0" ABOVE THE FLOOR.

ACCESSORIES

OPERABLE PARTS ON DRYING EQUIPMENT, TOWEL OR CLEANSING PRODUCT DISPENSERS, AND DISPOSAL FIXTURES SHALL COMPLY WITH THE FOLLOWING TABLE.

MAX. REACH DEPTH	5"	2"	5"	6"	9"	11"
MAX. REACH HEIGHT	48"	46"	42"	40"	36"	34"

GRAB BARS

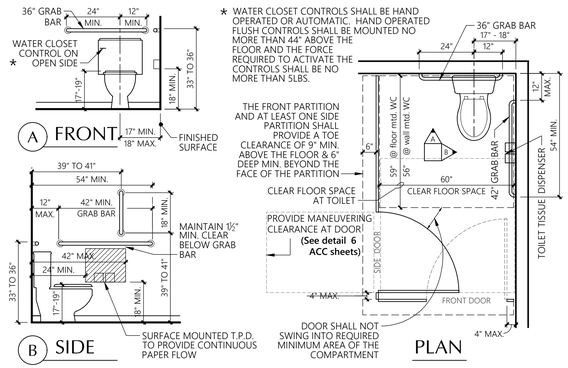
CIRCULAR CROSS SECTIONS SHALL HAVE AN OUTSIDE DIAMETER OF 1¼" TO 2". GRAB BARS SHALL BE SPACED 1½" AWAY FROM THE WALL OR PROTRUDING OBJECTS BELOW AND 12" FROM PROTRUDING OBJECTS ABOVE.

HEIGHT OF GRAB BARS IS TO BE BETWEEN 33" & 36" A.F.F.

MATERIALS AND FASTENERS SHALL WITHSTAND A 250 lb FORCE APPLIED AT ANY POINT ON THE GRAB BAR.

14 PUBLIC TOILET AND BATHING ROOMS

NTS



15 WATER CLOSET / TOILET COMPARTMENT

3/8"=1'-0"

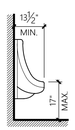
ADDITIONAL URINAL REQUIREMENTS

URINALS SHALL BE EITHER WALL-HUNG OR STALL TYPE.

URINAL FLUSH CONTROLS SHALL BE HAND OPERATED OR AUTOMATIC. HAND OPERATED FLUSH CONTROLS SHALL BE MOUNTED WITHIN THE ACCESSIBLE REACH RANGES **(See detail 4 ACC sheets)** AND THE FORCE REQUIRED TO ACTIVATE THE CONTROLS SHALL BE NO MORE THAN 5 lbs.

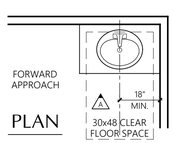
A 30"X48" CLEAR FLOOR SPACE FOR FORWARD APPROACH SHALL BE PROVIDED CENTERED URINAL.

WHERE THE URINAL IS MOUNTED WITHIN AN ALCOVE WHERE THE SIDES ARE MORE THAN 24" DEEP THE MANEUVERING SPACE SHALL BE INCREASED TO 36"x48" (SEE ICC A117.1 SECTION 305.7.2)

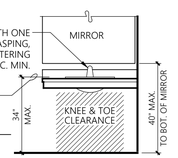


16 URINALS

3/8"=1'-0"



FAUCET CONTROLS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. METERING FAUCETS SHALL REMAIN OPEN FOR 10 SEC. MIN.

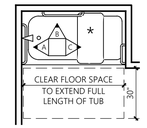


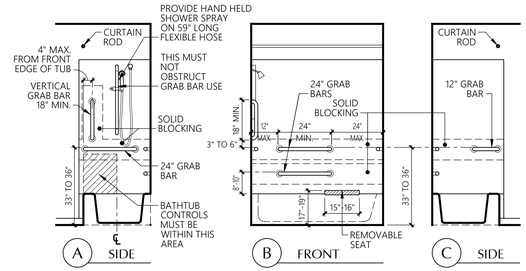
17 LAVATORIES AND SINKS

3/8"=1'-0"

* A PERMANENT SEAT AT THE HEAD END OF THE BATHTUB OR A REMOVABLE IN-TUB SEAT SHALL BE PROVIDED.

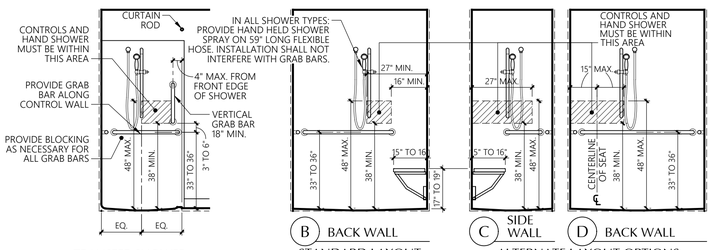
NOTE: ONLY REMOVABLE SEAT OPTION IS SHOWN FOR CLARITY.

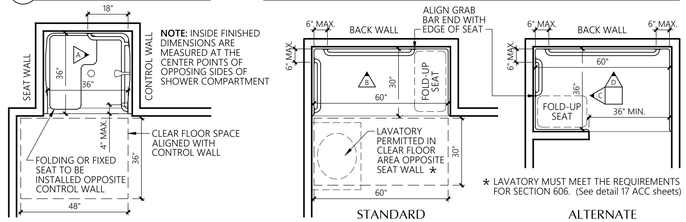




18 BATHTUB & TUB / SHOWER COMBO

3/8"=1'-0"





19 SHOWER COMPARTMENTS

3/8"=1'-0"

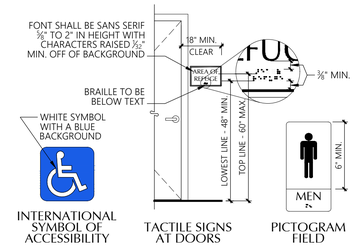
SIGNS

GENERAL: ACCESSIBLE SIGNS AND INTERIOR & EXTERIOR SIGNS IDENTIFYING PERMANENT ROOMS AND SPACES SHALL CONTAIN BOTH VISUAL AND RAISED CHARACTERS. SIGNS THAT PROVIDE DIRECTION TO OR INFORMATION ABOUT INTERIOR SPACES & FACILITIES ONLY NEED TO PROVIDE VISUAL CHARACTERS.

PICTOGRAMS: PICTOGRAMS SHALL HAVE VISUAL AND RAISED CHARACTER TEXT DESCRIPTORS LOCATED DIRECTLY BELOW THE PICTOGRAM FIELD. PICTOGRAMS SHALL HAVE A FIELD 6" MIN. IN HEIGHT. CHARACTERS OR BRAILLE SHALL NOT BE LOCATED IN THE PICTOGRAM FIELD. THEY SHALL HAVE A NON-GLARE FINISH AND THEY SHALL CONTRAST WITH THE FIELD EITHER LIGHT ON DARK OR DARK ON LIGHT.

VISUAL AND RAISED CHARACTERS: RAISED CHARACTERS SHALL BE RAISED ⅛" MIN. ABOVE THE BACKGROUND. RAISED CHARACTERS SHALL ALL BE UPPERCASE WITH A FONT THAT IS SANS SERIF. ALL CHARACTERS SHALL NOT BE ITALIC, OBLIQUE, SCRIPT, HIGHLY DECORATIVE, OR OF OTHER UNUSUAL FORMS. CHARACTERS TO BE MOUNTED AT A HEIGHT OF 40" TO 70" AND TO BE READ AT A DISTANCE OF LESS THAN 15 FEET SHALL BE ⅝" TO 2" IN HEIGHT.

SYMBOLS: WHERE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY IS REQUIRED, IT SHALL BE PROPORTIONED AS SHOWN HERE AND SHALL BE WHITE WITH A BLUE BACKGROUND.



21 SIGNS

NTS

COMMUNICATION ELEMENTS

CHAPTER 7

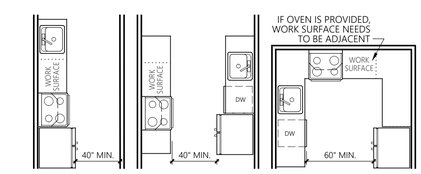
KITCHENS

CLEARANCE: CLEARANCE BETWEEN ALL OPPOSING BASE CABINETS, COUNTER TOPS, APPLIANCES, OR WALLS IN KITCHEN WORK AREAS SHALL BE 40" MIN. OR 60" MIN. AT U-SHAPED KITCHENS.

WORK SURFACE: AT LEAST ONE SECTION OF COUNTER SHALL PROVIDE A WORK SURFACE 30" MIN. IN LENGTH & 28" MIN. TO 34" MAX. IN HEIGHT. A 30"x48" CLEAR FLOOR SPACE SHALL BE PROVIDED FOR A FORWARD APPROACH WITH KNEE AND TOE CLEARANCE PROVIDED. NO CABINETRY SHALL BE PERMITTED UNDER THE WORK SURFACE. SPACES THAT DO NOT PROVIDE A COOKTOP OR RANGE SHALL NOT BE REQUIRED TO PROVIDE A WORK SURFACE

SINK: A SINK AT 34" MAX. HEIGHT WITH A 30"x48" CLEAR FLOOR SPACE SHALL BE PROVIDED FOR A FORWARD APPROACH (NOT NECESSARILY CENTERED ON THE SINK) WITH KNEE AND TOE CLEARANCE. NOTE: THE KNEE AND TOE CLEARANCE ONLY NEEDS TO APPLY TO ONE BOWL OF A MULTI-BOWL SINK.

A PARALLEL APPROACH TO THE SINK AND CABINETRY MAY BE PROVIDED TO THE SINK WHERE A COOKTOP OR CONVENTIONAL RANGE IS NOT PROVIDED.



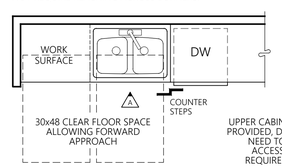
APPLIANCES

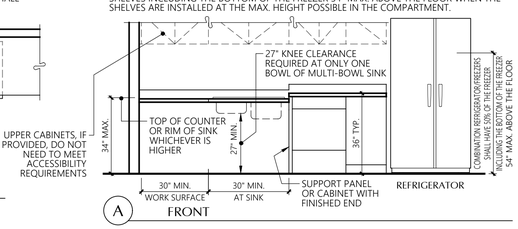
DISHWASHER: A 30"x48" CLEAR FLOOR SPACE SHALL BE POSITIONED ADJACENT TO THE DISHWASHER DOOR SUCH THAT THE DOOR IN THE OPEN POSITION DOES NOT OBSTRUCT THE CLEAR FLOOR SPACE FOR THE DISHWASHER OR AN ADJACENT SINK.

COOKTOP: A 30"x48" CLEAR FLOOR SPACE SHALL BE PROVIDED FOR A PARALLEL APPROACH CENTERED ON THE APPLIANCE. THE LOCATION OF CONTROLS SHALL NOT REQUIRE REACHING ACROSS BURNERS.

OVEN: A CLEAR FLOOR SPACE SHALL BE POSITIONED ADJACENT TO THE OVEN DOOR SUCH THAT THE DOOR IN THE OPEN POSITION DOES NOT OBSTRUCT THE CLEAR FLOOR SPACE. A WORK SURFACE SHALL BE LOCATED ADJACENT TO ONE SIDE OF THE OVEN. THE LOCATION OF CONTROLS SHALL NOT REQUIRE REACHING ACROSS BURNERS.

REFRIGERATOR/FREEZER: A CLEAR FLOOR SPACE SHALL BE PROVIDED FOR A PARALLEL APPROACH OFFSET 24" MAX. FROM THE CENTERLINE OF THE APPLIANCE. COMBINATION REFRIGERATORS AND FREEZERS SHALL HAVE AT LEAST 50% OF THE FREEZER COMPARTMENT SHELVES INCLUDING THE BOTTOM OF THE FREEZER 54" MAX. ABOVE THE FLOOR WHEN THE SHELVES ARE INSTALLED AT THE MAX. HEIGHT POSSIBLE IN THE COMPARTMENT.





22 PUBLIC KITCHENS & KITCHENETTES

3/8"=1'-0"

PLUMBING ELEMENTS AND FACILITIES

CHAPTER 6

SPECIAL ROOMS AND SPACES

CHAPTER 8

MILBRANDT ARCHITECTS
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ANNA P. THOMPSON
STATE OF WASHINGTON

Clubhouse
Accessibility Standards

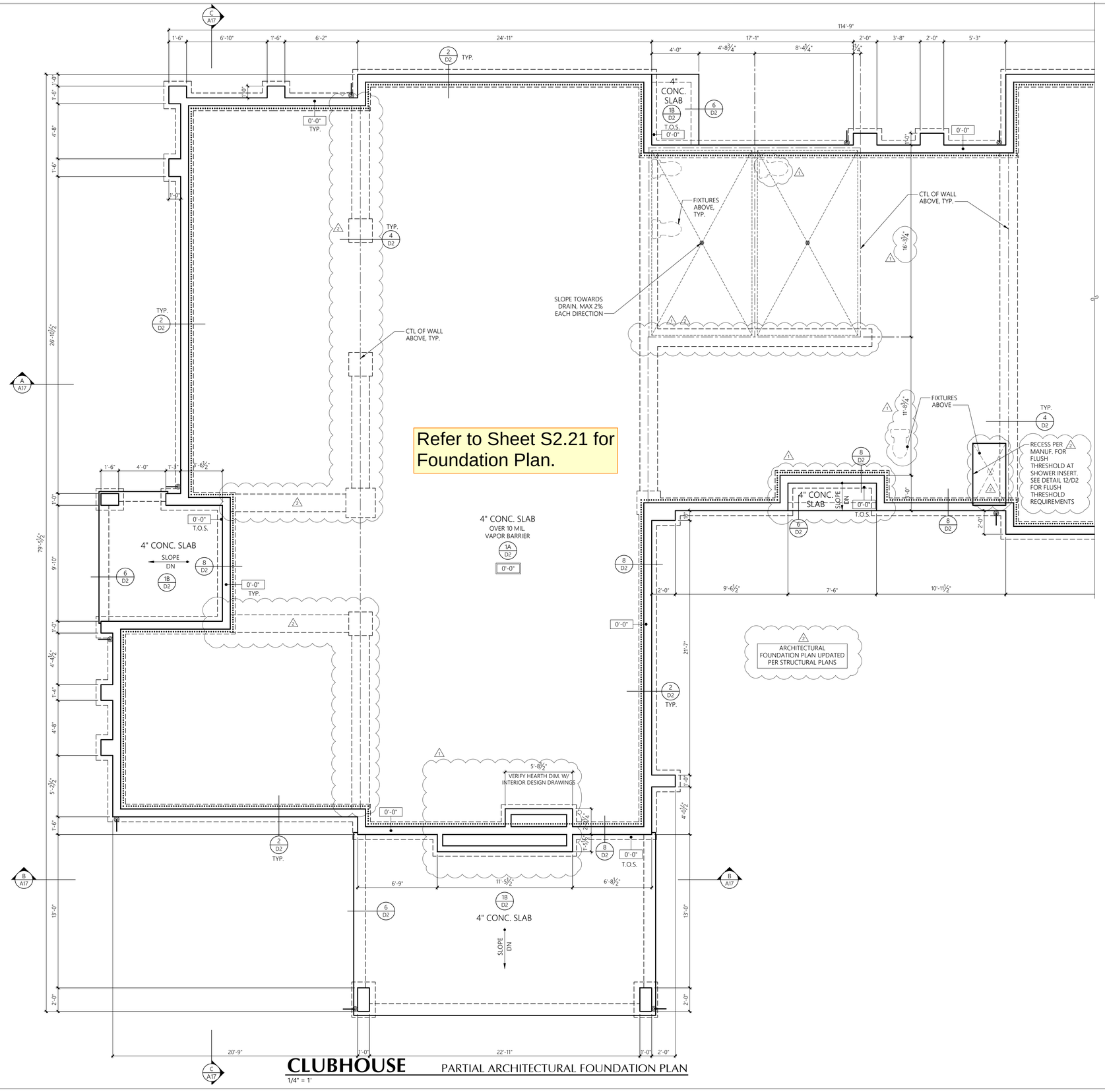
Bradley Heights Apartments
Puyallup, Wa

Timberlane Partners

Revisions

No.	Date	Description
1	8-30-24	Owner Changes/ Permit Corrections

Initial Publish Date:
Date Plotted: 5-7-25
Job No.: 23-06
Drawn By: APT/HDM
Sheet No.: A13



CLUBHOUSE PARTIAL ARCHITECTURAL FOUNDATION PLAN

1/4" = 1'

FOUNDATION NOTES

- 0'-0" — ELEVATION AT TOP OF CONCRETE
- 0'-0" — FINISH SLAB ELEVATION
- R-10 PERIMETER INSULATION 1
- LOCATION OF DOWNSPOUT. PROVIDE TIGHTLINE AND RISER BOOT
- SEE SHEET S2.21 FOR STRUCTURAL FOUNDATION PLAN. 1

P:\2306 CLUBHOUSE\CLUBHOUSE.DWG

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STATE OF WASHINGTON

Clubhouse

Partial Architectural Foundation Plan

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2	4-24-25	Owner Changes/ Permit Corrections

Initial Publish Date:

Date Plotted: 5-7-25

Job No.: 23-06

Drawn By: APT/HDM

Sheet No.: 1 A14

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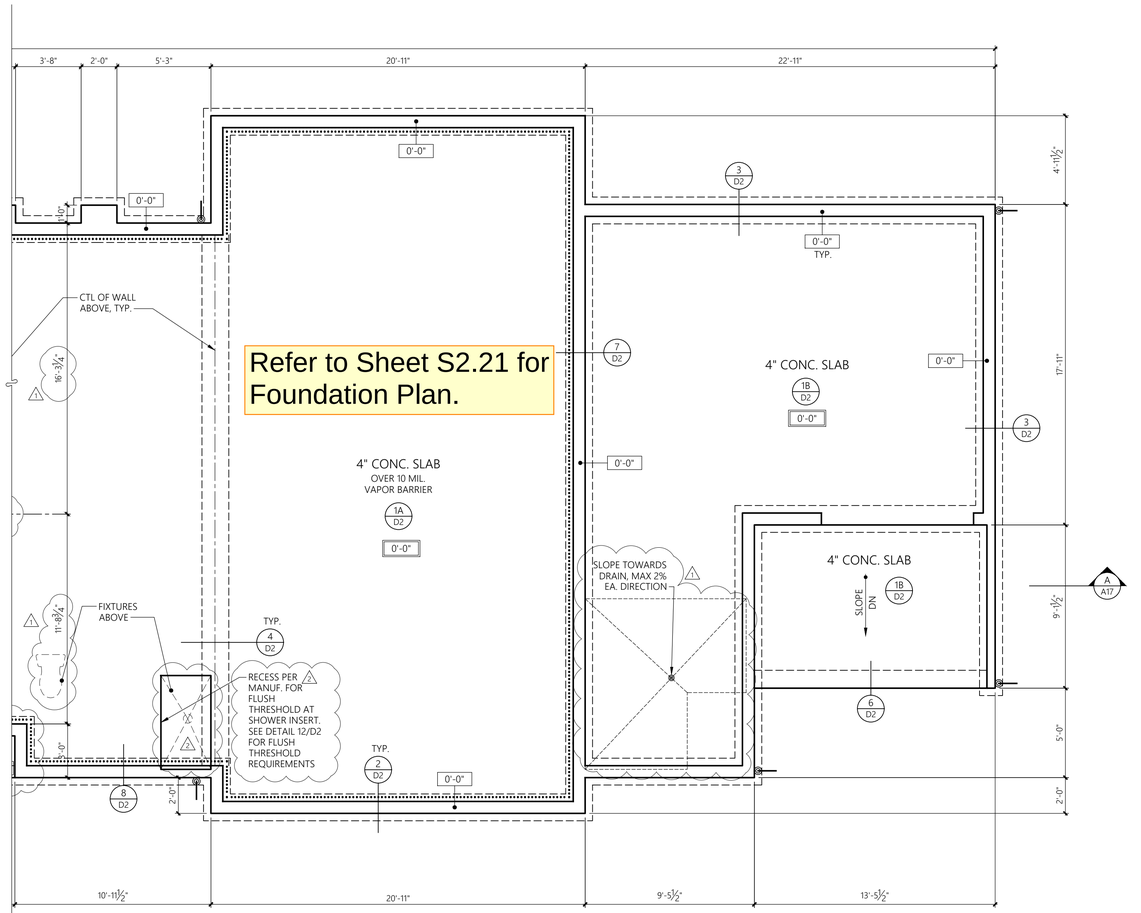

CLUBHOUSE PARTIAL ARCHITECTURAL FOUNDATION PLAN

1/4" = 1'

FOUNDATION NOTES

- 0'-0" — ELEVATION AT TOP OF CONCRETE
- 0'-0" — FINISH SLAB ELEVATION
- R-10 PERIMETER INSULATION ⚠1
- LOCATION OF DOWNSPOUT: PROVIDE TIGHTLINE AND RISER BOOT
- SEE SHEET S2.21 FOR STRUCTURAL FOUNDATION PLAN. ⚠1

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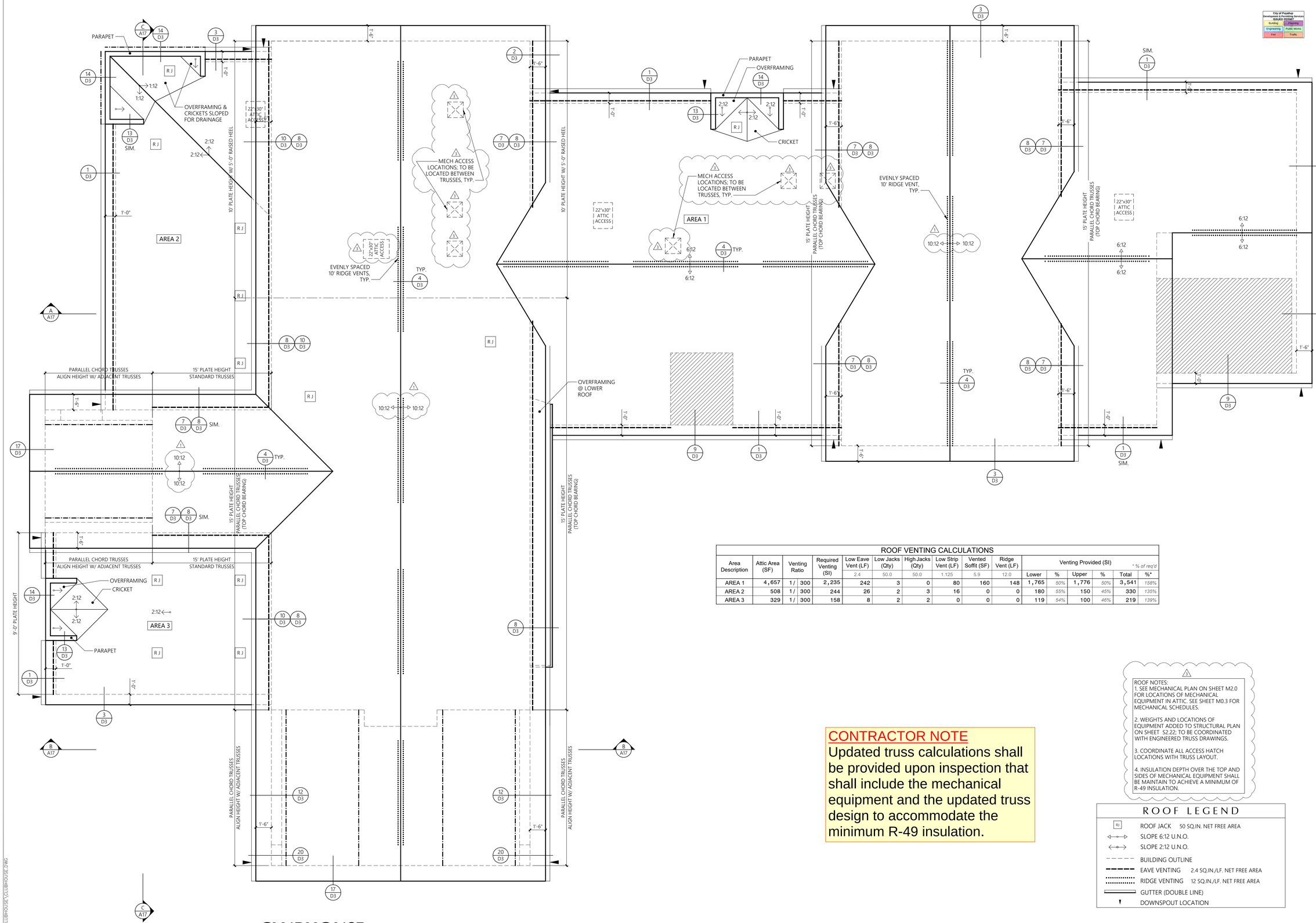
Job No.: 23-06
Drawn By: APT/HDM
Sheet No.: ⚠1 A15



CLUBHOUSE

ROOF PLAN

1/4" = 1'

ROOF VENTING CALCULATIONS

Area Description	Attic Area (SF)	Venting Ratio	Required Venting (SI)	Low Eave Vent (LF)	Low Jacks (Qty)	High Jacks (Qty)	Low Strip Vent (LF)	Vented Soffit (SF)	Ridge Vent (LF)	Venting Provided (SI)					* % of req'd
				2.4	50.0	50.0	1.125	5.9	12.0	Lower	%	Upper	%	Total	%*
AREA 1	4,657	1/ 300	2,235	242	3	0	80	160	148	1,765	*50%*	1,776	*50%*	3,541	*158%*
AREA 2	508	1/ 300	244	26	2	3	16	0	0	180	*55%*	150	*45%*	330	*135%*
AREA 3	329	1/ 300	158	8	2	2	0	0	0	119	*54%*	100	*46%*	219	*139%*

CONTRACTOR NOTE

Updated truss calculations shall be provided upon inspection that shall include the mechanical equipment and the updated truss design to accommodate the minimum R-49 insulation.

ROOF NOTES:
1. SEE MECHANICAL PLAN ON SHEET M2.0 FOR LOCATIONS OF MECHANICAL EQUIPMENT IN ATTIC. SEE SHEET M0.3 FOR MECHANICAL SCHEDULES.

2. WEIGHTS AND LOCATIONS OF EQUIPMENT ADDED TO STRUCTURAL PLAN ON SHEET S2.22, TO BE COORDINATED WITH ENGINEERED TRUSS DRAWINGS.

3. COORDINATE ALL ACCESS HATCH LOCATIONS WITH TRUSS LAYOUT.

4. INSULATION DEPTH OVER THE TOP AND SIDES OF MECHANICAL EQUIPMENT SHALL BE MAINTAIN TO ACHIEVE A MINIMUM OF R-49 INSULATION.

ROOF LEGEND

- RJ — ROOF JACK 50 SQ.IN. NET FREE AREA
- SLOPE 6:12 U.N.O.
- SLOPE 2:12 U.N.O.
- BUILDING OUTLINE
- EAVE VENTING 2.4 SQ.IN./LF. NET FREE AREA
- RIDGE VENTING 12 SQ.IN./LF. NET FREE AREA
- GUTTER (DOUBLE LINE)
- DOWNSPOUT LOCATION

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Clubhouse

Roof Plan

Bradley Heights Apartments

Puyallup, Wa

Timberlane Partners

Revisions

No.	Date	Description
1	8-30-24	Owner Changes/ Permit Corrections
2	5-28-25	Permit Corrections

Initial Publish Date:

Date Plotted: 5-28-25

Job No.: 23-06

Drawn By: APT/HDM

Sheet No.: A16

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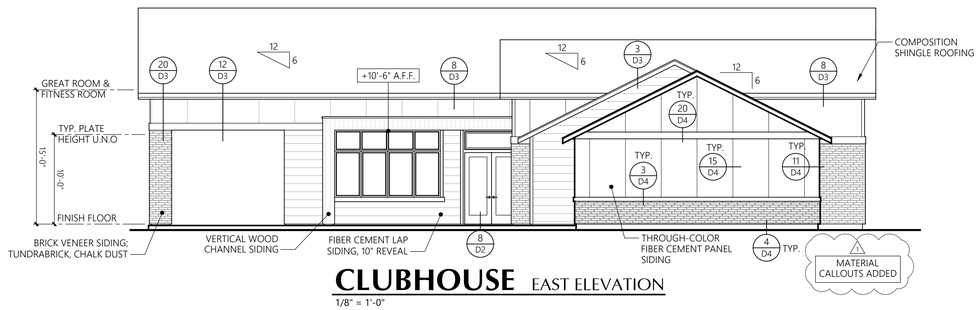
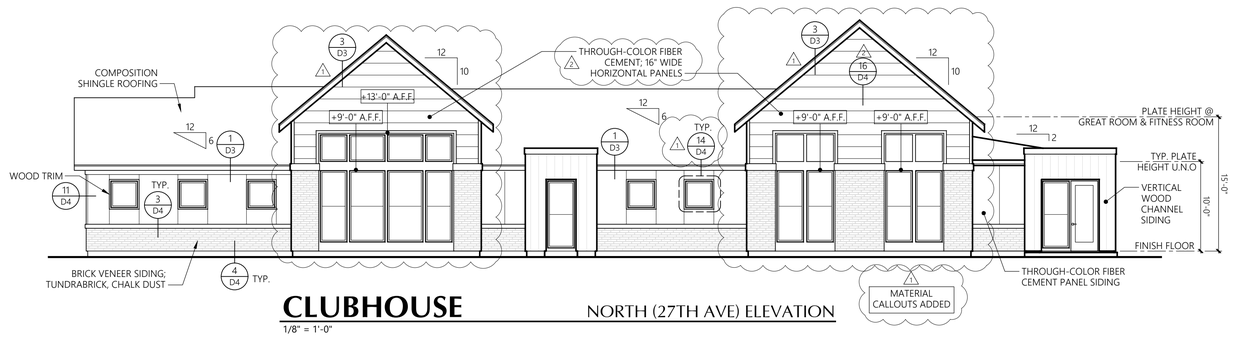


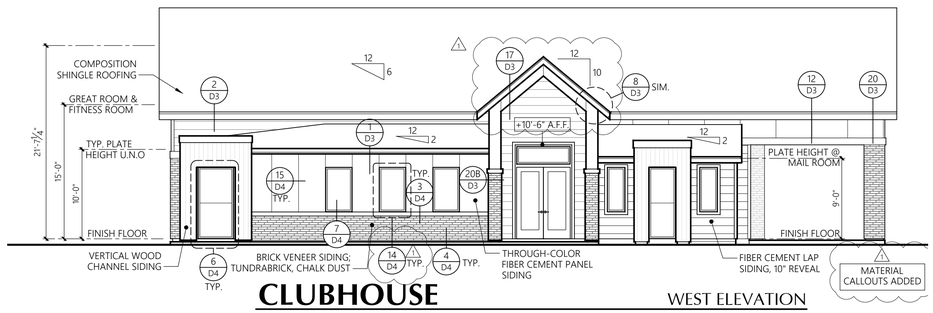
CLUBHOUSE EAST ELEVATION

1/8" = 1'-0"



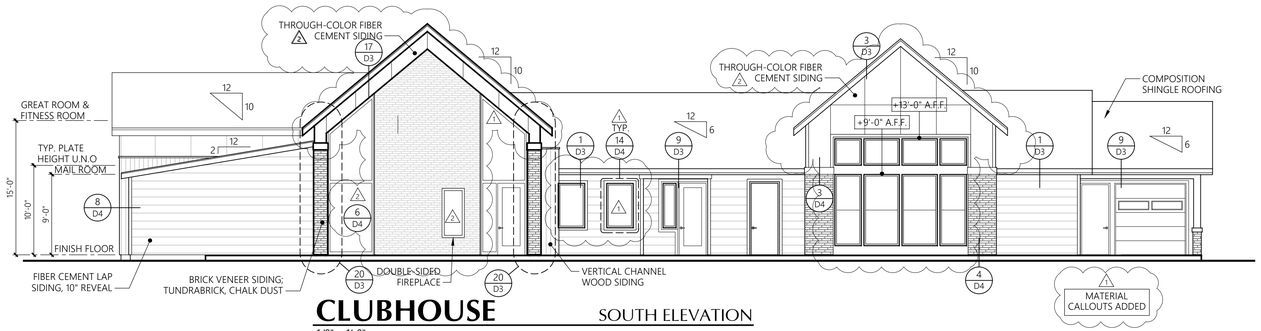
CLUBHOUSE NORTH (27TH AVE) ELEVATION

1/8" = 1'-0"



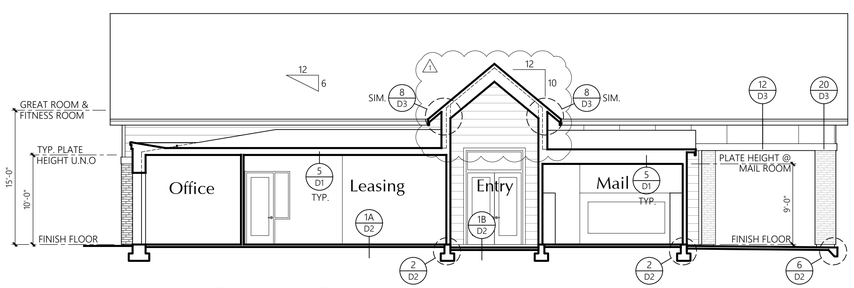
CLUBHOUSE WEST ELEVATION

1/8" = 1'-0"



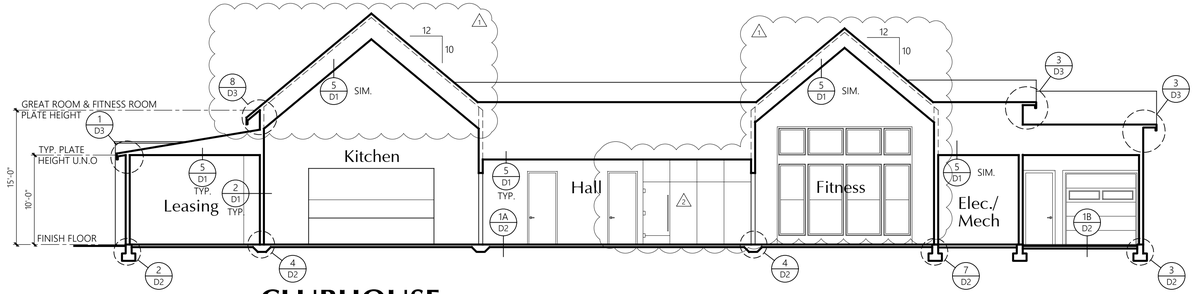
CLUBHOUSE SOUTH ELEVATION

1/8" = 1'-0"



CLUBHOUSE SECTION C

1/8" = 1'-0"

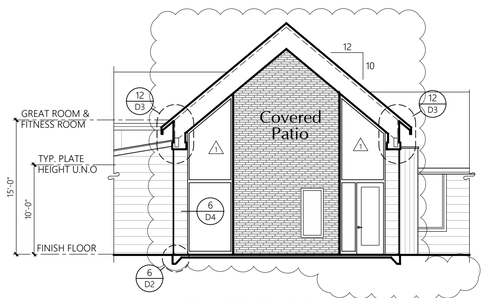


CLUBHOUSE SECTION A

1/8" = 1'-0"

CONTRACTOR NOTE

Studs shall be continuous from support at sole plate to a support at the top plate, per Washington State Building Code 2308.5.1



CLUBHOUSE SECTION B

1/8" = 1'-0"

SEE SHEET A18 FOR 27TH AVE. MATERIAL LEGEND AND AREAS

WINDOW HDR IS 8'-0" A.F.F. U.N.O. WITH [X-X] ON ELEVATIONS
PLATE HEIGHT IS 10'-0" A.F.F. U.N.O. ON PLANS / SECTIONS

City of Puyallup Development & Permitting Services
ISSUED PERMIT
Building | Planning
Engineering | Public Works
Fire | Traffic

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STATE OF WASHINGTON

Clubhouse
Exterior Elevations and Building Sections

Bradley Heights Apartments
Puyallup, Wa

Timberlane Partners

Revisions

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1	8-30-24	Owner Changes/ Permit Corrections
2	4-24-25	Owner Changes/ Permit Corrections

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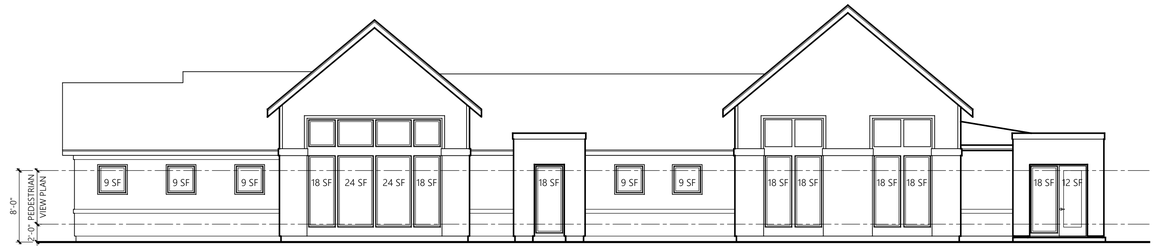
Date Plotted: 5-7-25
Job No.: 23-06
Drawn By: APT/HDM
Sheet No.: A17



CLUBHOUSE GROUND LEVEL TRANSPARENCY DIAGRAM
1/8" = 1'-0" NORTH (27TH AVE) ELEVATION

GLAZING CALCULATIONS WITHIN THE PEDESTRIAN VIEW PLANE

AREA OF ELEVATION: 690 SF
AREA OF GLAZING: 241.5 SF
PERCENTAGE OF GLAZING: 35%

Clubhouse Material Legend and Areas

HIGH QUALITY MATERIALS

TRIM
All trim on North (27th Ave) Elevation to be Cedar wood trim

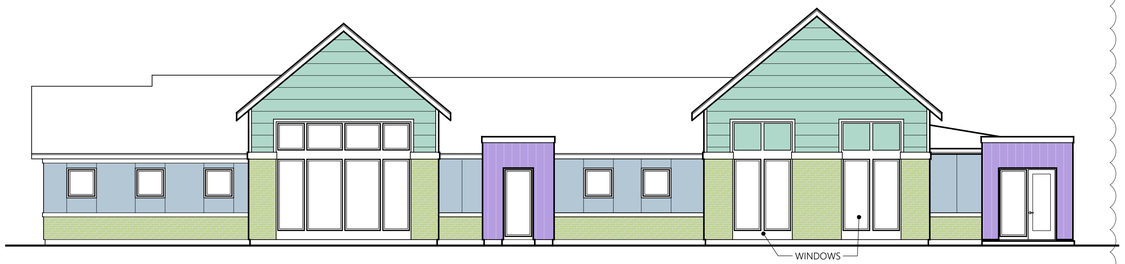
BRICK VENEER SIDING
TundraBrick, Chalk Dust
Total Area: 291 SF (29%)

THROUGH-COLOR FIBER CEMENT SIDING
Equitone Natura, N412
Panels with breaks per elevations
Total Area: 240 SF (24%)

WOOD ACCENT SIDING
Montana Timber, Aquifer Smooth "Brown"
2x6 Vertical Channel Siding w/.25" reveal,
Total Area: 111 SF (11%)

THROUGH-COLOR FIBER CEMENT SIDING
Equitone Natura, N163
16" wide horizontal panels
Total Area: 361 SF (36%)

Total Area: 1,003 SF



CLUBHOUSE MATERIAL AREAS DIAGRAM ⚠1
1/8" = 1'-0" NORTH (27TH AVE) ELEVATION

⚠1 SHEET ADDED

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Clubhouse
Design Review Diagrams

Bradley Heights Apartments
Puyallup, Wa

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Revisions

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Structural Notes

1.0 GENERAL

THESE STRUCTURAL NOTES SUPPLEMENT THE SPECIFICATIONS, ANY DISCREPANCY FOUND AMONG THE DRAWINGS, SPECIFICATIONS, THESE NOTES, AND THE SITE CONDITIONS SHALL BE REPORTED TO THE ARCHITECT, WHO SHALL CORRECT SUCH DISCREPANCY IN WRITING. ANY WORK DONE BY THE CONTRACTOR AFTER DISCOVERY OF SUCH DISCREPANCY SHALL BE DONE AT THE CONTRACTOR'S RISK. THE CONTRACTOR SHALL VERIFY AND COORDINATE THE DIMENSIONS AMONG ALL DRAWINGS PRIOR TO PROCEEDING WITH ANY WORK OR FABRICATION. THE CONTRACTOR IS RESPONSIBLE FOR ALL BRACING AND SHORING DURING CONSTRUCTION.

1.1 CODES

ALL METHODS, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF THE 2018 INTERNATIONAL BUILDING CODE (IBC), AS AMENDED AND ADOPTED BY THE STATE OF WASHINGTON; A.C.I. 318–14; A.I.S.C. 14TH EDITION; AWS D1.1–06; A.I.T.C. 2ND EDITION; NDS 2018 WITH 2018 WIND & SEISMIC PROVISIONS AND A.I.S.I 2012 EDITION.

1.2 DESIGN CRITERIA

A. VERTICAL LOADS

1. LIVE LOADS

ROOF (SNOW) Is = 1.0	25 PSF
FLOORS (RESIDENTIAL)	40 PSF
DECKS (RESIDENTIAL POST/BM SUPPORT)	60 PSF
STAIRS/EXITS	100 PSF

2. DEAD LOADS

ROOF	22 PSF
FLOORS (RESIDENTIAL)	26 PSF
DECKS	47 PSF
BREEZEWAY	47 PSF

B. LATERAL LOADS:

LATERAL FORCES ARE TRANSMITTED BY DIAPHRAGM ACTION OF THE FLOORS TO SHEAR WALLS. LOADS ARE THEN TRANSFERRED TO THE FOOTINGS, WHERE ULTIMATE DISPLACEMENT IS RESISTED BY PASSIVE PRESSURE OF EARTH AND SLIDING FRICTION OF EARTH. OVERTURNING IS RESISTED BY THE DEAD LOAD OF THE STRUCTURE.

1. WIND:
   EXPOSURE B
   ELEVATION = 386 FEET
   BASIC WIND SPEED = 97 M.P.H. (3 SECOND GUST, ULTIMATE).
   IMPORTANCE FACTOR, Iw = 1.0
   SIMPLE DIAPHRAGM BUILDING, ENCLOSED
   Kzt = 1.0

2. SEISMIC:
   IMPORTANCE FACTOR, IE = 1.0 OCCUPANCY CATEGORY II
   MAPPED SPECTRAL RESPONSE COEFFICIENTS, Ss = 1.263 AND S1 = 0.435
   SOIL SITE CLASS = C
   SPECTRAL RESPONSE COEFFICIENTS, SDs = 1.010 AND SD1 = 0.435
   SEISMIC DESIGN CATEGORY = D
   SEISMIC RESPONSE COEFFICIENT Cs = 0.2021 (ULTIMATE STRENGTH)
   RESPONSE MODIFICATION FACTOR R = 6.5

1.3 SHOP DRAWINGS

SUBMIT SUFFICIENT COPIES OF SHOP DRAWINGS TO ARCHITECT/ENGINEER FOR THE FOLLOWING:

1. REINFORCING STEEL (CONCRETE / MASONRY)
2. CONCRETE / GROUT MIX DESIGNS (CONCRETE / MASONRY)
3. COMPOSITE FLOOR/ROOF JOISTS
4. P.E. ROOF/FLOOR TRUSSES
5. GLUE–LAMINATED MEMBERS

DO NOT FABRICATE PRIOR TO ARCHITECT'S/ENGINEER'S APPROVAL. ALL SHOP DRAWINGS SUBMITTED TO THE ENGINEER SHALL BEAR THE STAMPED APPROVAL OF THE CONTRACTOR. SHOP DRAWING APPROVAL BY ANDERSONCHASE STRUCTURAL ENGINEERS SHALL NOT IMPLY THAT THE PROJECT MAY BE BUILT FROM THE SHOP DRAWINGS. RATHER, THE PROJECT PLANS SHALL BE USED FOR CONSTRUCTION. ALL PERMANENT BRACING FOR TRUSSES SHALL BE DETAILED AND DESIGNED BY THE TRUSS SUPPLIER. CONTRACTOR SHALL REVIEW SHOP DRAWINGS AND STAMP INDICATING THIS PRIOR TO REVIEW BY ENGINEER OF RECORD.

2.0 SITE WORK

2.1 SOIL DATA (PER GEOTECHNICAL REPORT DATED FEBRUARY 10, 2022
PREPARED BY GEO RESOURCES #0419036006

FOR LOCATIONS SEE SOILS REPORT. SOIL BEARING @ CONT. SPREAD FOOTINGS = 2000 PSF. ACTIVE AND PASSIVE PRESSURES ARE 35 PCF AND 300 PCF RESPECTIVELY. WHERE GEOTECHNICAL REPORT HAS NOT BEEN PROVIDED, THE ABOVE VALUES ARE ASSUMED AND THESE VALUES SHALL BE FIELD VERIFIED.

2.2 EXCAVATION

EXCAVATE PER GEOTECH REPORT, PROOFROLL SUBGRADES TO ATLEAST 92% MDD PER ASTM D1557 TEST METHOD FOR FOOTINGS DOWN TO DEPTH SHOWN ON DRAWINGS OR TO FIRM UNDISTURBED MATERIAL. AREAS OVER–EXCAVATED SHALL BE BACKFILLED WITH LEAN CONCRETE (f'c = 2000 PSI), OR BE STRUCTURALLY FILLED PER SECTION 2.3 AND SHALL BE AT THE CONTRACTOR'S EXPENSE.

2.3 BACKFILL AND COMPACTION

BACKFILL SHALL NOT BE PLACED UNTIL AFTER THE REMOVAL OF ALL FORMS, SCREEDS, OTHER WOOD DEBRIS AND MATERIAL SUBJECT TO ROT OR CORROSION. USE ONLY MATERIALS APPROVED FOR BACKFILL. IN AREAS UNDER SLABS OR FOOTINGS, MATERIAL SHOULD BE GRANULAR IN NATURE, PLACED IN 6–INCH LIFTS AND COMPACTED TO AT LEAST 95% OF MAXIMUM DRY DENSITY AS DETERMINED BY AASHTO COMPACTION TEST, PROCEDURE T–180. THE FILL SHOULD BE LIMITED TO CLEAN, GRANULAR MATERIAL.

3.0 CONCRETE

3.1 GENERAL

NORMAL WEIGHT CONCRETE MEETING THE REQUIREMENTS OF ACI 301–05 ESTABLISH PROPORTIONS OF CEMENT, COARSE AND FINE AGGREGATES, WATER, AND ADMIXTURES TO PRODUCE THE PROPERTIES SPECIFIED FOR EACH CONCRETE MIX TYPE PER ACI–301 ON THE BASIS OF PREVIOUS FIELD EXPERIENCE OR TRIAL BATCHES. USE ADMIXTURES IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS. USE AMOUNTS OF WATER–REDUCING ADMIXTURE THAT WILL PERMIT PLACING WITHOUT SEGREGATION, HONEYCOMBING OR ROCK POCKETS. THE SLUMPS SPECIFIED ARE THE SLUMPS REQUIRED AT THE POINT OF PLACEMENT INTO THE STRUCTURE. USE INTERIOR MECHANICAL VIBRATORS WITH 7000 RPM MINIMUM FREQUENCY. DO NOT OVER–VIBRATE. DO NOT MOVE THE CONCRETE HORIZONTALLY USING THE VIBRATOR. CONCRETE SHALL BE POURED MONOLITHICALLY BETWEEN CONSTRUCTION OR CONTROL JOINTS. PROTECT ALL FRESHLY PLACED CONCRETE FROM PREMATURE DRYING AND EXCESSIVE HOT OR COLD TEMPERATURES FOR SEVEN DAYS AFTER POURING. PROVIDE ENGINEER WITH PROPOSED CONSTRUCTION OR CONTROL JOINT LOCATIONS FOR HIS APPROVAL, OR USE JOINTS AS SHOWN ON THE DRAWINGS. ALL REINFORCEMENT TIE WIRES AND FORM ANCHORS SHALL BE CUT OFF FLUSH WITH THE SURFACE; SURFACES WHERE EXPOSED SHALL BE SMOOTH AND FREE FROM IRREGULARITIES.

3.2 STRENGTH

DESIGN MIXES TO PROVIDE NORMAL WEIGHT CONCRETE WITH THE FOLLOWING PROPERTIES:

APPLICATION	W/C RATIO	DESIGN STRENGTH F'c (PSI)	F'c PER ACI
FOOTINGS	.45	2500	4500²
FOUNDATION WALLS	.45	2500	4500²
EXT. SLABS ON GRADE	.45	2500	4500²
INT. SLABS ON GRADE	.50	2500	3000

NOTES:

1. CONCRETE EXPOSED TO WEATHER FOR EXPOSURE CLASS F2 AND SLABS ON GRADE SHALL HAVE A MIN F'c PER TABLE AND HAVE 5% AIR ENTRAINMENT.
2. DESIGN STRENGTH F'c (USED IN DESIGN). F'c PER ACI TABLE 19.3.2.1 FOR F2 EXPOSURE CLASS.
3. PER IBC 1705.3 SPECIAL INSPECTION STRENGTH TESTS NOT REQUIRED FOR CONCRETE f'c>2500 WHERE STRENGTH IS INCREASED FOR DURABILITY.

3.3 MATERIAL – CEMENT, WATER & AGGREGATES PER ACI 301

A. CEMENT MUST CONFORM TO ASTM C–150, TYPE I OR TYPE II. ENGINEER'S APPROVAL IS REQUIRED FOR USE OF TYPE III CEMENT.

B. WATER TO BE CLEAN AND POTABLE.

C. COARSE AND FINE AGGREGATES TO CONFORM TO ASTM–C33.

3.4 MATERIALS

A. WATER REDUCING ADMIXTURES: CONCRETE USING POZZOLITH ADMIXTURES TO PRODUCE FLOWABLE CONCRETE MAY BE USED WITH THE ENGINEER'S APPROVAL AND MUST CONFORM TO ASTM–C494, POZZOLITH POLYHEED, POZZOLITH 100XR, OR POZZUTECH 20. POZZOLITH SHALL BE INCORPORATED INTO ALL CONCRETE IN EXACT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. ADMIXTURES AND DOSAGES WILL VARY DEPENDING ON CLIMATIC CONDITIONS AND THE CONTRACTOR'S JOBSITE REQUIREMENTS. MAXIMUM SLUMP FOR SUCH CONCRETE SHALL NOT EXCEED 8" WITH A MINIMUM OF 10 OUNCES OF POLYHEED PER 100 OUNCES OF CEMENT. USE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

B. AIR ENTRAINMENT: CONFORM TO ASTM–C260 AND ASTM–C494, MBVR OR MICRO–AIR BY MASTER BUILDER. NO AIR ENTRAINMENT IN COLUMNS WITHOUT PRIOR WRITTEN PERMISSION BY ENGINEER OF RECORD. ENTRAIN 5% +/– 1% AIR BY VOLUME IN ALL EXPOSED CONCRETE.

C. OTHER ADMIXTURE: NO OTHER ADMIXTURES PERMITTED UNLESS PRIOR APPROVAL IS GIVEN BY THE ENGINEER. NO ADMIXTURES CONTAINING CHLORIDES ARE PERMITTED.

3.5 REINFORCING STEEL

DETAIL, FABRICATE AND PLACE PER ACI–315 AND ACI–318. SUPPORT REINFORCEMENT WITH APPROVED CHAIRS, SPACERS, OR TIES.

A. STEEL REINFORCEMENT SHALL BE NEW, DEFORMED BILLET STEEL, MEETING ASTM STANDARD A–615, A–706 AT BOUNDARY ELEMENTS; GRADE 60 FOR #3 AND LARGER BARS UNLESS NOTED OTHERWISE ON THE PLANS. SHOP DRAWINGS SHALL BE MARKED ACCORDINGLY AND SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION. GRADE 60 REBARS SHALL NOT BE BENT IN FIELD AFTER CONCRETE PLACEMENT. ALL BEND SHALL BE PER ACI.

B. REINFORCEMENT IN ALL WALLS, SLABS, AND FOOTINGS SHALL BE CONTINUOUS AROUND CORNERS OR CORNER BARS PROVIDED, BOTH VERTICAL AND HORIZONTAL.

C. LAPS: ALL TENSION SPLICES ARE ACCORDING TO ACI 318, CLASS B AND ALL COMPRESSION SPLICES ARE 30 DIAMETERS FOR f'c GREATER THAN 3000 PSI AND ARE 40 DIAMETERS FOR f'c WHICH IS LESS THAN 3000 PSI, UNLESS NOTED OTHERWISE. SEE DETAIL 17/S3.0 FOR TYPICAL SPLICE AMOUNTS BASE ON BAR SIZE.

D. TRIM REINFORCING: AROUND ALL OPENINGS SHALL BE A MINIMUM 1–#5 TOP AND BOTTOM, EXTENDING 2'–6" BEYOND OPENING AT EACH CORNER. SEE TYPICAL DETAILS.

E. WELDING: TACK WELDING OF REBAR IS NOT PERMITTED UNLESS CALLED FOR AND APPROVED BY THE ENGINEER.

F. MINIMUM REINFORCING: WHERE REINFORCEMENT IS NOT SHOWN ON THE DRAWINGS, THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318) SHALL BE REFERRED TO FOR PROPER REINFORCEMENT.

G. REBAR COVER: PROVIDE CONCRETE PROTECTION FOR REINFORCEMENT AS FOLLOWS:

COVER	CONDITION
3"	CONCRETE DEPOSITED AGAINST EARTH
2"	CONCRETE DEPOSITED AGAINST FORMS BUT EXPOSED TO EARTH
1–1/2"	MAIN REINFORCING IN BEAMS
1–1/2"	TO TIES IN COLUMNS, AND TIED REBAR IN WALLS
1–1/2"	FOR BARS IN SLABS ON GROUND
3/4"	FOR BARS IN SLABS ON FORMS

H. WELDED WIRE FABRIC: ASTM–A185 AND ASTM–A82

I. DEFORMED BAR ANCHORS: ASTM–A496

K. FIBREMESH: PROVIDE FIBREMESH STRANDS WITHIN CONCRETE PER THE MANUFACTURERS SPECIFICATION (1.5#/CU. YARD TYPICALLY) WHERE REQUIRED BY THE OWNER IN LIEU OF UTILIZING WELDED WIRE FABRIC WITHIN SLABS ON GRADE.

3.6 EPOXY DOWELED REINFORCEMENT

A. ALL REINFORCEMENT WHICH IS TO BE DOWELED INTO EXISTING CONCRETE SHALL BE INSTALLED USING THE SIMPSON SET–XP ADHESIVE ANCHORING SYSTEM PER ICC REPORT ESR–2508 OR APPROVED EQUAL. ADHESIVE ANCHORS SHALL BE INSTALLED PER THE MANUFACTURERS SPECIFICATIONS OR APPROVED EQUAL.

B. EPOXY SHALL BE MIXED, APPLIED, AND CURED IN ACCORDANCE WITH THE MANUFACTURERS GUIDELINES. REINFORCEMENT AND CONCRETE SHALL BE CLEAN AND FREE OF IRREGULARITY. EPOXY SHALL NOT BE MIXED OR CURED IN AIR AND / OR CONCRETE TEMPERATURES BELOW MINIMUM PER MANUFACTURER'S SPECIFICATIONS.

C. EPOXY DOWELING OF REINFORCEMENT IN OVERHEAD APPLICATIONS SHALL NOT BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER OF RECORD.

4.0 METALS

4.1 WELDING

A. ALL WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1 "STRUCTURAL WELDING CODE" & D1.3 "STRUCTURAL WELDING CODE – SHEET STEEL."

B. ALL WELDING SHALL BE DONE BY AWS/WABO (WASHINGTON STATE ASSOCIATION OF BUILDING OFFICIALS) CERTIFIED WELDERS. FOR ALL MOMENT FRAMES WELDERS SHALL HAVE ADDITIONAL CERTIFICATION SHOWING QUALIFIED IN ACCORDANCE WITH AWS D1.8, SECTION 5, WELDER QUALIFICATION, THE SUPPLEMENTAL WELDER QUALIFICATION FOR RESTRICTED ACCESS WELDING.

5.0 STRUCTURAL STEEL

A. ALL DETAILING, FABRICATION, AND ERECTION SHALL CONFORM TO THE AISC "MANUAL OF STEEL CONSTRUCTION." STEEL SHALL CONFORM TO THE FOLLOWING, UNO:

ALL STEEL, UNO	ASTM A992. ASTM A572, GRADE 50, A447, Fy = 50 KSI OR A588 Fy = 50 KSI ONLY W/ PRIOR APPROVAL OF ENGINEER OF RECORD.
ANGLES	ASTM A36, Fy = 36 ksi
CHANNELS, EMBEDMENTS IN CONCRETE AND MISC. METALS, UNO	ASTM A36, Fy = 36 ksi OR STEEL TYPES LISTED UNDER "ALL STEEL"
SQUARE AND RECTANGULAR STRUCTURAL TUBES	ASTM A500, GRADE B, Fy = 46 ksi
STEEL PIPE DIAMETER LESS THAN OR EQUAL TO 12" NOM	ASTM A53, TYPE E OR S, GRADE B, Fy = 35 ksi

B. ALL WORK SHALL BE IN ACCORDANCE WITH THE AISC SPECIFICATION. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER BEFORE COMMENCING FABRICATION. ALL STEEL ANCHORS AND TIES AND OTHER MEMBERS EMBEDDED IN CONCRETE OR MASONRY SHALL BE LEFT UNPAINTED. DIMENSIONAL TOLERANCE FOR BUILD–UP MEMBERS SHALL BE PER AWS D1.1. GENERAL NOTES FOR STEEL CONNECTIONS SHALL APPLY TO ALL STEEL CONNECTIONS, UNO.

C. STEEL BEAMS ARE EQUALLY SPACED BETWEEN DIMENSIONAL POINTS. MINIMUM CONNECTIONS SHALL BE A TWO–BOLT CONNECTION USING 7/8–INCH DIAMETER A325 BOLTS IN SINGLE SHEAR. OPTIONAL TO USE F1554 BOLTS WITH PRIOR APPROVAL OF ENGINEER OF RECORD. ALL HIGH–STRENGTH BOLTS SHALL BE INSTALLED, TIGHTENED AND INPSECTED IN ACCORDANCE WITH THE AISC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS. THE CRITERIA FOR SLIP–CRITICAL CONNECTIONS SHALL APPLY TO ALL CONNECTIONS UNLESS SPECIFICALLY NOTED AS SNUG TIGHT ON THE STRUCTURAL DRAWINGS. WHERE CONNECTIONS ARE NOTED SNUG TIGHT THE CONTRACTOR MAY INSTALL PER CRITERIA FOR SNUG TIGHT BOLTS. SLIP CRITICAL CONNECTIONS SHALL USE LOAD INDICATOR WASHERS OR TENSION CONTROL BOLTS. ALL ASTM A307 BOLTS SHALL BE PROVIDED WITH LOCK WASHERS UNDER NUTS OR SELF–LOCKING NUTS. ALL BOLT HOLES SHALL BE STANDARD SIZE, UNO.

D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ERECTION AIDS THAT INCLUDE, BUT ARE NOT LIMITED TO: ERECTION ANGLES; LIFT HOLES, AND OTHER AIDS.

E. METAL PROTECTION – ALL MISCELLANEOUS STEEL AND HARDWARE EXPOSED TO VIEW OR IN UNHEATED PORTION OF BUILDING SHALL BE GALVANIZED PER ASTM A–123 WITH 1.25 OZ OF ZINC SPELTER PER SQUARE FOOT OF SURFACE AREA. ALL OTHER STEEL SURFACES TO BE SHOP PAINTED AFTER FABRICATION.

F. ALL STEEL BEAM COPING SHALL CONFORM TO AISC STANDARD PRACTICE.

G. GROUT FOR BEARING PLATES SHALL BE NON–SHRINK EMBECO BY MASTER BUILDERS, INC. OR APPROVED EQUAL.

ALL EXPOSED STRUCTURAL MATERIALS OR MATERIAL IN CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED (SEE SECTION 7.10).

6.0 LIGHT GAUGE STEEL

7.0 CARPENTRY

7.1 ROUGH CARPENTRY

ALL 2x FRAMING LUMBER SHALL BE STUD GRADE HEM–FIR FOR STUDS AND STANDARD OR BETTER FOR PLATES UNLESS OTHERWISE NOTED ON THE DRAWINGS OR BELOW. ALL 2" LUMBER SHALL BE KILN DRIED (KD) OR SURFACE DRIED (SD). EACH PIECE OF LUMBER SHALL BEAR THE STAMP OF THE WEST COAST LUMBER INSPECTION BUREAU (WCLIB) OR WESTERN WOOD PRODUCTS ASSOCIATION (WWPA) SHOWING GRADE MARK OR APPROVED EQUAL. OTHER MATERIALS SHALL BE AS SHOWN BELOW:

MEMBER	SPECIES
2x & 3x STUDS	STUD GRADE HEM FIR
2x JOISTS	#2 HEM FIR
4x HEADERS	#2 HEM FIR
6x HEADERS	#2 DOUGLAS FIR
4x COLUMNS	#2 HEM FIR
6x COLUMNS	#2 DOUGLAS FIR

ALL EXPOSED STRUCTURAL MATERIALS OR MATERIAL IN CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED (SEE SECTION 7.10).

7.3 PRE–ENGINEERED ROOF TRUSSES

ALL PREFABRICATED WOOD ROOF AND FLOOR TRUSSES SHALL BE DESIGNED BE OR UNDER THE DIRECT SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE STRUCTURE IS LOCATED. THE TRUSS SHOP DRAWINGS SHALL BEAR THE STAMP OF THAT ENGINEER. ALL NECESSARY BRIDGING, BLOCKING, PRE–NOTCHED PLATES, HANGERS, ETC. SHALL BE DETAILED OR SPECIFIED, AND FURNISHED BY THE MANUFACTURER. ALL PERMANENT BRACING FOR TRUSSES SHALL BE DETAILED AND DESIGNED BY THE TRUSS SUPPLIER. THE TRUSS MANUFACTURER SHALL VERIFY ALL SETBACKS, DIMENSIONS, AND BEARING POINTS PRIOR TO FABRICATION. MAXIMUM ALLOWABLE DEFLECTIONS SHALL BE AS FOLLOWS:

ROOF TOTAL LOAD	SPAN/240 OR 1.5"
ROOF LIVE LOAD	SPAN/360 OR 1"

TRUSSES SHALL BE DESIGNED FOR THE SPANS AND CONDITIONS SHOWN ON THE PLANS AND SHALL BE FURNISHED AND INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S PUBLISHED SPECIFICATIONS. ADDITIONAL CONCENTRATED LOADS FROM MECHANICAL UNITS, AND MISCELLANEOUS EQUIPMENT, ETC. SHALL BE ACCOUNTED FOR/COORDINATED WITH THE SUB–CONTRACTORS, ARCHITECT AND TRUSS ENGINEER. ALTERATION OF THE TRUSS LAYOUT INDICATED ON THE PLANS MAY REQUIRE SUPPORTING STRUCTURAL AND FOUNDATION CHANGES, THEREFORE PRIOR APPROVAL BY THE ARCHITECT AND THE STRUCTURAL ENGINEER IS REQUIRED. TRUSSES SHALL NOT BE FIELD ALTERED PRIOR TO WRITTEN APPROVAL OF THE ENGINEER OF RECORD DESIGNING THE TRUSSES.

TRUSS CONNECTIONS TO NON–LOAD BEARING WALLS SHALL BE PER THE TYPICAL DETAILS. SLIDE CLIPS SHALL NOT BE USED UNLESS APPROVED BY THE ENGINEER.

7.4 CARPENTRY HARDWARE

A. BOLTS SHALL BE ASTM A–307.

B. WASHERS SHALL BE STANDARD CUT WASHERS OR MALLEABLE IRON WASHERS.

C. ALL NAILS SHALL BE COMMON WIRE NAILS OR EQUIVALENT PNEUMATICALLY DRIVEN NAILS (P–NAILS), AMERICAN OR CANADIAN MANUFACTURER ONLY AS INDICATED BELOW. P–NAILS SHALL BE INSTALLED PER THE MANUFACTURERS GUIDELINES.

COMMON WIRE NAIL	PNEUMATIC NAIL	MINIMUM NAIL LENGTH	NAIL APPLICATION
16d COMMON	0.162" P–NAIL	3–1/2"	FRAMING
12d COMMON	0.148" P–NAIL	3–1/4"	FRAMING
N/A	0.131" P–NAIL	3"	FRAMING
10d COMMON	0.148" P–NAIL	2–1/2"	SHEATHING
8d COMMON	0.131" P–NAIL	2–1/2"	SHEATHING

D. LAG SCREWS, SHEAR PLATES

E. ANCHORS AND CONNECTORS SHALL BE SIMPSON, USP, OR OTHER ICBO APPROVED.

F. HARDWARE EXPOSED TO WEATHER OR TO VIEW SHALL BE GALVANIZED OR PROTECTED WITH OTHER APPROVED MEANS OF CORROSION PROTECTION. FOR ADDITIONAL REQUIREMENTS REGARDING HARDWARE IN EXPOSED CONDITIONS SEE SECTION 7.10.

7.5 MINIMUM NAILING – PER IBC TABLE 2304.9.1. – SEE SHEET S1.1

7.6 ANCHOR BOLTS

FOUNDATION PLATE OR SILL BOLTING SHALL BE PER IBC CHAPTER 23. PER IBC 2308.6 & 2304.3.1 ALL FOUNDATION PLATES OR SILLS SHALL BE BOLTED TO CONCRETE OR MASONRY WITH MINIMUM 1/2" NOMINAL DIAMETER ANCHOR BOLTS EMBEDDED AT LEAST 7" AND SPACED NOT MORE THAN 6 FEET APART. THERE SHALL BE A MINIMUM OF TWO BOLTS PER PIECE WITH ONE BOLT LOCATED NOT MORE THAN 12 INCHES OR LESS THAN 4 INCHES FROM EACH END OF EACH PIECE. 3" x 3" x 0.229" WASHERS ARE REQUIRED AT ALL ANCHOR BOLTS PER AF&PA SDPWS–2008 SECTION 4.3.6.4.3 THE PLATE WASHER ARE PERMITTED TO HAVE A DIAGONAL SLOT. FOR SHEAR WALL TYPES W3 AND GREATER THE PLATE WASHER MUST EXTEND TO WITHIN 1/2" OF THE EDGE OF THE BOTTOM PLATE ON SIDE(S) WITH SHEATHING.

7.7 PLYWOOD/OSB SHEATHING

EACH SHEET SHALL BEAR THE TRADEMARK OF THE AMERICAN PLYWOOD ASSOCIATION. ALL GRADING AND INSTALLATION SHALL CONFORM TO MOST CURRENT VERSION OF PS2 FOR OSB. USE THICKNESS AND NAILING AS SHOWN ON THE DRAWINGS. SHEATHING SHALL HAVE EXPOSURE RATING AS APPROPRIATE PER THE CONTRACTOR'S CONSTRUCTION AND WEATHER CONDITIONS SPECIFIED BY CONTRACTOR. EXCEPT AS OTHERWISE SHOWN OR NOTED, PROVIDE 0.131" DIA P–NAILS OR 8d COMMON NAILS AT 6" ON CENTER @ SUPPORTED PANEL EDGES AND 0.131" DIA P–NAILS OR 8d COMMON NAILS AT 12" ON CENTER ON OTHER SUPPORTING MEMBERS FOR WALLS AND ROOFS. FOR FLOORS, USE THE SAME SPACING PATTERN AS STATED FOR WALLS OR ROOF EXCEPT USE 0.148" DIA P–NAILS OR 10d COMMON NAILS.

NOTE: EQUIVALENT RATED PLYWOOD MAY BE USED IN LIEU OF OSB CALLED OUT. ALL THICKNESS AND GRADING SHALL CONFORM TO PS1 OR PS2. SHEATHING SHALL HAVE EXPOSURE RATING AS APPROPRIATE PER THE CONTRACTOR'S CONSTRUCTION AND WEATHER CONDITIONS SPECIFIED BY CONTRACTOR.

ROOF DIAPHRAGM: 1/2" MIN OSB (MIN PANEL INDEX = 24/16), WITH 0.131" DIA P–NAILS OR 8d COMMON NAILS AT 6" O.C. AT SUPPORTED PANEL EDGES AND AT 12" O.C. AT FIELD TYPICAL UNLESS NOTED OTHERWISE ON PLAN. WHERE REQUIRED, USE PLY–CLIPS INSTALLED PER MANUFACTURER'S GUIDELINES AND APA GUIDELINES.

FLOOR DIAPHRAGM: 3/4" TONGUE AND GROOVE OSB (MIN PANEL INDEX = 32/16), WITH 0.148" DIA P–NAILS OR 10d COMMON NAILS AT 6" O.C. AT SUPPORTED PANEL EDGES AND AT 12" O.C. AT FIELD TYPICAL UNLESS NOTED OTHERWISE ON PLAN. SHEATHING SHALL BE GLUE–NAILED TO FRAMING WITH APPROVED ADHESIVE PER THE ARCHITECT. FIELD NAILING SHALL BE 6" O.C. AT ALL INTERIOR SHEARWALL LOCATIONS INSTEAD OF TYPICAL 12" O.C. SPACING.

7.8 MANUFACTURED TIMBER BEAMS

A. GLULAMINATED TIMBER BEAMS (GLULAM BEAMS)

ALL STRUCTURAL GLUE–LAMINATED TIMBER, MATERIALS, MANUFACTURE AND QUALITY CONTROL SHALL BE IN CONFORMANCE WITH VOLUNTARY PRODUCT STANDARD P.S.56 "STRUCTURAL GLUED LAMINATED TIMBER", AND ALL MEMBERS SHALL BE MARKED WITH A QUALITY MARK THEREOF. ALL PLY LAYOUTS SHALL BE PER P.S. 56. CAMBERS ARE AS SHOWN ON THE DRAWINGS. ALL MEMBERS SHALL BE EITHER COMBINATION 24F–V4 (SIMPLE SPAN) OR 24F–V8 (CANTILEVERED OR CONTINUOUS SPAN) AS APPLICABLE. ALL MEMBERS SHALL BE ARCHITECTURAL APPEARANCE AND SHALL BE GLUED WITH WATERPROOF ADHESIVE PER P.S. 56. ARCHES SHALL BE COMBINATION 24F–V8 AND HAVE EXTERIOR GLUE, ARCHITECTURAL GRADE.

7.9 SHRINKAGE

WOOD MEMBERS WERE EVALUATED USING KILN DRIED (KD) OR SURFACE DRIED (SD) LUMBER (HEM–FIR WITH MOISTURE CONTENT = 19% OR LESS). THE FLOOR TO FLOOR COMPRESSION OF SUCH WOOD MEMBERS (PLATES AND JOISTS TOTALING 15.25") DUE TO A MOISTURE CONTENT CHANGE OF 10% WILL BE APPROXIMATELY 3/8 INCHES PER FLOOR. ADDITIONAL FLOOR TO FLOOR COMPRESSION OF WOOD STUDS DUE TO FULL COMPRESSIVE LOAD WILL BE APPROXIMATELY 1/32 INCHES PER FLOOR. ADDITIONAL COMPRESSION OF WOOD FRAMING MAY OCCUR DUE TO FRAMING TECHNIQUES AND LOCAL STRESS CONCENTRATIONS. ALL FULL BUILDING HEIGHT ELECTRICAL, MECHANICAL, AND PLUMBING SYSTEMS AS WELL AS EXTERIOR FINISHES SHOULD BE DESIGNED TO ACCOMMODATE THESE MOVEMENTS. USE OF WOOD STUDS, PLATES & JOISTS WHICH WILL HAVE MOISTURE CONTENT CHANGES GREATER THAN 10% WILL EXPERIENCE GREATER MOVEMENT. FLOOR ASSEMBLIES UTILIZING DEPTHS GREATER THAN THOSE ASSUMED ABOVE MAY EXPERIENCE GREATER MOVEMENTS. LOCALIZED HEADERS MAY EXPERIENCE SIMILAR SHRINKAGE AS DESCRIBED ABOVE.

7.10 PRESERVATIVE TREATMENT

A. PRESERVATIVE TREATMENTS

SEE ARCH FOR ALL PRESERVATIVE TREATED REQUIREMENTS AND FINISHES OF EXPOSED TIMBER MEMBERS AND AT EXTERIOR CONDITIONS.

ALL EXPOSED FRAMING LUMBER, PLYWOOD AND DECK MATERIALS SHALL BE PRESSURE TREATED PER AWPA SPECIFICATION P–5 OR OTHER APPROVED TREATMENT. ALL CUTTING AND BORING AFTER PRESSURE TREATMENT SHALL BE CARED FOR IN ACCORDANCE WITH AWPA SPECIFICATION M–4.

ACZA PRESERVATIVE TREATMENT SHALL NOT BE PERMITTED EXCEPT WHERE HARDWARE (INCLUDING NAILS) IN CONTACT WITH THE TREATED PRODUCT IS COMPOSED ENTIRELY OF STAINLESS STEEL MATERIAL. STAINLESS STEEL HARDWARE SUBSTITUTED FOR HDG PRODUCTS SHALL MEET OR EXCEED THE STRENGTH AND PERFORMANCE OF THE SUBSTITUTED HDG PRODUCT ORIGINALLY SPECIFIED.

B. GALVANIZATION OF HARDWARE (EXPOSED OR IN CONTACT WITH PRESERVATIVE TREATED WOOD)

1. PROTECTED ENVIRONMENT

ALL HARDWARE (HANGERS, NAILS, BOLTS, LAG SCREWS, FLASHING ETC...) SHALL BE HOT–DIP GALVANIZED (HDG) TO A MINIMUM COATING LEVEL OF G185 (1.85 oz/ft2 OF ZINC) WHEN IN CONTACT WITH PRESERVATIVE TREATED WOOD CONTAINING PRODUCTS SUCH AS, BUT NOT LIMITED TO; CCA, ACQ, OR CBA. HDG PRODUCTS SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS AS APPLICABLE; ASTM A653, ASTM A123, AND ASTM A153. WHEN USING STAINLESS STEEL OR HOT–DIP GALVANIZED CONNECTORS, THE CONNECTORS AND FASTENERS SHALL BE OF THE SAME MATERIAL.

2. EXPOSED ENVIRONMENT

ALL HARDWARE (INCLUDING CONNECTORS) IN CONTACT WITH PRESSURE TREATED WOOD IN AN EXPOSED OR POTENTIAL TO BE EXPOSED ENVIRONMENT (HAVING POTENTIAL FOR WIND BLOWN RAIN TO REACH) SHALL BE STAINLESS STEEL.

8.0 MECHANICAL AND EPOXY FASTENERS

A. MECHANICAL FASTENERS (PRE–DRILLED ANCHORS)

1. TYPICAL MECHANICAL ANCHORS WHICH ARE INSTALLED IN CONCRETE SHALL BE AS MANUFACTURED BY THE SIMPSON, INC. AND SHALL BE INSTALLED IN CONFORMANCE WITH THE MANUFACTURERS GUIDELINES AND PER ICC REPORT ESR–1771 FOR WEDGE ANCHORS OR PER ICC REPORT ESR–2713 FOR SCREW TYPE ANCHORS OR APPROVED EQUALS.
2. SPECIAL CARE SHALL BE TAKEN DURING THE DRILLING / INSTALLATION OF FASTENERS WITHIN POST–TENSIONED CONCRETE. ANCHORS SHALL BE INSTALLED IN SUCH A MANNER SO AS NOT TO INTERFERE WITH / DAMAGE REINFORCEMENT.

B. EPOXY CONNECTIONS (PRE–DRILLED ANCHORS)

1. ADHESIVE ANCHORS SHALL BE OF THE SIZE AND LENGTH AS CALLED OUT ON THE PLANS USING THE SIMPSON SET–XP ADHESIVE ANCHORING SYSTEM PER ICC REPORT ESR–2508 OR APPROVED EQUAL. ADHESIVE ANCHORS SHALL BE INSTALLED PER THE MANUFACTURERS SPECIFICATIONS.
2. ALL EPOXY ANCHORS OR FASTENERS REQUIRE SPECIAL INSPECTION.
3. ANCHORS SHALL BE INSTALLED IN SUCH A MANNER SO AS NOT TO INTERFERE WITH / DAMAGE REINFORCEMENT.

9.0 SPECIAL INSPECTIONS:

SPECIAL INSPECTIONS SHALL CONFORM TO SECTION 1704 OF THE 2018 IBC AND ARE REQUIRED DURING THE FOLLOWING:

A. THE EXCAVATION OF FOOTINGS PRIOR TO CONCRETE PLACEMENT,

B. THE TAKING OF CONCRETE TEST SPECIMENS. SEE PARAGRAPH 3.2, NOTE 4 FOR EXCEPTION WITH f'c GREATER THAN 2500 PSI.

C. THE PLACEMENT OF REINFORCING STEEL OF ALL STRUCTURAL FOOTINGS, COLUMNS, WALLS, SLABS AND APPENDAGES,

D. THE CONSTRUCTION OF THE LATERAL WOOD SYSTEM TO VERIFY APPROPRIATE ELEMENTS, NAILING, HARDWARE & CONNECTIONS PRIOR TO FINAL APPROVAL.

E. ALL EPOXY DOWELED APPLICATIONS.

PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE A SCHEDULE OF REQUIRED INSPECTIONS AND SHALL SUBMIT THIS SCHEDULE TO THE ARCHITECT AND ENGINEER FOR APPROVAL.

INSPECTION IS INSPECTION PERFORMED BY THE BUILDING OFFICIAL AT VARIOUS STAGES OF A PROJECT AS OUTLINED IN IBC SECTION 109 TO ENSURE COMPLIANCE TO THE BUILDING CODE.

SPECIAL INSPECTION SHALL BE DONE BY AN INDEPENDENT 3RD PARTY INSPECTOR BY OWNER. WHERE IBC CHAPTER 17 (REF SECTION 1704) REQUIRES SPECIAL EXPERTISE TO ENSURE COMPLIANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

STRUCTURAL OBSERVATION SHALL BE PERFORMED BY A REGISTERED DESIGN PROFESSIONAL FOR GENERAL CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS AS DEFINED IN IBC SECTION 1702. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR INSPECTION AS REQUIRED BY IBC.

10.0 MISCELLANEOUS

VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO PROCEEDING. PROVIDE ERECTION BRACING AS NECESSARY UNTIL PERMANENT SUPPORT AND STIFFNESS ARE INSTALLED. REFER TO ARCHITECTURAL PLANS FOR WALL OPENING, ARCHITECTURAL TREATMENT AND DIMENSIONS NOT SHOWN. REFER TO MECHANICAL AND ELECTRICAL PLANS FOR SIZE AND LOCATION OF ALL OPENINGS FOR DUCTS, PIPES, CONDUITS, ETC., NOT SHOWN.

Abbreviations

AB.	ANCHOR BOLT
AGGR.	AGGREGATE
ALT.	ALTERNATE
APPROX.	APPROXIMATE
ARCH.	ARCHITECTURAL
BD.	BOARD
BLDG.	BUILDING
BLK	BLOCK
BLK'G.	BLOCKING
BM.	BEAM
BOT.	BOTTOM
BTWN.	BETWEEN
C.J.	CONTROL JT.
CLR.	CLEAR
C.M.U.	CONCRETE MASONRY UNIT
COL.	COLUMN
CONC.	CONCRETE
CONN.	CONNECTION
CONSTR.	CONSTRUCTION
CONT.	CONTINUOUS
CSE	COMPONENTS STRUCTURAL ENGR
DEG.	DEGREE
DET./DTL.	DETAIL
DIAG.	DIAGONAL
DIA. ø	DIAMETER
DN.	DOWN
DWG.	DRAWING
(E)	EXISTING
EA.	EACH
E.J.	EXPANSION JOINT
E.I.F.S.	EXTERIOR INSULATION AND FINISH SYSTEM
EL. ELEV.	ELEVATION
ELEV.	ELEVATION
EQ.	EQUAL
EQUIP.	EQUIPMENT
E.W.	EACH WAY
EXP.	EXPANSION
EXT.	EXTERIOR
F.D.	FLOOR DRAIN
FDN.	FOUNDATION
F.F.	FINSH FLOOR
FIN.	FINISH
FLR.	FLOOR
FND.	FOUNDATION
F.O.B.	FACE OF BRICK
F.O.C.	FACE OF CONCRETE
F.S.	FULL SIZE
FT.	FOOT OR FEET
FTG.	FOOTING
FURR.	FURRING
GA.	GAUGE
GALV.	GALVINIZED
GR.	GRADE
GYP.	GYPSUM
GYP. BD.	GYPSUM BOARD
HT.	HEIGHT
HVAC	HEATING, VENT AND AIR CONDITIONING
I.D.	INSIDE DIAMETER
INSUL.	INSULATION
INT.	INTERIOR
JNT.	JOINT
JST.	JOIST
MAX.	MAXIMUM
MFR.	MANUFACTURER
MIN.	MINIMUM
MISC.	MISCELLANEOUS
M.O.	MASONRY OPENING
MTL.	METAL
NO.	NUMBER
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
OH.	OVERHEAD
OPG.	OPENING
OPP.	OPPOSITE
PCT.	PRE–CAST
P.L.	PROPERTY LINE
PLYWD.	PLYWOOD
R.D.	ROOF DRAIN
RE:	REFER TO ...
REINF.	REINFORCED
REQ'D.	REQUIRED
RM	ROOM
R.O.	ROUGH OPENING
SCHED.	SCHEDULE
SECT.	SECTION
SER	STRUCTURAL ENGINEER OR RECORD
S.F.	SQUARE FOOT
SHT.	SHEET
SIM.	SIMILAR
SPEC.	SPECIFICATION
SQ.	SQUARE
S.S.	STAINLESS STEEL
STAGG.	STAGGERED
STD.	STANDARD
STIFF	STIFFENER
STL.	STEEL
STRUC.	STRUCTURAL
TR	TREAD
T & B	TOP AND BOTTOM
T & G	TONGUE & GROOVE
THK.	THICK
T/	TOP OF
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
VER	VERIFY
VERT.	VERTICAL
W/	WITH
W/O	WITHOUT
℄	CENTERLINE
℘	PLATE

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TOTAL NUMBER OF SHEETS		34
* LATEST INDIVIDUAL SHEET REVISION ISSUED		

City of Puyallup
Development & Permitting Services
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Engineering | Public Works
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THOMAS LANE CHASE
29006
4-24-25

THOMAS L. CHASE, PE
MARTIN R. OMAN, PE, SE
OLEG G. KONDRATYUK, PE

Revisions to this sheet:
△1 8–30–24 PERMIT CORRECTIONS & OWNER CHANGES
△2 4–24–25 PERMIT CORRECTIONS & OWNER CHANGES

PRCNC20240278

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PROJECT NO. : 23.007
DESIGNED BY : TLC, OGK, MRO
DRAWN BY : RSO
ISSUE DATE : 2-20-24
LATEST REV. OF DWG. SET : △2 4-24-25

SUBMITTAL SET ONLY NOT FOR CONSTRUCTION
THESE DRAWINGS ARE SUBJECT TO REVISIONS PENDING LOCAL JURISDICTIONAL REVIEW.

S1.0

CAD FILE: F:\Projects\2023 Projects\23.007 Bradley Heights\Drawings\S1.0.dwg PLOT DATE/TIME: 4/25/2025 – 1:49pm THANK YOU FOR USING SOLUTIONS 4 STRUCTURES

STRUCTURAL NOTES-TABLES

WIND PRESSURE TABLE FOR COMPONENTS & CLADDING (ASD)

ROOF SURFACES[1]

EFFECTIVE WIND AREA	POSITIVE PRESSURE (PSF) ZONE[2]			NEGATIVE PRESSURE (PSF) ZONE[2]		
	1	2	3	1	2	3
10 SF	7.80	7.80	7.80	−12.39	−21.56	−31.89
20 SF	7.04	7.04	7.04	−12.01	−19.65	−29.59
50 SF	6.27	6.27	6.27	−11.62	−17.74	−27.30
100 SF	5.51	5.51	5.51	−11.24	−15.83	−25.01
500 SF	5.51	5.51	5.51	−11.24	−15.83	−25.01

WALL SURFACES

EFFECTIVE WIND AREA	POSITIVE PRESSURE (PSF) ZONE[2]		NEGATIVE PRESSURE (PSF) ZONE[2]	
	4	5	4	5
10 SF	12.18	12.18	−13.21	−16.31
20 SF	11.56	11.56	−12.59	−15.07
50 SF	10.94	10.94	−11.98	−13.83
100 SF	10.32	10.32	−11.36	−12.57
500 SF	9.08	9.08	−10.12	−10.12

1. NET WIND PRESSURES AT ROOF SURFACES = VALUE FROM TABLE ABOVE +2/3 DEAD LOAD (DEAD LOAD REDUCES NEGATIVE PRESSURE + ADDS TO POSITIVE PRESSURES)
2. ZONES ARE DEFINED BY FIGURE 30.6-1 ASCE/SEI 07-10 FOR ROOF AND WALL ELEMENTS

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SOIL & FOUNDATIONS

MATERIAL/ TYPE INSPECTION	IBC CODE REFERENCE	REFERENCE STANDARD	FREQUENCY APPLICABLE TO THIS PROJECT CONT.	PERIODIC	REQUIRED	SCOPE OF SERVICE
Site Preparation	Table 1705.6 Item 5	–	–	X	N/A	Inspection to determine that the site has been prepared in accordance with the approved soils or geotechnical report.
Prepared Fill – During Fill Preparation	Table 1705.6 Item 4	–	X	–	YES	Inspection to determine that the materials being used and maximum lift thicknesses comply with the approved report as specified in Section 1804.2.
Evaluation of in-place Density	Table 1705.6 Item 3	–		X	YES	Tests to determine, at the approved frequency, that the in-place dry density of the compacted fill complies with the approved report.
Footings and Foundations	1805.1 – 1805.9 Table 1705.6 Item 1	–	–	X	YES	Confirm soils suitable for the design allowable soil bearing pressure are present at bearing grade. Confirm the footing dimensions are as specified on the project plans.
Foundation Depth	Table 1705.6 Table 1705.6 Item 2	–	–	X	YES	Confirm excavation are extended to proper depth and have reached proper materials.

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CONCRETE CONSTRUCTION

MATERIAL/ TYPE INSPECTION	IBC CODE REFERENCE	REFERENCE STANDARD	FREQUENCY APPLICABLE TO THIS PROJECT CONT.	PERIODIC	REQUIRED	SCOPE OF SERVICE
Materials	1705.3.1, Table 1705.3 Item 1	Applicable ASTM material spec.; AISC 360, Section A3.3	–	X	YES	Manufacturer's Certificates of Compliance or Tests per Chapter 3 of ACI 318, per ASTM A 706, and per 1705.3.1
Installation of Reinforcing Steel	1910.4 Table 1705.3 Item 1	ACI 318:3.5; 7.1 – 7.7	–	X	YES	Inspection to confirm compliance with details shown on approved Construction Documents, Shop Drawings, ACI 318 and Code Section 1910.4
Welding of Reinforcing Steel	Table 1705.3 Item 2	AWS D1.4, ACI 318:3.5.2	–	–	N/A	Observation of reinforcing steel welding in accordance with Table 1705.2.2, Item 2, (see attached steel construction table).
Bolt Installation	1908.5, 1901.1 Table 1705.3 Item 3	ACI 318: 8.1.3, 21.2.8	X	–	YES	Observation of anchor bolts to be installed in concrete prior to and during placement of concrete where allowable loads have been increased.
Formwork	Table 1705.3 Item 12	ACI 318:6.1.1	–	X	YES	Inspection for compliance with ACI 318, Section 6.1, 6.2, for shape, location and dimensions of concrete member being formed.
Concrete Strength	1910.10, Table 1705.3 Item 6	ASTM C 172, ASTM C 31, ACI 318:5.6, 5.8	–	X	NO	Evaluation of Concrete strength in accordance with ACI 318, Section 5.6 and in accordance with the requirements of IBC 1905.6.
Concrete Mixes	1904.2, 1910.2, 1910.3 Table 1705.3 Item 5	ACI 318: 4, 5.2–5.4	–	X	YES	Inspection for use of proper mix proportions and techniques, ACI 318, Chapter 4, Sections 5.2 – 5.4.
–	–		–	–	–	–
Concrete Sampling	1910.10 Table 1705.3 Item 6	ASTM C 172, ASTM C 31, ACI 318:5.6, 5.8	X	–	MO	
Concrete Placement	1910.6, 1910.7, 1910.8, Table 1705.3 Item 7	ACI 318:5.9, 5.10	X	–	YES	Inspection for proper application techniques; ACI 318, Sections 5.9 and 5.10
Curing Temperatures and Techniques	1910.9 Table 1705.3 Item 8	ACI 318: 5.11–5.13	–	X	NO	Inspection for maintenance of curing temperatures and techniques; ACI 318, Sections 5.11, 5.12 and 5.13.
Prestressed Concrete: Application Prestressing Forces	Table 1705.3 Item 9a	ACI 318: 18.20, ACI 18.18.4	X	–	NO	Field inspections of precast concrete members in accordance with ACI 318, Section 18.20.
Prestressed Concrete: Grouting of unbonded prestressing tendons in seismic-force-resisting system	Table 1705.3 Item 9b	ACI 318: 18.20, ACI 18.18.4	X	–	NO	Field inspections of precast concrete members in accordance with ACI 318, Chapter 18.18.4.
Manufacture of Precast Concrete	1704.2.1	–	–	X	NO	Certificate from Independent Agency and current agreement for periodic (minimum 6 month intervals) in-plant quality assurance inspections.
Erection of Precast Concrete	Table 1705.3 Item 10	ACI 318: 16	–	X	NO	Field inspections of precast concrete members in accordance with ACI 318, Chapter 16.
Post Tensioning	Table 1705.3 Item 11	ACI 318: 6.2	–	X	NO	Verification of in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms for beams and structural slabs in accordance with ACI 318, Section, 6.2.
Post Installed Anchors	1909.1, Table 1705.3 Item 11	ACI 318: 3.8.6, 8.1.3, 21.1.8	–	X	YES	Verification of anchors post installed in hardened concrete members.

2018 International Building Code – Statement of Special Inspection

WOOD CONSTRUCTION

MATERIAL/ TYPE INSPECTION	IBC CODE REFERENCE	REFERENCE STANDARD	FREQUENCY APPLICABLE TO THIS PROJECT CONT.	PERIODIC	REQUIRED	SCOPE OF SERVICE
Fabrication – Inspection of Fabricator's Quality Control Procedures	1704.2.5	–	–	X	YES	Certificate from Independent Agency and current agreement for periodic (minimum 6 month intervals) in-plant quality assurance inspections.

2018 International Building Code – Statement of Special Inspection

SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE

MATERIAL/ TYPE INSPECTION	IBC CODE REFERENCE	REFERENCE STANDARD	FREQUENCY APPLICABLE TO THIS PROJECT CONT.	PERIODIC	REQUIRED	SCOPE OF SERVICE
Structural Steel	1705.11.1	AISC 341	X	–	N/A	Observation of structural welding in accordance with AISC Seismic. Not required for 5/16" single pass fillet welds or welding of metal deck.
Structural Wood: Inspection of field gluing operations of elements of the seismic force resisting system.	1705.11.2	–	X	–	N/A	Inspection of field gluing operations of elements of the seismic force resisting system.
Structural Wood: Inspection of nailing, bolting, anchoring and other fastening components the seismic force resisting system, including drag struts, braces and hold-downs.	1705.11.2	–	–	X	YES	Inspection of nailing, bolting, anchoring and other fastening components within the seismic force resisting system, including drag struts, braces and hold-downs. Not required for nailing o.c. spacing greater that 4" o.c.
Cold-formed Steel Framing	1705.11.3	–	–	X	NO	Inspection of welding operations of elements of the seismic force resisting system.
Cold-formed Steel Framing	1705.11.3	–	–	X	NO	Inspection of screw attachments, bolting, anchoring and other fastening components within the seismic force resisting system, including struts, braces and hold-downs.

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STRUCTURAL: OBSERVATIONS

MATERIAL/ TYPE INSPECTION	IBC CODE REFERENCE	REFERENCE STANDARD	FREQUENCY APPLICABLE TO THIS PROJECT CONT.	PERIODIC	REQUIRED	SCOPE OF SERVICE
Strucutral Observations	1704.5	–	–	X	If required by jurisdiction	Structural observations to be preformed to observe general conformance to the construction documents.

Special Inspection required per Chapter 17 of the 2018 IBC - SUBMIT REPORTS TO INSPECTORS WITH THE CITY OF PUYALLUP

City of Puyallup Development & Permitting Services ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

4-24-25

THOMAS L. CHASE, PE
MARTIN R. OMAN, PE, SE
OLEG G. KONDRATYUK, PE

Revisions to this sheet:

PRCNC20240278

Bradley Heights Apartments
202 27th Ave SE
Puyallup, Washington

Solutions 4 Inc. Structures
A Structural Engineering Corporation
Puyallup, Washington 98374
Ph 253-314-9822
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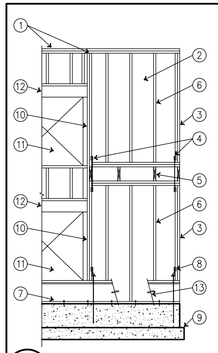
PROJECT NO. : 23.007
DESIGNED BY : TLC, OGK, MRO
DRAWN BY : RSO
ISSUE DATE : 2-20-24
LATEST REV. : 4-24-25
OF DWG. SET : 1

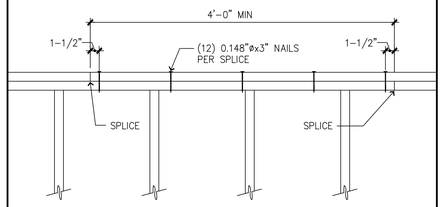
SUBMITTAL SET ONLY NOT FOR CONSTRUCTION
THESE DRAWINGS ARE SUBJECT TO REVISIONS PENDING LOCAL JURISDICTIONAL REVIEW.

S1.1



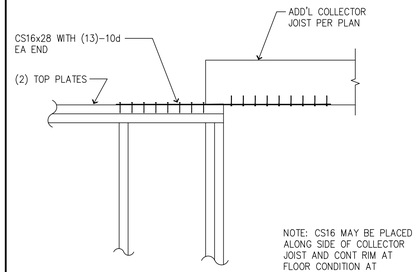
1. DIAPHRAGM BOUNDARY NAILING
2. PLYWOOD OR OSB, ONE OR TWO SIDES – SEE SCHEDULE.
3. WALL CHORD MEMBER – SEE SHEAR WALL SCHEDULE
4. AT SECOND STORY CONDITION PROVIDE TIES PER PLAN
5. FLOOR JOISTS – SEE PLAN
6. 2x STUDS AT 16" O.C. AT ALL SHEAR WALLS U.N.O.
7. SILL PLATE AND ANCHOR BOLTS PER SCHEDULE
8. HOLDOWNS AT SHEAR WALL ENDS AS SHOWN ON PLAN
9. FOOTING SIZE AND REINFORCING PER PLAN & DETAILS
10. DOUBLE STUD OR COLUMN – SEE PLAN
11. OPENING
12. HEADER – SEE PLAN
13. RIM JOIST OR S.O.G. – SEE PLAN, EDGE NAIL DIRECTLY TO P.T. SILL AT S.O.G. LOCATIONS.

10 TYPICAL SHEAR WALL ELEVATION



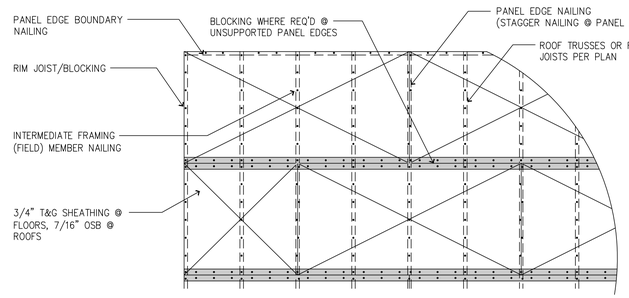
NOTE:
WHERE PLATE DISCONTINUITIES ARE CREATED BY BEAMS & PIPES, ETC. STRAP W/ (1)–SIMPSON CS16 x 28" W/ (13)–8d NAILS EA END AT EACH PLATE NOT ACHIEVING 4'–0" LAP UNLESS NOTED OTHERWISE

7 TYPICAL TOP CHORD SPLICE



NOTE: CS16 MAY BE PLACED ALONG SIDE OF COLLECTOR JOIST AND CONT RIM AT FLOOR CONDITION AT CONTRACTORS OPTION.

6 STRAP @ BEAM TO TOP PLATE

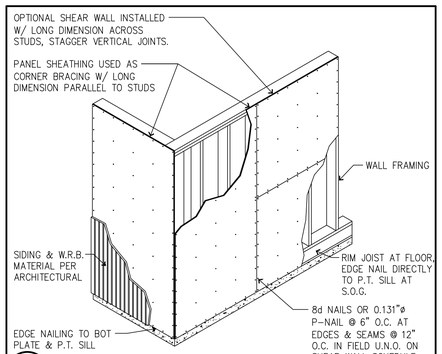


NOTES:

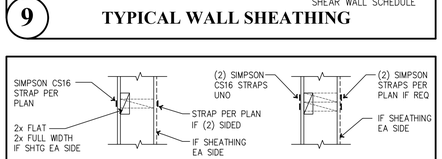
1) PROVIDE APA APPROVED GLUE, NAIL ALL SHEATHING TO JOISTS PER GENERAL NOTES ON S1.0.
2) STAGGER PANELS TO OFFSET JOINTS AS SHOWN.
3) WHERE BLOCKED DIAPHRAGM IS REQUIRED, PROVIDE TIMBER BLKG 2x4 FLAT (MIN) BELOW SHEATHING @ UNSUPPORTED EDGES W/ EDGE NAILING OR PROVIDE 3" x 27mil (22GA) x CONT STEEL STRAP W/ #8 SCREWS @ 6" O.C. TO EA UNSUPPORTED PANEL EDGE PER DETAIL 7/S1.3.

N.T.S.

3 TYPICAL HORIZONTAL SHEATHING DIAPHRAGM LAYOUT



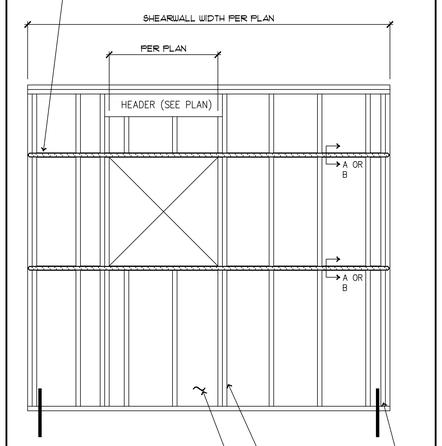
9 TYPICAL WALL SHEATHING



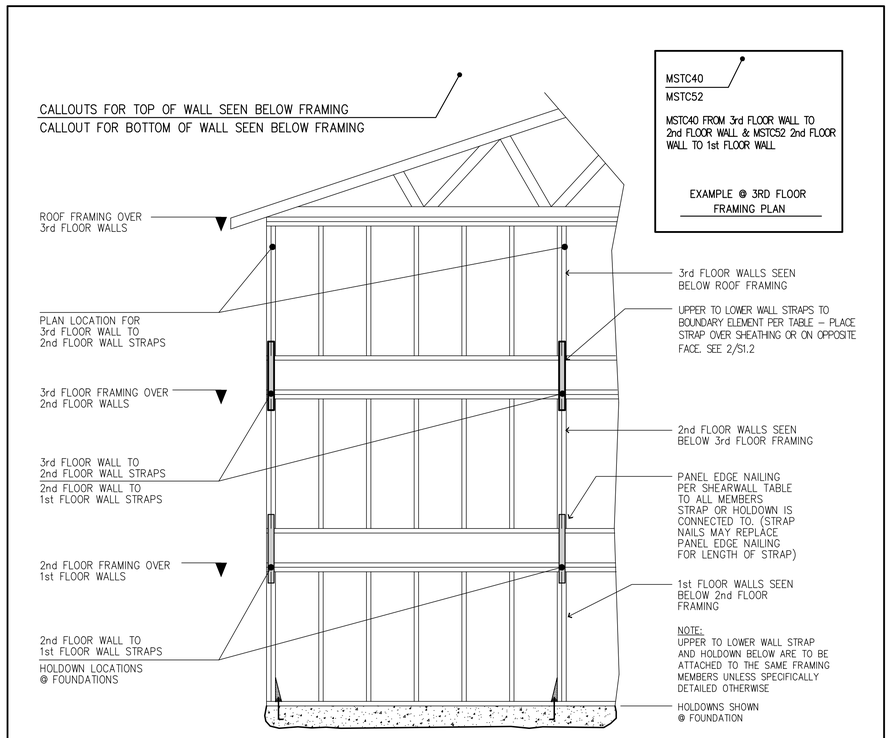
SINGLE STRAP CONNECTION **SECTION A**

DOUBLE STRAP CONNECTION **SECTION B**

CS16 STRAP MIN UNO PER PLAN @ TOP & BOTTOM OF WINDOW TO EXTEND FULL WIDTH OF SHEARWALL. STRAP TO BE APPLIED OVER THE SHEARWALL SHEATHING TO 2x_ BLKG AT WINDOW HEAD/SILL PLATES TYP. SEE SECTION A FOR SINGLE STRAP (1 OR 2 SIDED). WHERE (2) STRAPS IS CALLED OUT ON PLAN PROVIDE STRAPS PER PLAN SIDE BY SIDE @ HEAD & SILL OF OPENING FULL WIDTH OF SHEARWALL SEE SECTION B.

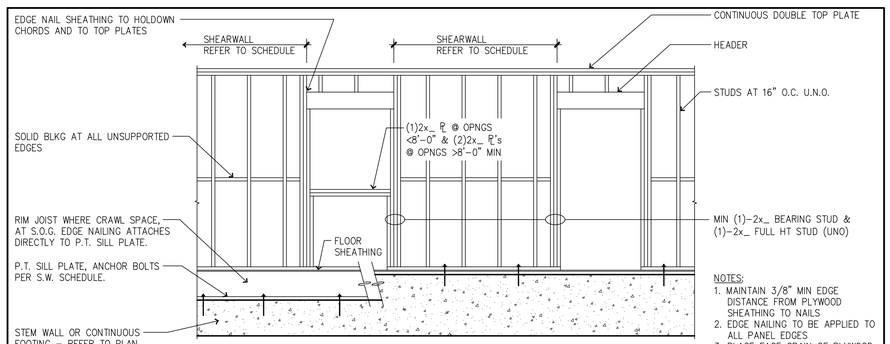


8 SPECIAL SHEARWALL WITH OPENINGS



NOTE:
UPPER TO LOWER WALL STRAP AND HOLDOWN BELOW ARE TO BE ATTACHED TO THE SAME FRAMING MEMBERS UNLESS SPECIFICALLY DETAILED OTHERWISE

5 UPPER TO LOWER WALL STRAP/HOLDOWN KEY



NOTES:

1. MAINTAIN 3/8" MIN EDGE DISTANCE FROM PLYWOOD SHEATHING TO NAILS
2. EDGE NAILING TO BE APPLIED TO ALL PANEL EDGES
3. PLACE FACE GRAIN OF PLYWOOD HORIZONTAL
4. FOR NON–SHEAR CHORD WALLS, USE SINGLE KING STUDS.

4 TYPICAL STUD AND SHEAR WALL

HOLDOWN TABLE

MARK	BOUNDARY ELEMENT 2x4 WALL	BOUNDARY ELEMENT 2x6 WALL	TOTAL FASTENERS	ANCHOR DIAMETER	ANCHOR EMBEDMENT	MIN EDGE DISTANCE WITHOUT ADD'L REINF
MST37	4x4 #2 HF	4x6 #2 HF	(20) 16d	N/A	N/A	N/A
MST48	4x4 #2 HF	4x6 #2 HF	(32) 16d	N/A	N/A	N/A
(2)MST48	4x6 #2 HF	6x6 #2 DF	(46) 16d	N/A	N/A	N/A
MST60	4x6 #2 HF	4x6 #2 HF	(64) 16d	N/A	N/A	N/A
(2)MST60	4x6 #2 HF	6x6 #2 DF	PER MFR	N/A	N/A	N/A
HDU2	4x4 #2 HF	4x6 #2 HF	PER MFR	5/8"	8"	4"
HDU4	4x4 #2 HF	4x6 #2 HF	PER MFR	5/8"	8"	4"
HDU5	4x6 #2 HF	4x6 #2 HF	PER MFR	5/8"	8"	8"
HDU8	4x6 #2 DF	6x6 #2 DF	PER MFR	7/8"	12"	8"
HDU11	4x6 #2 DF	6x6 #2 DF	PER MFR	1"	12"	12"
HDU14	**4x8 #2 DF**	6x6 #2 DF	PER MFR	1"	12"	16"

NOTES:

1) STRAP HOLDOWNS MAY BE APPLIED DIRECTLY TO BOUNDARY MEMBER ON OPPOSITE SIDE OF SHEATHING OR APPLIED DIRECTLY OVER PWD/OSB SHEATHING. DO NOT LOCATE STRAPS UNDER WOOD SHEATHING OF ANY TYPE OR OVER GYPSUM SHEATHING. (DO NOT INSTALL MSTC TYPE STRAPS OVER SHEATHING, SEE 4/S1.3)
2) NAIL SHEATHING PER SHEARWALL TABLE TO EACH BOUNDARY ELEMENT PER TABLE ABOVE.
3) ALIGN FLOOR TO FLOOR STRAPS WITH HOLDOWNS AT FOUNDATION, TYP. (SEE DETAIL 5/S1.2)
4) HOLDOWNS/STRAPS MUST BE ATTACHED TO FULL HEIGHT MEMBERS UNLESS NOTED OTHERWISE. BOUNDARY ELEMENTS ARE IN ADDITION TO TRIMMER/BEARING STUDS CALLED OUT ON PLAN. (SEE DETAILS 1,2 & 3/S1.3)
5) ANCHOR BOLTS SHALL BE CAST IN PLACE AND ALL ANCHORS EXCEPT HDU2 AND HDU4 REQUIRE ADDITIONAL REBAR IF EMBEDDED IN STEMWALLS OR IF MIN EDGE DISTANCE IS LESS THAN AS NOTED USE A STANDARD WASHER WITH A STANDARD NUT ON EACH SIDE AT BOTTOM OF ANCHOR. ADDITIONAL REINFORCEMENT SHALL BE PER DETAILS 1,2, & 3/S3.1.
6) THREADED RODS/ANCHORS ARE ASTM A307 OR ASTM F1554 U.N.O.
7) STRAPS/HOLDOWNS SHALL BE INSTALLED WITH THE FASTENERS SPECIFIED BY THE MANUFACTURER TO ACHIEVE THE MAXIMUM TABULATED LOAD & AS INDICATED IN THE TABLE ABOVE.
8) INSTALL HALF OF SPECIFIED FASTENERS EACH END OF STRAPS PER SIMPSON STRONGTIE.
9) SEE DETAIL 4/S1.3 FOR MSTC – HOLDOWN STRAPS FROM SHEARWALL TO BEAM & DETAIL 6/S1.3 FOR MSTC – HOLDOWN STRAPS @ END OF BEAM TO POST/COLUMN. (*) SYMBOL AT END OF MSTC STRAP CALLOUT (i.e. (2)MSTC48B3*) INDICATES STRAP IS INVERTED AND ATTACHES END OF BEAM TO POST BELOW PER 6/S1.3

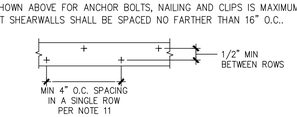
2

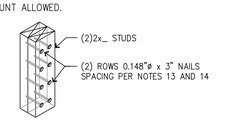
SHEARWALL COMPONENT TABLE

MARK	MARK 14	COMPONENTS	1/2" A.B. PL TO CONCRETE SPACING (IN)	5/8" A.B. PL TO CONCRETE SPACING (IN)	10d COMMON PL TO PL SPACING (IN)	SIMPSON A35 CLIP ANGLE SPACING (IN)	SIMPSON LTP4 CLIP ANGLE SPACING (IN)
W1	W1P	7/16" PWD OR OSB, BLOCKED, W/ 8d NAILS @ 6" O.C. @ PANEL EDGES AND @ 12" O.C. @ FIELD.	47" O.C.	68" O.C.	8.1" O.C.	30" O.C.	29" O.C.
W2	W2P	7/16" PWD OR OSB, BLOCKED, W/ 8d NAILS @ 4" O.C. @ PANEL EDGES AND @ 12" O.C. @ FIELD.	32" O.C.	47" O.C.	5.5" O.C.	20" O.C.	20" O.C.
W3	W3P	7/16" PWD OR OSB, BLOCKED, W/ 8d NAILS @ 3" O.C. @ PANEL EDGES AND @ 12" O.C. @ FIELD. SEE NOTE 2	25" O.C.	36" O.C.	4.3" O.C.	16" O.C.	15" O.C.
W4	W4P	7/16" PWD OR OSB, BLOCKED, W/ 8d NAILS @ 2" O.C. @ PANEL EDGES AND @ 12" O.C. @ FIELD. SEE NOTE 2	19" O.C.	28" O.C.	(2) ROWS 6.6" O.C. EA ROW	12" O.C.	12" O.C.
W5	W5P	7/16" PWD OR OSB, BLOCKED, W/ **10d NAILS** @ 2" O.C. @ PANEL EDGES AND @ 12" O.C. @ FIELD. SEE NOTE 2.	16" O.C.	23" O.C.	(2) ROWS 5.6" O.C. EA ROW	10" O.C.	10" O.C.
W6	W7P	15/32" PWD OR OSB, (2) LAYERS (ONE EACH SIDE), BLOCKED, W/ **10d NAILS** @ 3" O.C. @ PANEL EDGES AND @ 12" O.C. @ FIELD. SEE NOTE 2, 3 & 15	12" O.C.	18" O.C.	(2) ROWS 4.3" O.C. EA ROW	8" O.C.	8" O.C.
W7	W7P	15/32" PWD OR OSB, (2) LAYERS (ONE EACH SIDE), BLOCKED, W/ **10d NAILS** @ 2" O.C. @ PANEL EDGES AND @ 12" O.C. @ FIELD. SEE NOTE 2, 3, & 15	9" O.C.	14" O.C.	(2) ROWS 3" O.C. EA ROW STAGGERED	5" O.C.	5" O.C.

NOTES:

1. ALL NAILING PER ANSI/AF & PA SDPWS – 2018 TABLE 4.3A
2. USE 3x_ STUDS AT ALL ABUTTING PANEL EDGES. NAILS SHALL BE STAGGERED WHERE NAILS ARE SPACED AT 2" O.C..
3. IF CALLOUT REQUIRES BLOCKING, SHEATHING MAY BE PLACED WITH THE LONGITUDINAL DIRECTION VERTICAL. STUDS AND PLATES WILL BE CONSIDERED TO ACT AS BLOCKING.
4. WALL SHEATHING CALLED OUT SHALL EXTEND FOR ENTIRE WALL LENGTH AT THAT ELEVATION AND SHALL BE CONTINUOUS AROUND OPENINGS TYPICALLY.
5. 8d NAILS ARE TO BE .131"ø AND 2–1/2" IN LENGTH. 10d NAILS ARE TO BE .148"ø AND A MINIMUM OF 3" IN LENGTH. 16d NAILS ARE TO BE .162"ø AND 3–1/4" IN LENGTH. NAILS SHALL BE INSTALLED SO AS TO NOT SPLIT THE TIMBER FRAMING.
6. SIMPSON A35 OR LTP4 CLIP ANGLES SHALL BE INSTALLED WITH THE APPROPRIATE FASTENERS PER THE MANUFACTURER'S SPECIFICATIONS.
7. USE 3"x3"x0.229" PLATE WASHERS AT ALL ANCHOR BOLTS PER SECTION 4.3.6.4.3
8. SPACING SHOWN ABOVE FOR ANCHOR BOLTS, NAILING AND CLIPS IS MAXIMUM AMOUNT ALLOWED.
9. FRAMING AT SHEARWALLS SHALL BE SPACED NO FARTHER THAN 16" O.C..





10. MINIMUM NAIL SPACING IN A SINGLE ROW SHALL BE 4 INCHES ON CENTER. USE (2) ROWS IF SPACING LESS THAN THIS. USE 2ND RIM BOARD, RIM JOIST OR BLOCKING WHERE THREE ROWS OF NAILING CALLED OUT.
11. EXTEND SHEATHING UP TO DOUBLE TOP PLATES AND INSTALL NAILS THROUGH SHEATHING INTO UPPER TOP PLATE PER TYPICAL DETAILS. NO PLATE TO PLATE NAILING REQUIRED IN DOUBLE TOP PLATES WITH THIS CONFIGURATION.
12. OPTIONAL TO USE (2) 2x's IN PLACE OF SINGLE 3x IN SHEARWALLS W3, W4 AND W5 W/ STITCH NAILING.
13. (2) ROWS OF 0.148" x 3" STITCH NAILING (2)2x_ STUDS TOGETHER @ 10" O.C. FOR W3 SHW, 8" O.C. FOR W4 SHW & 6" O.C. FOR W5 SHW PER SECTION 4.37 NOTE 4.
14. THE "W_P" INDICATES SHEAR WALL TYPE WITH OPENINGS. PROVIDE SHEATHING AROUND ALL OPENINGS AND ABOVE AND BELOW ALL OPENINGS. PROVIDE HORIZONTAL STRAPS & NAILING AT OPENINGS PER 8/S1.2

1

City of Puyallup Development & Permitting Services ISSUED FOR PERMIT

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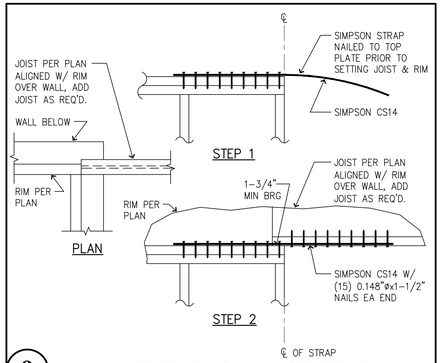
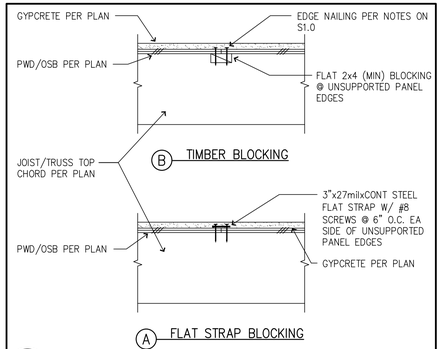
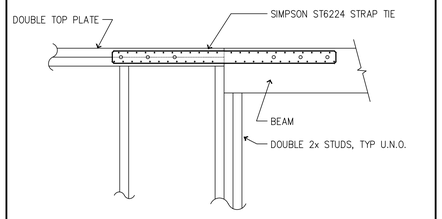
S1.2



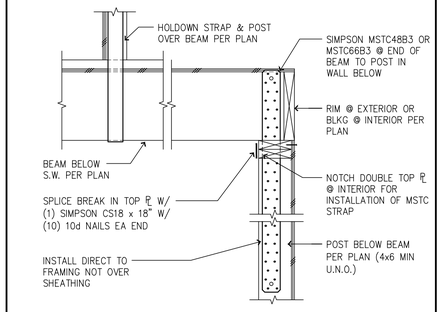
9 **JOIST TO WALL CONNECTION**



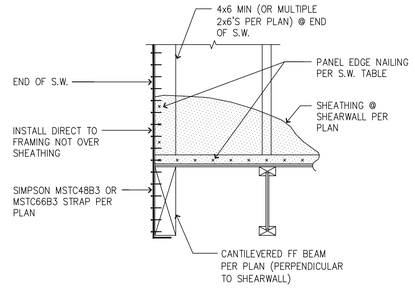
7 **BLOCKING OF DIAPHRAGMS**

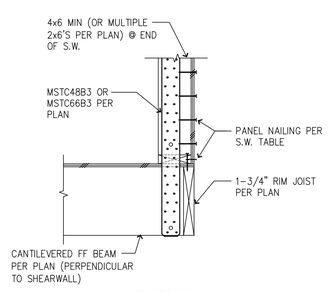


8 **TYPICAL BEAM TO FRAME**

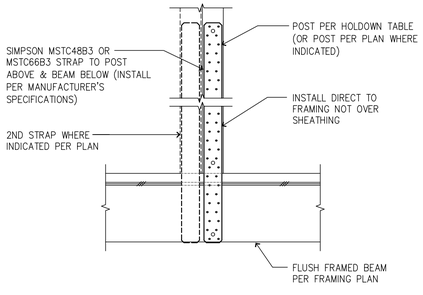


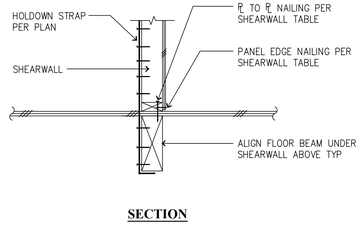
6 **TYPICAL HOLDOWN STRAP FROM BEAM TO POST BELOW**



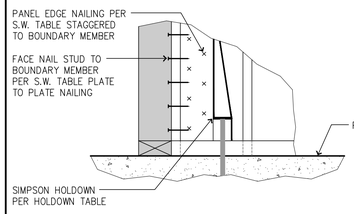


5 **HOLDOWN STRAP TO PERPENDICULAR BEAM**

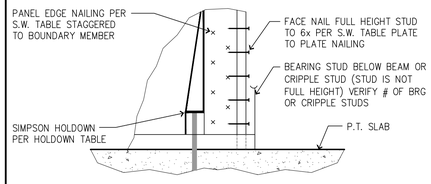




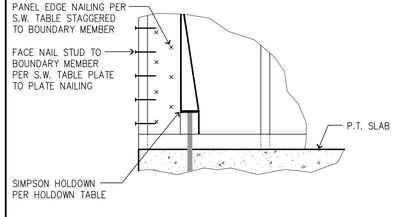
4 **TYPICAL HOLDOWN STRAP TO BEAM BELOW**



4C **INTERIOR CORNER CONDITION**

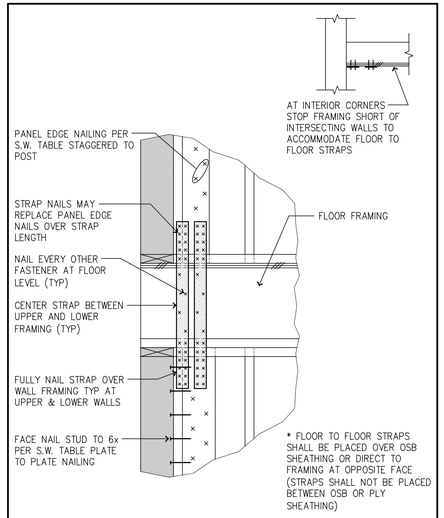


4B **SHEARWALL ADJACENT TO DOOR OR WINDOW**

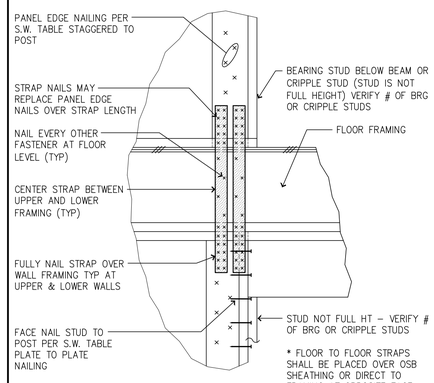


4A **EXTERIOR CORNER CONDITION**

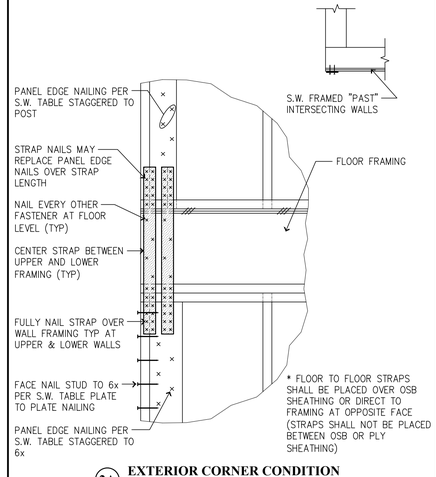
3 **FLOOR TO FOUNDATION HOLDOWN**



2C **INTERIOR CORNER CONDITION**

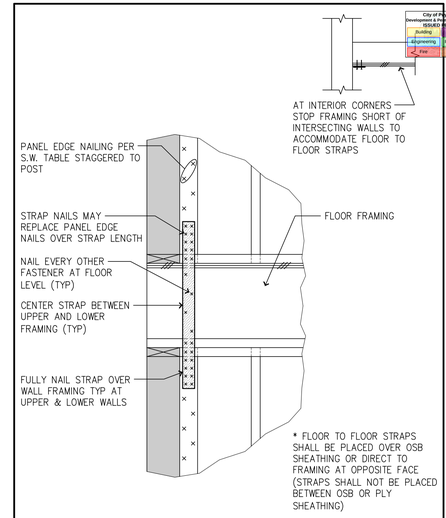


2B **SHEARWALL ADJACENT TO DOOR OR WINDOW**

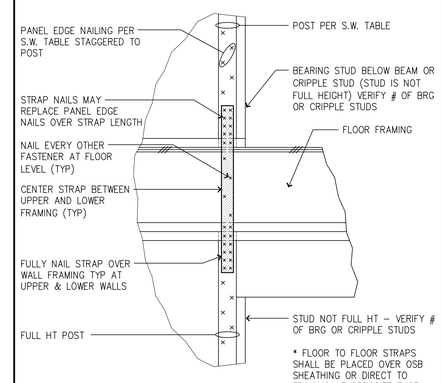


2A **EXTERIOR CORNER CONDITION**

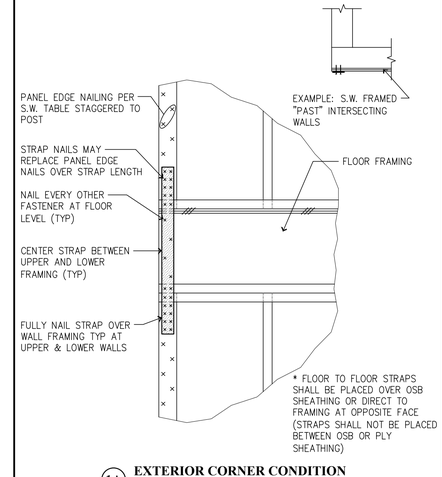
2 **DOUBLE FLOOR TO FLOOR STRAP**



1C **INTERIOR CORNER CONDITION**



1B **SHEARWALL ADJACENT TO DOOR OR WINDOW**



1A **EXTERIOR CORNER CONDITION**

1 **SINGLE FLOOR TO FLOOR STRAP**

4-24-25

THOMAS L. CHASE, PE
MARTIN R. OMAN, PE, SE
OLEG G. KONDRATYUK, PE

Revisions to this sheet:

PRCNC20240278

Bradley Heights Apartments
202 27th Ave SE
Puyallup, Washington

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A Structural Engineering Corporation
Puyallup, Washington 98374
Ph 253-314-9822
www.solutions4structures.com

PROJECT NO. : 23.007
DESIGNED BY : TLC, OGK, MRO
DRAWN BY : RSO
ISSUE DATE : 2-20-24
LATEST REV. OF DWG. SET : 4 4-24-25

SUBMITTAL SET ONLY NOT FOR CONSTRUCTION
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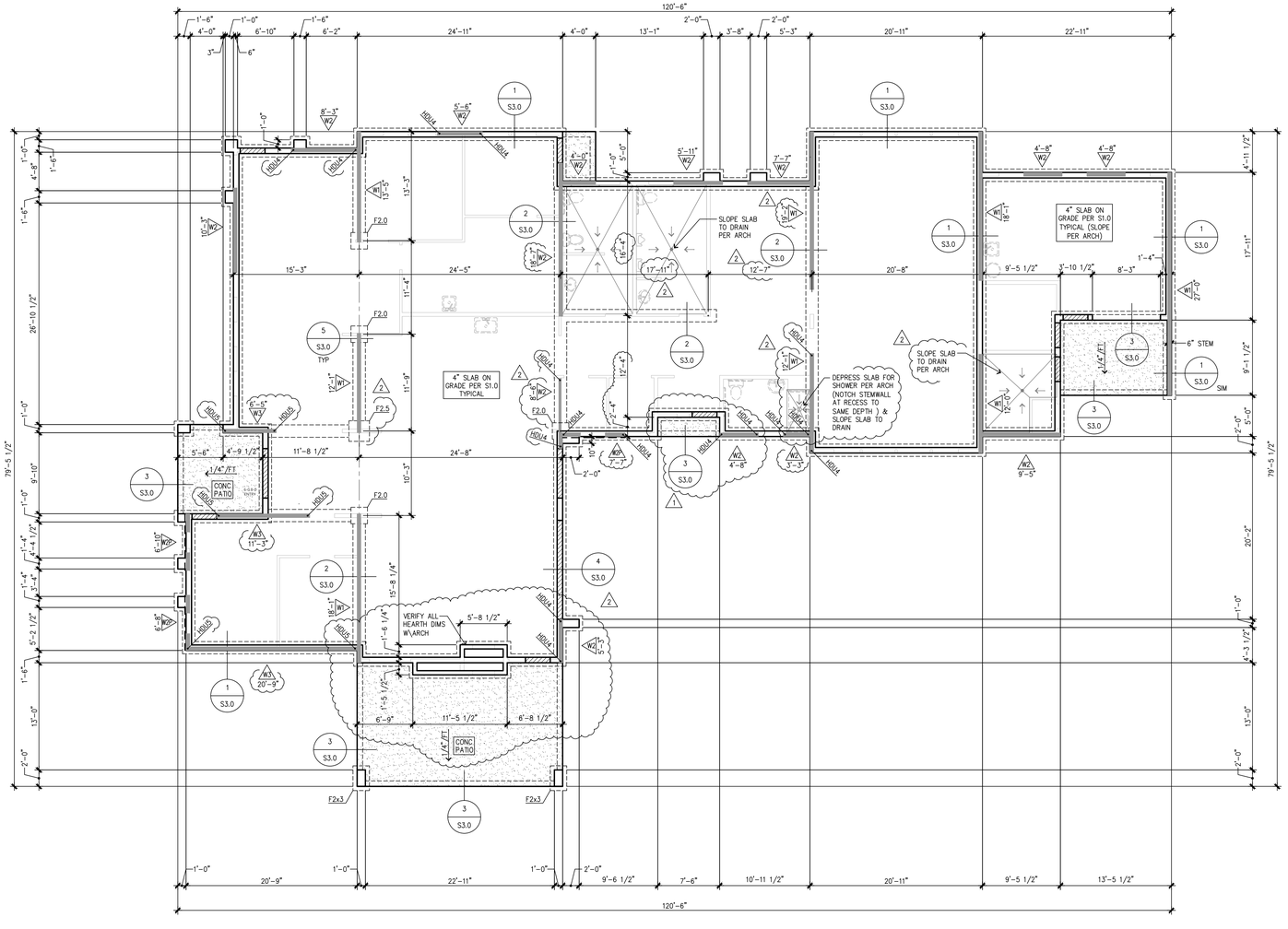
S1.3

Foundation Notes

1. TYPICAL DIMENSIONS ARE TO FACE OF WALL OR TO CENTERLINE OF COLUMN OR FOOTING. VERIFY ALL DIMENSIONS & ELEVATIONS WITH THE ARCHITECT.
2. PROVIDE FOOTING SUBSTRATE PREPARATION PER THE SOILS REPORT.
3. F-.- INDICATES ISOLATED FOOTING TYPICAL ISOLATED FTG SHALL BE CONSTRUCTED PER FOOTING SCHEDULE 5/S3.0.
4. EXTEND ALL CONTINUOUS FOOTINGS AT END WALLS 1'-0" MIN. BEYOND END OF ALL BEARING WALLS & SHEARWALLS. (TYPICAL) UNO
5. ALL EXTERIOR WALLS SHALL HAVE AN 8" STEMWALL AND A 18" WIDE x 8" DEEP FOOTING W/ STEEL REINFORCING 3" CLR. OF SOIL UNLESS NOTED OTHERWISE
6. ADD STRIP DRAINS AT FACE OF BUILDINGS WHEN WALKS SLOPE TOWARD BUILDING, CONNECT TO TIGHTLINE.
7. PROVIDE #4-24" x 24" CORNER BARS TO MATCH ALL HORIZONTAL REINFORCEMENT IN STEMWALLS AND FOOTINGS. (TYPICAL)
8. FLOOR SLABS - 4" CONC. SLAB ON GRADE 6x6 - W1.2xW1.2 WWF @ CENTER-LINE OR FIBER MESH PER MANUFACTURER OVER SUBSTRATE PER SOILS ENGINEER, USE WWF WHERE INDICATED. PROVIDE CONTROL JOINTS PER DETAIL 15/S3.0 AT THE DIRECTION OF THE ARCHITECT.
9. ENTRY SLABS - 4" CONC. SLAB (BROOM FINISH)
10. PATIO SLABS - 4" CONC. W/ THICKENED EDGES. SLOPE AWAY FROM BUILDING AT 1/4"/FT. SEE 3/S3.0
11. ALL THICKENED SLABS FOR BEARING WALLS AND PARTY WALLS SHALL BE 18" WIDE x 12" DEEP W/ (2) #4 BARS CONTINUOUS UNLESS NOTED OTHERWISE. DEEPEN LOCALLY AT HOLDOWNS TO OBTAIN EMBEDMENT DEPTH +3" MIN.
12. ALL THICKENED EDGE SLABS SHALL BE 8" WIDE x 8" DEEP W/ (1) #4 BAR CONTINUOUS (3" FROM BOTTOM) UNLESS NOTED OTHERWISE. SEE 3/S3.0.
13. ⟨*⟩ DENOTES THE SHEARWALL TYPE, SEE THE SHEARWALL TABLE ON SHEET S1.2 ═══ INDICATES SHEARWALL LOCATION, THE CALLOUTS ON THE SHEARWALL TABLE APPLY ONLY ALONG THE LENGTH OF WALL SHOWN SHADED. PROVIDE SOLID BLOCKING IN FLOOR SPACE BELOW PERPENDICULAR SHEARWALLS.
    ⟨W.S.⟩ INDICATES SHEAR WALL TYPE WITH OPENINGS. PROVIDE SHEATHING AROUND ALL OPENINGS AND ABOVE AND BELOW ALL OPENINGS. PROVIDE HORIZONTAL STRAPS & NAILING AT OPENINGS PER 8/S1.2
14. HDU/ INDICATES HOLDOWN, SEE 2/S1.2 FOR HOLDOWN TABLE & UPPER TO LOWER WALL STRAPS HOLDOWN/KEY.
15. VERIFY ALL TOP OF SLAB ELEVATIONS AND BUILDING STEPS WITH ARCH/CIVIL PLANS TYPICAL.
16. TYPICAL PERIMETER FOOTING SHALL BE LOCATED A MIN. 18" BELOW GRADE OR AS REQUIRED BY LOCAL JURISDICTION.
17. SEE DETAILS FOR TYPICAL STEMWALL/FOOTING & THICKENED SLAB CONSTRUCTION.
18. T.O.W. = TOP OF STEMWALL
    T.O.F. = TOP OF FOOTING
    T.O.S. = TOP OF SLAB
19. SEE THE GENERAL STRUCTURAL NOTES ON SHEET S1.0 FOR ADDITIONAL INFORMATION.
20. VERIFY WITH CIVIL GRADING PLAN FOR GARAGE SLAB ELEVATION @ GARAGE DOORWAY.
21. DEEPEN FOOTINGS AS NECESSARY TO MAINTAIN MINIMUM COVER. COORDINATE WITH CIVIL GRADING PLAN FOR GRADE CONDITIONS.
22. ////// INDICATES DEPRESSED TOP OF STEMWALL AT DOORWAY. POUR SLAB OVER SEE 4/S3.0.
23. ALL INTERSECTING FOOTINGS / STEM WALLS SHALL HAVE CORNER BARS TO MATCH HORIZ REINFORCEMENT SEE 10/S3.0



Foundation Plan - Clubhouse

SCALE 1/8"=1'-0"

City of Puyallup Development & Permitting Services
ISSUED PERMIT
Building | Planning
Engineering | Public Works
Fire | Traffic
4-24-25

THOMAS L. CHASE, PE
MARTIN R. OMAN, PE, SE
OLEG G. KONDRATYUK, PE

Revisions to this sheet:

1 8-30-24 PERMIT CORRECTIONS & OWNER CHANGES
2 4-24-25 PERMIT CORRECTIONS & OWNER CHANGES

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DRAWN BY	:	RSO
ISSUE DATE	:	2-20-24
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S2.21

Floor & Roof Framing Notes

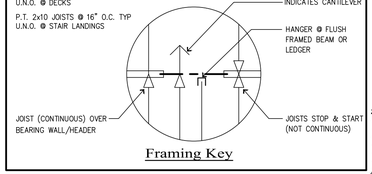
1. ROOF AND FLOOR JOIST LOCATIONS ARE SCHEMATICALLY SHOWN ON THE PLANS. IT IS NOT THE INTENT OF THE STRUCTURAL PLANS TO GRAPHICALLY LOCATE ALL FRAMING MEMBERS. THE ARCHITECT SHALL VERIFY THE COMPATIBILITY OF JOIST LAYOUT AND FRAMING W/ MECHANICAL, ELECTRICAL & PLUMBING AND ARCHITECTURAL PLANS. THE CONTRACTOR IS RESPONSIBLE FOR SPACING FRAMING MEMBERS AS NOTED ON THE PLANS AND GENERATING MEMBER LAYOUT FOR SHOP DRAWINGS AND QUANTITY TAKEOFFS.
2. FOR ALL UNITS TYPES SEE WALL STUD SCHEDULE FOR BEARING WALL STUD REQUIREMENTS. ALL OTHER NON-BEARING 2x4 & 2x6 WALLS ARE AT 16" O.C.
3. THE TRUSS AND JOIST MANUFACTURER SHALL VERIFY BEARING COMPATIBILITY (CRUSHING) WITH THE PLATE MATERIAL. TYPICALLY, COMPOSITE BEAMS SHALL BE FULLY BEARING ON 2x_ WALLS. I.E. BREAK RIM OR BLOCKING TO ALLOW FULL BEARING OVER PLATES.
4. PLACE LONG DIRECTION OF ALL OSB SHEETS PERPENDICULAR TO TRUSS/RAFTER OR JOIST DIRECTION, SEE DETAIL 3/S1.2. FLOOR SHEATHING IS TO BE CONTINUOUS FROM UNIT TO UNIT. TYPICAL NAILING AT FLOOR AND ROOF DIAPHRAGMS IS PROVIDED IN THE GENERAL STRUCTURAL NOTES ON SHEETS S1.0.
5. W — DENOTES THE SHEARWALL TYPE, SEE THE SHEARWALL TABLE ON SHEET S1.2 ═══ INDICATES SHEARWALL LOCATION, THE CALLOUTS ON THE SHEARWALL TABLE APPLY ALONG THE LENGTH OF WALL SHOWN SHADED. PROVIDE SOLID BLOCKING IN FLOOR SPACE BELOW PERPENDICULAR SHEARWALLS.
   W1 INDICATES SHEAR WALL TYPE WITH OPENINGS. PROVDE SHEATHING AROUND ALL OPENINGS AND ABOVE AND BELOW ALL OPENINGS. PROVIDE HORIZONTAL STRAPS & NAILING AT OPENINGS PER 8/S1.2
6. THE DOUBLE TOP PLATE IS TO BE CONTINUOUS ALONG ALL EXTERIOR WALLS AND AT ALL WALL LINES CONTAINING SHEARWALLS. TYPICAL WALL TOP PLATE SPLICES SHALL BE PER DETAIL 7/S1.2 TYP.
7. WHERE COMPOSITE JOISTS AND BEAMS ARE USED AS DRAG STRUTS THE MANUFACTURER SHALL PROVIDE THE FRAMING MEMBERS WITH THE CAPACITY CALLED OUT ON THE PLANS.
8. TYPICAL FLOOR JOISTS SHALL BE 2x12 HF#2 MIN @ 16" O.C. TYP U.N.O. THE MANUFACTURER SHALL BE RESPONSIBLE FOR ALL JOIST AND BEAM HANGERS, WEB STIFFENERS, SOLID BLOCKING, AND ADDITIONAL RIM OR JOIST MATERIAL TO ACCOMMODATE FLUSH-FRAMED CONDITIONS (F.F.), CANTILEVERED CONDITIONS, CONCENTRATED BEARING LOADS AND NAILING FROM SHEARWALLS ABOVE AND BELOW.
9. F.F. = FLUSH-FRAMED BEAM. VERIFY FLUSH OR DROPPED BEAM CONDITION PER ARCHITECT.
10. ALL BEAMS PER SCHEDULE U.N.O. ALL NON BEARING BEAMS SHALL BE A MIN OF (2)2x8 U.N.O. ALL OTHER BEAMS ARE AS MARKED ON PLANS.
11. AT ALL BEAM BEARING/JAMB LOCATIONS, AT MINIMUM PROVIDE BEARING (TRIMMER) STUDS AND FULL HEIGHT (KING) STUDS PER THE JAMB STUD SCHEDULE FOR EACH BUILDING. IF NO CALLOUT, PROVIDE (1) 2X_ BEARING AND (1) 2X_ FULL HEIGHT STUD MINIMUM.
12. EXPOSED FRAMING SHALL BE PRESSURE TREATED (P.T.) VERTICAL & HORIZONTAL FRAMING @ WATERPROOFED WALKWAYS AND PRIVATE DECKS. ALL EXPOSED BEAM HANGERS SHALL BE POST HOT-DIPPED GALVANIZED AND HAVE CONCEALED FLANGES, VERIFY W/ ARCHITECT. SEE NOTE ON SHEET S1.0
13. FOR TYPICAL HOLDOWN ASSEMBLIES SEE THE HOLDOWN TABLE ON 2/S1.2 AND DETAILS ON SHEET S3.0.
14. SEE ARCHITECTURAL PLANS FOR STAIR FRAMING DETAILS & STAIR FRAMING DETAILS AND NOTES, CONTROL JOINTS IN CONCRETE FLOORING AND ROOF VENTILATION REQUIREMENTS AND DETAILS.
15. SEE CIVIL AND ARCHITECTURAL PLANS FOR TOP OF WALL HEIGHTS AND ELEVATIONS. SEE ARCHITECTURAL PLANS FOR DIMENSIONS. WHERE DIMENSIONS ARE SHOWN ON THE STRUCTURAL PLANS, CONTRACTOR SHALL VERIFY COMPATIBILITY W/ ARCHITECTURAL PLANS. WHERE DISCREPANCY EXISTS, CONTRACTOR SHALL NOTIFY BOTH THE ENGINEER AND ARCHITECT FOR CLARIFICATION.
16. WINDOW SUPPLIER TO VERIFY THAT WINDOW AND WINDOW FRAMES TRANSFER WIND LOADS EVENLY TO STRUCTURAL FRAMING ON ALL 4 SIDES OF WINDOW. WINDOW SUPPLIER TO VERIFY MINIMUM .005*H STORY DRIFT TOLERANCE IN PLANE OF ALL WINDOWS AND ALLOW FOR L/240 DEFLECTION (PERPENDICULAR) AT WINDOW MULLIONS.
17. SEE GENERAL STRUCTURAL NOTES ON S1.0 TO S1.3 FOR ADDITIONAL INFORMATION.
18. LEGEND:
    - ═══ INDICATES BEAM / GIRDER TRUSS PER PLAN SEE FRAMING PLANS
    - ◄═══ INDICATES HANGER PER MANUFACTURER
    - GT INDICATES GIRDER TRUSS PER PLAN
    - ═╪═ INDICATES JOIST / TRUSS BEARING @ WALL / BEAM
    - ═┼═ INDICATES JOIST / TRUSS INTERMEDIATE BEARING @ WALL / BEAM
    - INDICATES TYPICAL TOILET, BATHTUB & SHOWER LAYOUT. CONTRACTOR TO COORDINATE JOIST LAYOUT WITH FIXTURE LOCATIONS TO AVOID PLUMBING & FRAMING CONFLICTS.
19. INDICATES ROOF OVERFRAMING – SEE DETAILS 5/S5.0
20. PROVIDE WALL FIREBLOCKING @ DROPPED SOFFITS SHOWN ON ARCH.
21. PROVIDE WALL BLOCKING FOR ALL WALL MOUNTED EQUIPMENT (SUCH AS TOWEL BARS, GRAB BARS, TOILET PAPER HOLDERS, DOOR STOPS, ETC.).
22. LFA INDICATES – LOAD FROM ABOVE
23. FF INDICATES FLUSH FRAMED BEAM
24. HD INDICATES STRAP HOLDOWN, SEE SHEET 2/S1.2 FOR HOLDOWN TABLE & UPPER TO LOWER WALL STRAP/HOLDOWN KEY.
25. REFER TO ARCHITECTURAL DRAWINGS FOR ALL FLOOR ELEVATIONS.
26. SIMPSON STRONG TIE PRODUCTS ARE CALLED OUT ON THE DRAWINGS. HOWEVER, EITHER SIMPSON OR KC METALS PRODUCTS MAY BE USED PROVIDED IT HAS SAME OR GREATER CAPACITY.

NOTE:
ALL JOISTS ARE 2x12 HF#2 MIN @ 16" O.C. TYPICAL U.N.O. USE FACE MOUNT HANGER @ F.F. COND U.N.O.

NOTE:
P.T. 2x8 JOISTS @ 16" O.C. TYP U.N.O. @ DECKS

P.T. 2x10 JOISTS @ 16" O.C. TYP U.N.O. @ STAIR LANDINGS

NOTE:
ALL MULTIPLE 2x HEADERS HF #2 U.N.O.
ALL 4x HEADERS HF #2 U.N.O.
ALL 6x HEADERS/BEAMS D.F.#2 U.N.O.
ALL EXPOSED 6x BEAM / POSTS H.F. #1
P.T. HEM-FIR TREATED PER ARCH. U.N.O.



Framing Key

SEE SHEET S1.2 FOR SHEARWALL AND HOLDOWN TABLES

Beam Schedule

MARK	BEAM SIZE
B1	4x8
B2	4x10
B3	6x10 DF #2
B4	3-1/8 x 10-1/2 GLB
B5	P.T. 4x8
B6	P.T. 4x10
B7	P.T. 6x10 HF#1
B8	P.T. 3-1/8 x 10-1/2 GLB
B9	P.T. 5-1/8 x 10-1/2 GLB
B10	5-1/8x10-1/2 GLB OR 5-1/4x11-7/8 PSL
B11	4x12 OR 3-1/2x11-7/8 LSL

Jamb Stud Schedule

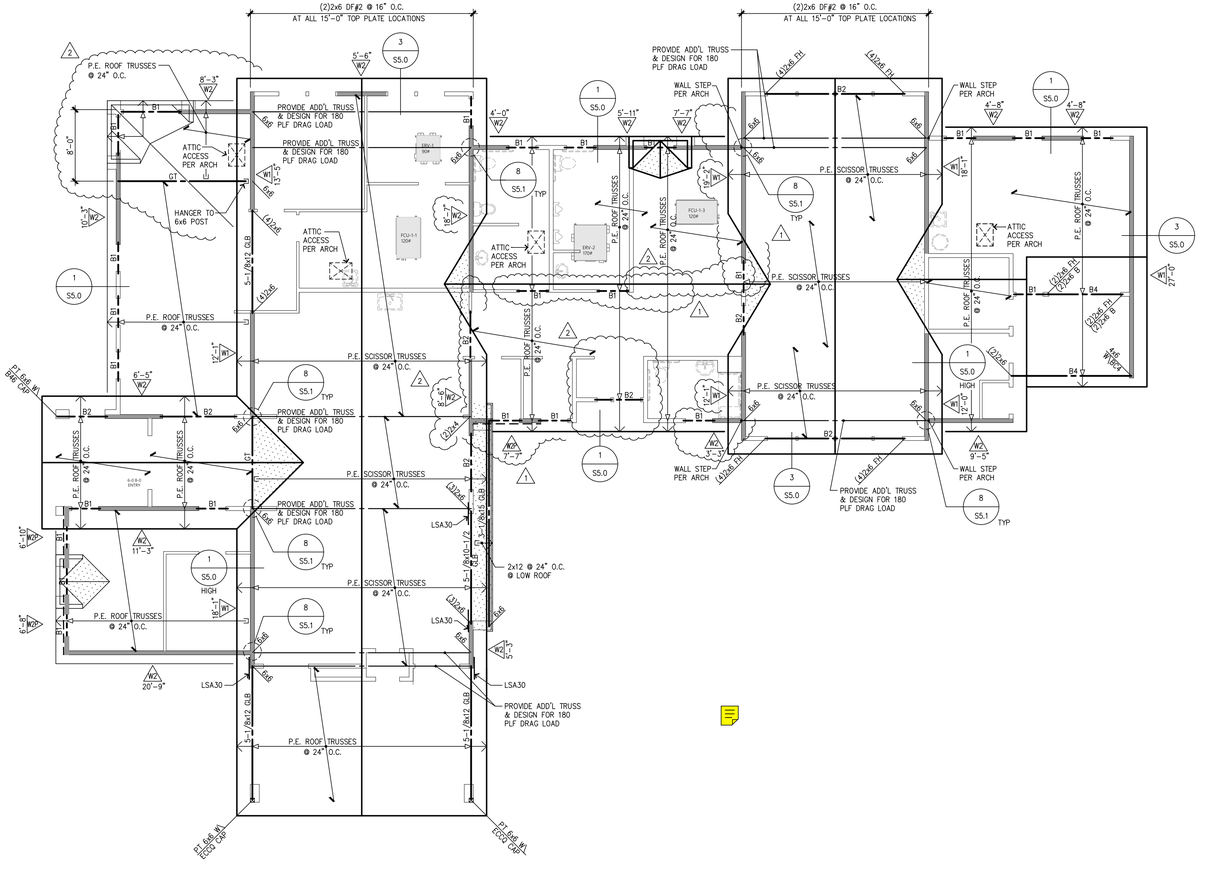
TYPE	C1	C2	C3	C4	C5	C6	–	–
BEARING/FULL HT STUDS	1/2	1/3	2/1	2/2	2/3	2/4	–	–

NOTE: STUD SIZE SHOULD MATCH WALL SIZE PER PLAN.

Wall Stud Schedule

FRAMING LEVEL	2x6 EXTERIOR	2x6 BRG INT @ SINGLE WALL	2x6 BRG INT @ PARTY WALLS	2x4 BRG @ SINGLE WALL	2x4 BRG @ PARTY WALLS
ROOF	2x6 @ 16" O.C.	2x6 @ 16" O.C.	2x6 @ 16" O.C.	2x4 HF#2 @ 16" O.C.	2x4 HF#2 @ 16" O.C.
3RD	2x6 @ 16" O.C.	2x6 @ 16" O.C.	2x6 @ 16" O.C.	2x4 HF#2 @ 16" O.C.	2x4 HF#2 @ 16" O.C.
2ND	2x6 @ 16" O.C.	2x6 @ 16" O.C.	2x6 @ 16" O.C.	(2)2x4 HF#2 @ 16" O.C.	2x4 HF#2 @ 16" O.C.
BASEMENT	2x6 @ 16" O.C.	2x6 @ 12" O.C.	2x6 @ 16" O.C.	(2)2x4 HF#2 @ 12" O.C.	2x4 HF#2 @ 16" O.C.

NOTES:
1. ALL STUD MATERIAL SHALL BE HEM FIR STUD GRADE OR BETTER UNLESS NOTED OTHERWISE AND PLATE MATERIAL SHALL BE HEM FIR STANDARD OR BETTER UNLESS NOTED OTHERWISE.
2. STUDS CALLED OUT IN THIS SCHEDULE ARE FOR WALL SUPPORTING THE FRAMING LEVEL INDICATED, THAT IS WALLS BELOW THE FRAMING LEVEL SHOWN.
3. THIS SCHEDULE COVERS BUILDING UNITS 3 STORIES IN HEIGHT. FIRST, DETERMINE THE NUMBER OF STORIES FOR THE UNIT, SECOND, DETERMINE THE FRAMING LEVEL, THIRD, READ SCHEDULE HORIZONTALLY FOR THE WALL LOCATION.



Roof Framing Plan - Clubhouse

SCALE 1/8"=1'-0"

City of Puyallup Development & Permitting Services ISSUED PERMIT — Building — Planning — Engineering — Public Works — Fire — Traffic — 4-24-25

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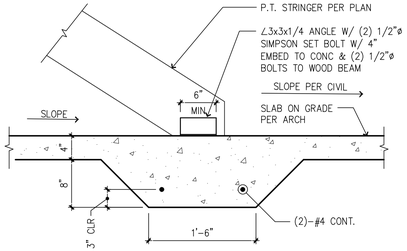
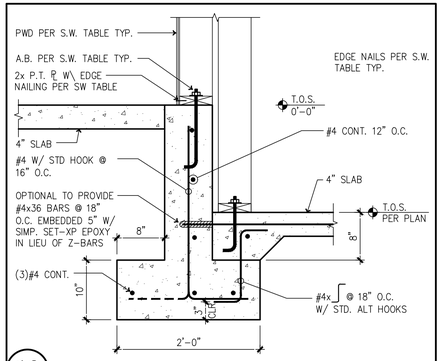
S2.22

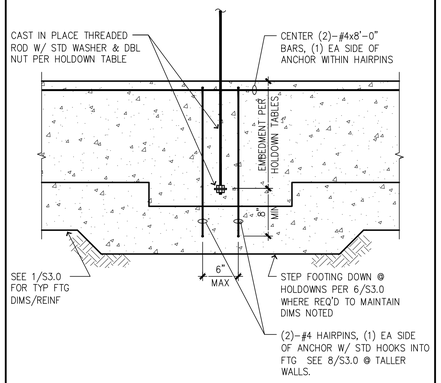


* THICKENED EDGE TYPICAL @ STAIR ENTRY

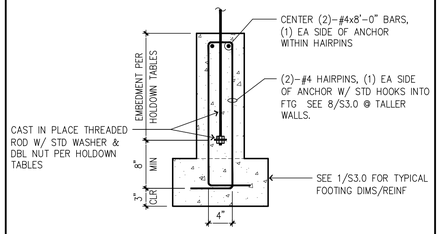
16 FOOTING AT STAIR BASE



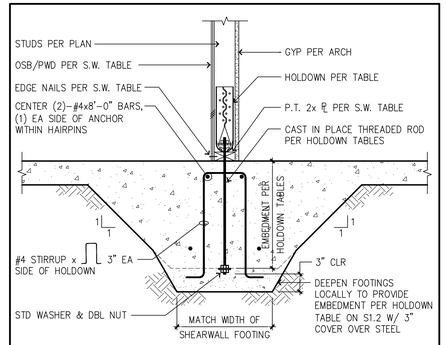
13 STEP AT PARTY WALL



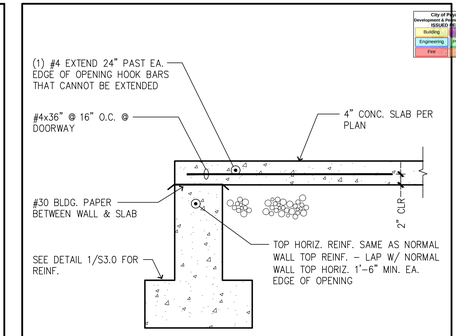
*NO EXTRA REINFORCEMENT REQUIRED AT HDU2 + HDU4 WITH MINIMUM EDGE DISTANCE PER HOLDOWN TABLE.



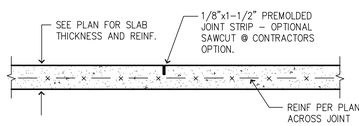
9 ANCHORS @ SHORT STEM WALL CONDITION



7 HOLDOWNS @ THICKENED SLAB FOOTINGS



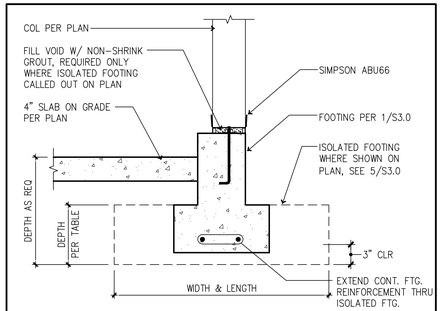
4 SECTION @ DOORWAY



PROVIDE CONTROL OR CONSTRUCTION JOINTS IN SLAB ON GRADE AS SHOWN ON PLANS OR AS APPROVED BY THE ARCHITECT. JOINTS SHALL BREAK SLAB INTO RECTANGULAR AREAS OF 400 S.F. OR LESS. AREAS TO BE LESS THAN 2:1 (LENGTH/WIDTH) RATIO AND HAVE NO ACUTE ANGLES.

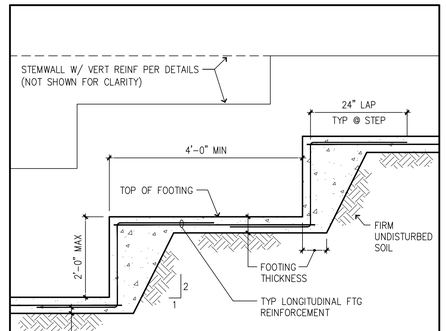
15 CONTROL JOINT

N.T.S

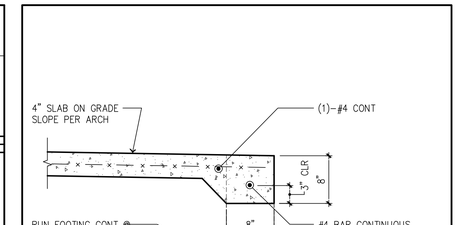


ISOLATED FOOTING

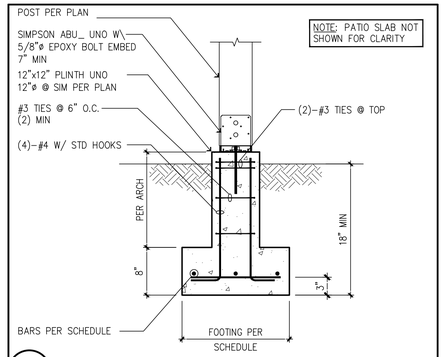
12 TYP. POST TO STEM WALL CONN.



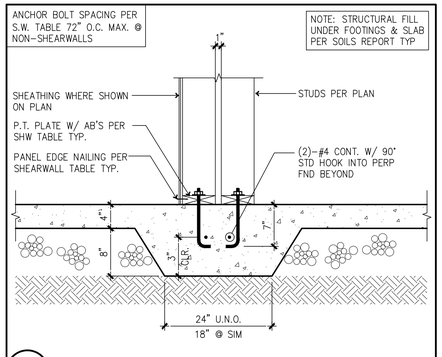
6 REINFORCED STEPPED FOUNDATION



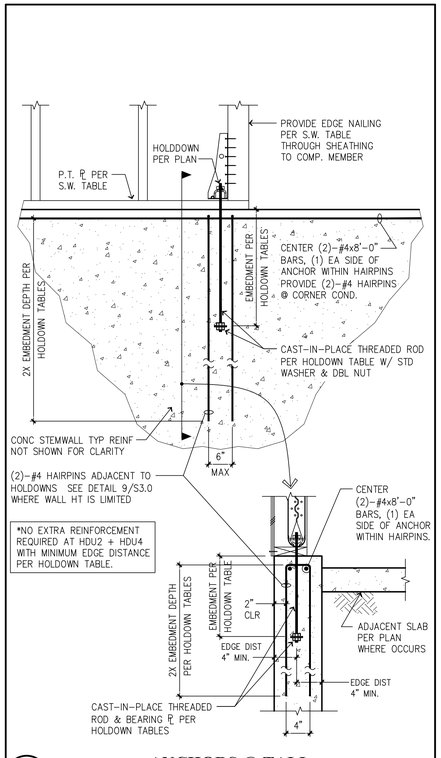
3 THICKENED SLAB EDGE



14 ISOLATED FOOTING AT EXTERIOR

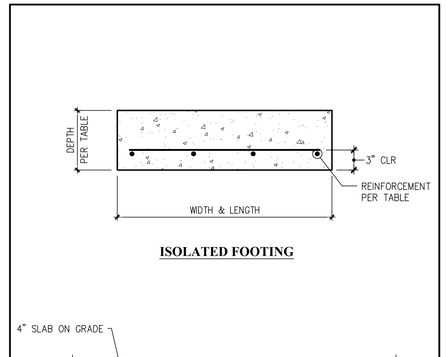


11 INTERIOR FOOTING AT PARTY WALL

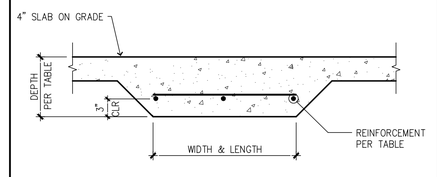


*NO EXTRA REINFORCEMENT REQUIRED AT HDU2 + HDU4 WITH MINIMUM EDGE DISTANCE PER HOLDOWN TABLE.

8 ANCHORS @ TALL STEMWALL CONDITION



ISOLATED FOOTING

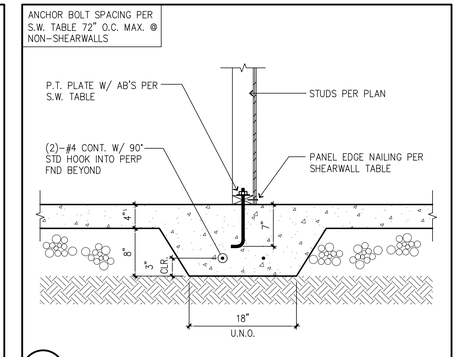


THICKENED SLAB

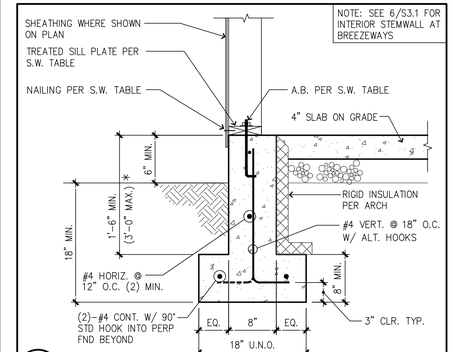
MARK	WIDTH OR LENGTH	DEPTH	REINFORCEMENT
F2.0	2'-0"x2'-0"	10"	(3)-#4 BARS EA WAY
F2.5	2'-6"x2'-6"	10"	(3)-#4 BARS EA WAY
F2.5x3.0	2'-6"x3'-0"	10"	(3)-#4 BARS EA WAY
F3.0	3'-0"x3'-0"	12"	(3)-#4 BARS EA WAY
F3.5	3'-6"x3'-6"	12"	(4)-#4 BARS EA WAY
F4.0	4'-0"x4'-0"	14"	(4)-#4 BARS EA WAY

* DEEPEN FOOTING LOCALLY AS REQUIRED FOR HOLDOWNS TO EQUAL ANCHOR EMBEDMENT +3" CLEAR MIN

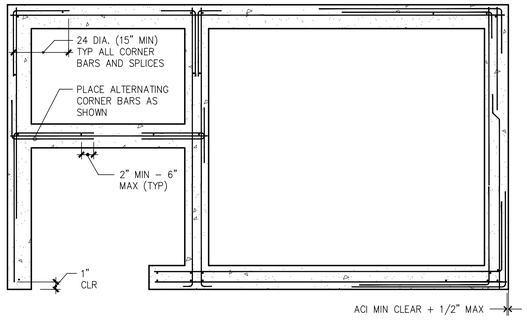
5 FOOTING SCHEDULE



2 INTERIOR FOOTING



1 TYPICAL EXTERIOR STEMWALL



10 TYPICAL REINFORCEMENT PLACEMENT DIAGRAM

N.T.S

NOTES:

1. VERTICAL REINF SHOWN IS ADDED IF NORMAL WALL REINF IS NOT IN PROPER LOCATIONS.
2. CORNER BARS ARE SAME SIZE AND SPACING AS HORIZ REINF
3. 90° HOOKS MAY BE SUBSTITUTED FOR CORNER BARS (SEE NOTE 5).
4. REINF AT ALL WALL CORNERS, ENDS AND INTERSECTIONS SHALL BE FABRICATED AND PLACED IN ACCORDANCE WITH APPROPRIATE DETAIL SHOWN.
5. USE ACI MIN 90° HOOK FOR EMBEDMENT LESS THAN 24 DIAMETERS PAST FACE OF WALL.
6. CONCRETE WALLS SHOWN; MASONRY WALLS SIMILAR.
7. WALL DETAILS SHOWN; FTG DETAILS SIMILAR.
8. VARIOUS WALL SECTIONS AND INTERSECTIONS SHOWN; USE APPROPRIATE DETAILS.
9. ALL BENDS SHALL BE PER ACI

Solutions 4 Structures Inc. *A Structural Engineering Corporation*

City of Puyallup Development & Permitting Services
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Building | Planning
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4-24-25

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Revisions to this sheet:

PRCNC20240278

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DESIGNED BY : TLC, OGK, MRO
DRAWN BY : RSO
ISSUE DATE : 2-20-24
LATEST REV. OF DWG. SET : 4-24-25

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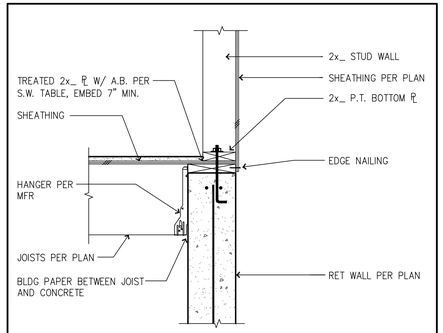
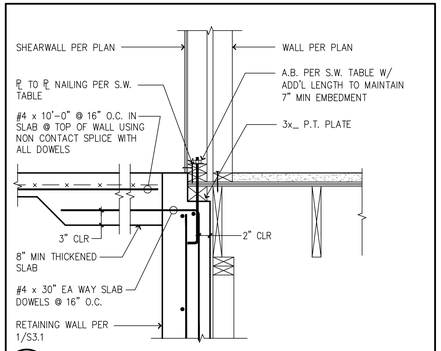
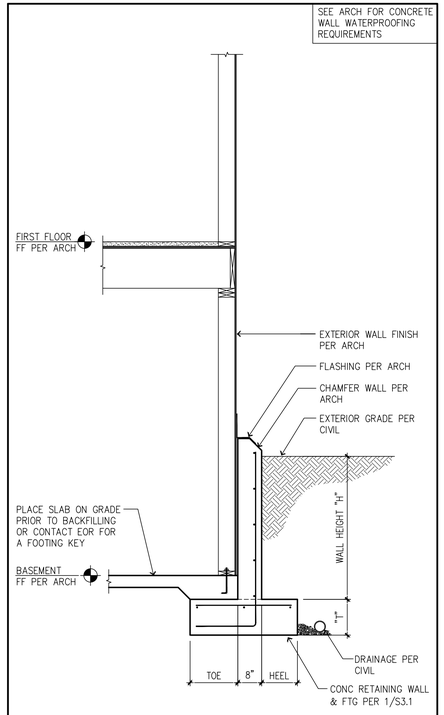
S3.0



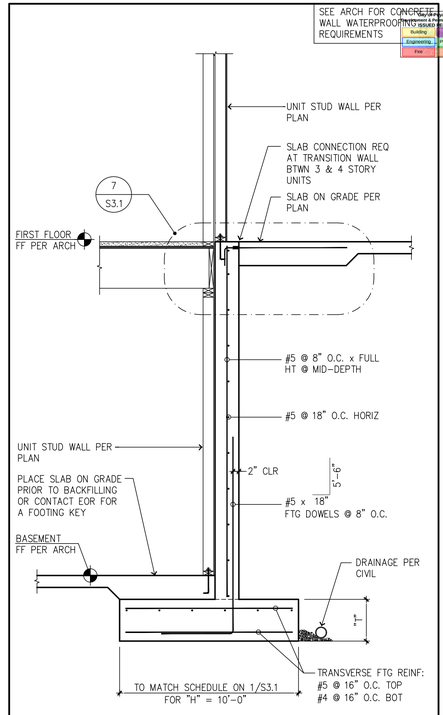
10 **JOISTS TO RETAINING WALL**



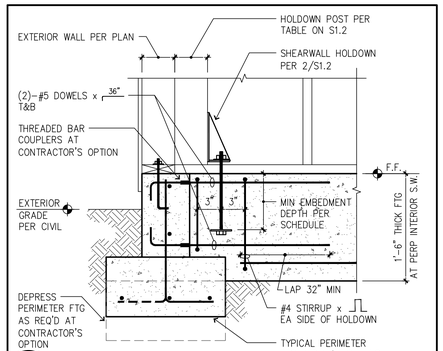
7 **TOP OF RETAINING WALL**



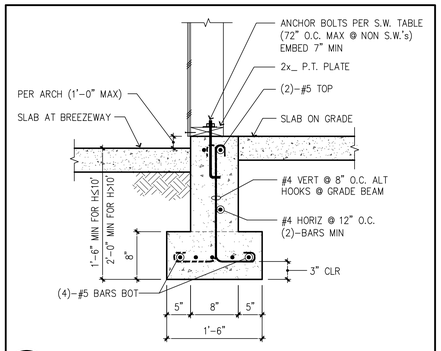
3 **PARTIAL HT BASEMENT RETAINING WALL**



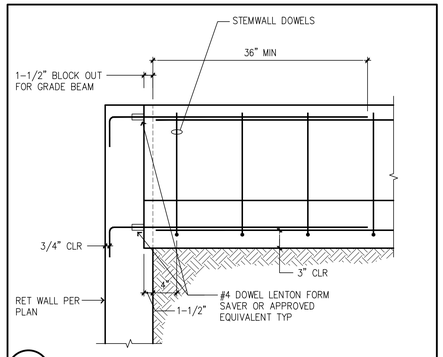
2 **FULL HT BASEMENT WALL**



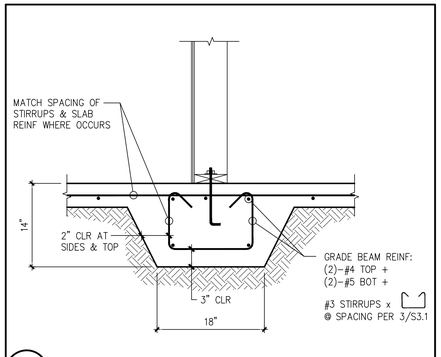
9 **TYP HOLDOWN AT FDN INTERSECTION**



6 **INTERIOR FOOTING AT GRADE BEAM AT BREEZEWAY'S**



8 **GRADE BEAM TO RET WALL**



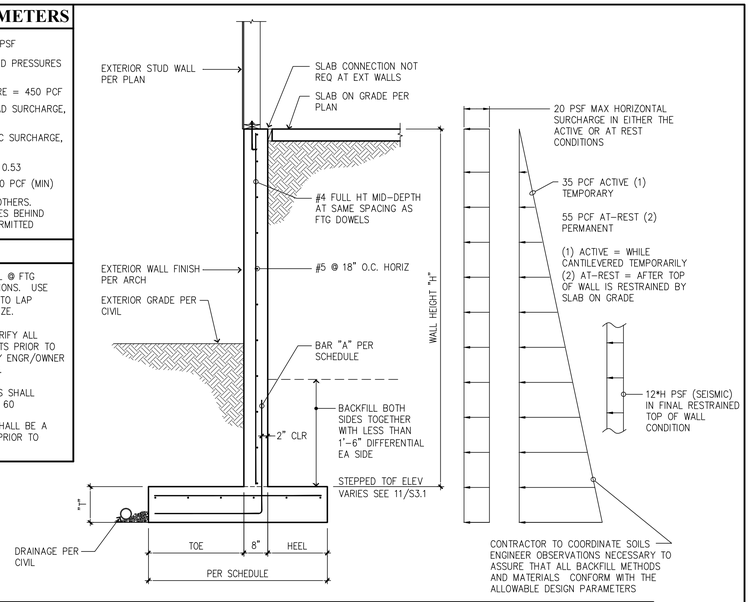
5 **TYPICAL GRADE BEAM**

DESIGN PARAMETERS

1. SOIL BEARING = 2,000 PSF
2. ACTIVE & AT REST FLUID PRESSURES PER DIAGRAM
3. PASSIVE FLUID PRESSURE = 450 PCF
4. 20 PSF (MAX) LIVE LOAD SURCHARGE, HORIZ.
5. 12*H PSF (MAX) SEISMIC SURCHARGE, HORIZ.
5. SOIL FRICTION COEF. = 0.53
6. SOIL UNIT WEIGHT = 120 PCF (MIN)
7. DRAINAGE SYSTEM BY OTHERS. HYDROSTATIC PRESSURES BEHIND THE WALL ARE NOT PERMITTED

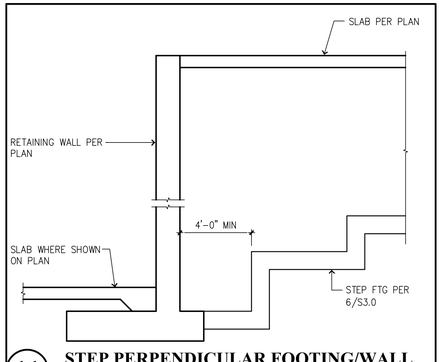
NOTES

1. PROVIDE CORNER STEEL @ FTG CORNERS & INTERSECTIONS. USE 36"x36" ELBOW STEEL TO LAP HORIZ REINF, MATCH SIZE.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND HEIGHTS PRIOR TO CONSTRUCTION. NOTIFY ENGR/OWNER OF ANY DISCREPANCIES.
3. REINFORCEMENT GRADES SHALL TYPICALLY BE : GRADE 60
4. CONCRETE STRENGTH SHALL BE A MINIMUM OF 2500 PSI PRIOR TO BACKFILL.

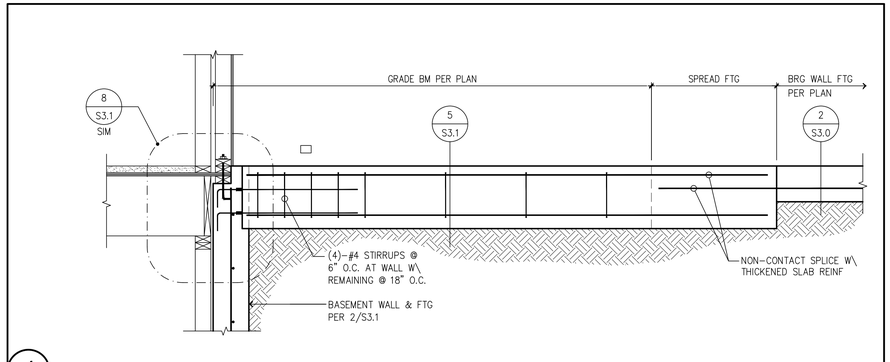


WALL HEIGHT MAX	FOOTING DIMENSIONS					BAR "A"			BAR "B"
	TOE	STEM	HEEL	TOTAL	"T" THKNS	SIZE & SPACING	VERT LEG	HORIZ LEG	SIZE & SPACING
10'-0"	2'-8"	8"	1'-8"	5'-0"	14"	#5 @ 10" O.C.	5'-6"	2'-10"	#4 @ 10" O.C.
8'-0"	2'-0"	8"	1'-4"	4'-0"	12"	#5 @ 12" O.C.	4'-6"	2'-2"	#4 @ 12" O.C.
6'-0"	1'-4"	8"	1'-0"	3'-0"	12"	#4 @ 12" O.C.	FULL HT	1'-6"	#4 @ 12" O.C.
4'-0"	0'-8"	8"	0'-8"	2'-0"	10"	#4 @ 16" O.C.	FULL HT	0'-10"	#4 @ 16" O.C.

1 **STEPPED BASEMENT WALL SCHEDULE**



11 **STEP PERPENDICULAR FOOTING/WALL BEHIND RETAINING WALL**



4 **GRADE BEAM AT BASEMENT WALL**

4-24-25

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OLEG G. KONDRATYUK, PE

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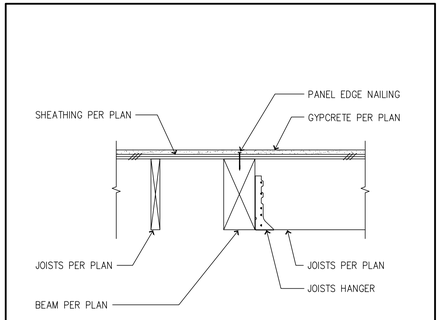
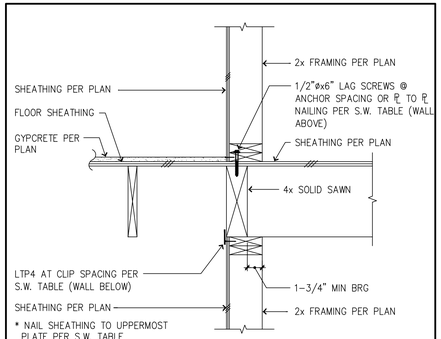
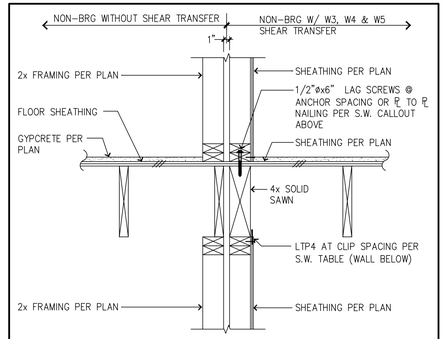
S3.1



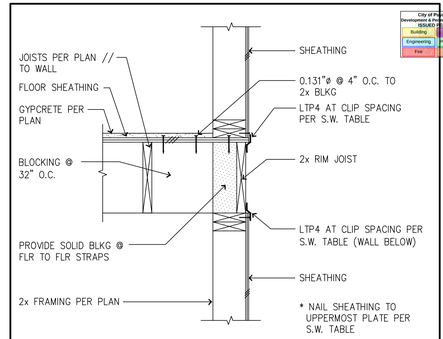
16 TYP BEAM AT INTERIOR ONE SIDE



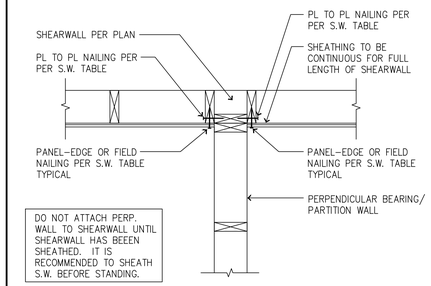
12 INTERIOR WALL BEARING ONE SIDE (W3 ,W4 & W5 SHEAR TRANSFER)



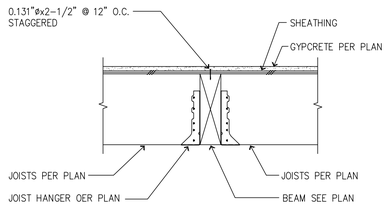
8 PARTY WALL NON-BEARING (W3 ,W4 & W5 SHEAR TRANSFER)



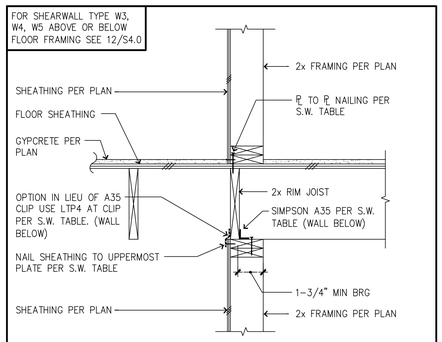
4 FLOOR JOIST PARALLEL TO WALL (W3 ,W4 & W5 SHEAR TRANSFER)



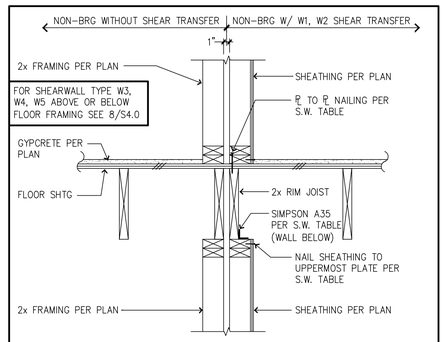
19 CONTINUOUS SHEATHING @ SHEARWALL



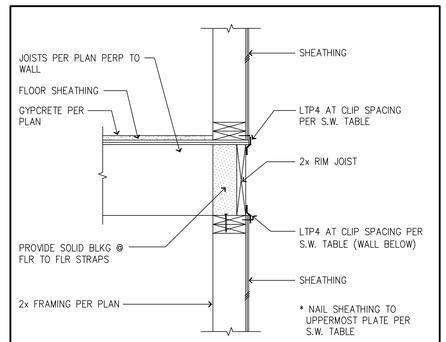
15 TYP JOISTS AT FLUSH FRAMED BEAM SUPPORT



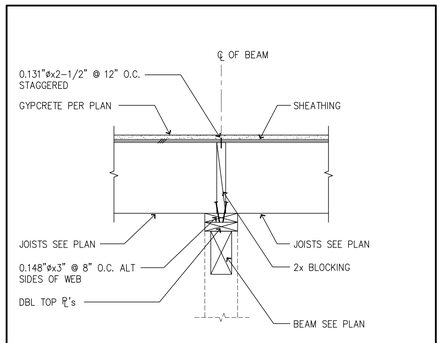
11 INTERIOR WALL BEARING ONE SIDE (W1 ,W2 SHEAR TRANSFER)



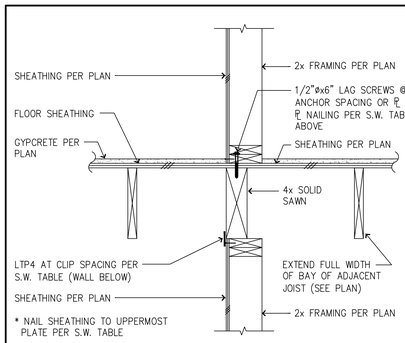
7 TYP PARTY WALL NON-BEARING (W1 ,W2 SHEAR TRANSFER)



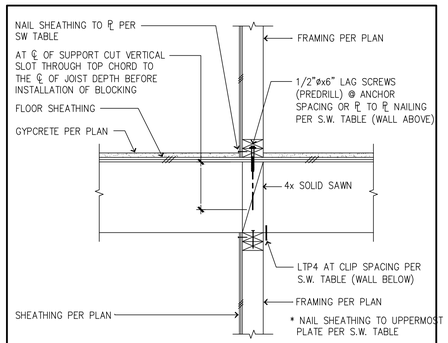
3 FLOOR JOIST PERPENDICULAR TO WALL (W3 ,W4 & W5 SHEAR TRANSFER)



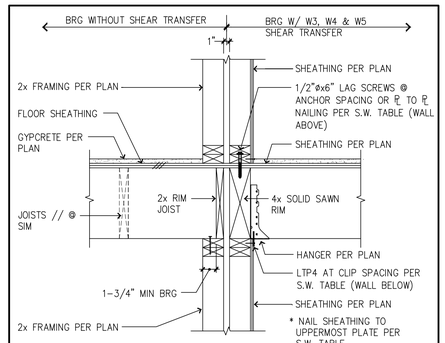
18 TYP CONTINUOUS JOISTS AT DROPPED BM SUPPORT



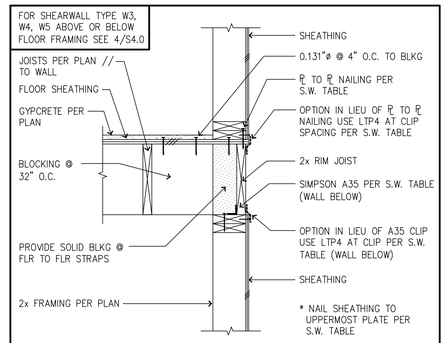
14 INTERIOR WALL NON-BEARING (W3 ,W4 & W5 SHEAR TRANSFER)



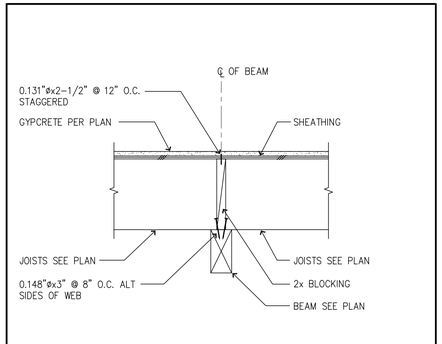
10 INTERIOR BEARING EA SIDE (W3 ,W4 & W5 SHEAR TRANSFER)



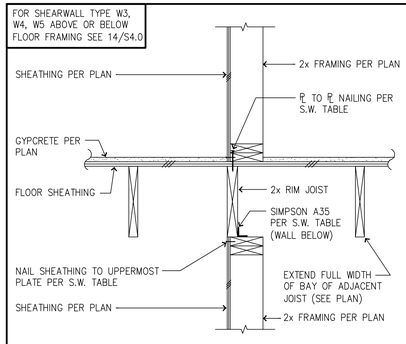
6 PARTY WALL BEARING EA SIDE (W3 ,W4 & W5 SHEAR TRANSFER)



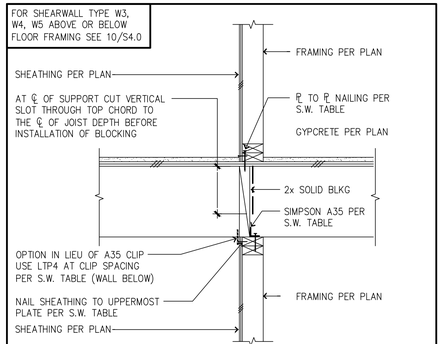
2 TYP FLOOR JOIST PARALLEL TO WALL (W1 ,W2 SHEAR TRANSFER)



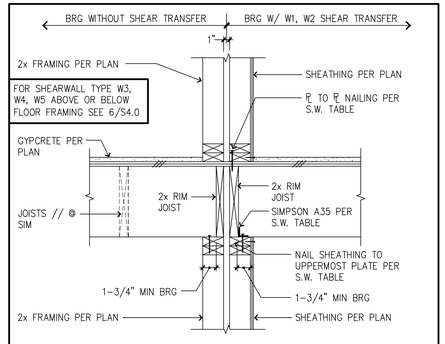
17 TYP NON CONTINUOUS JOISTS AT DROPPED BM SUPPORT



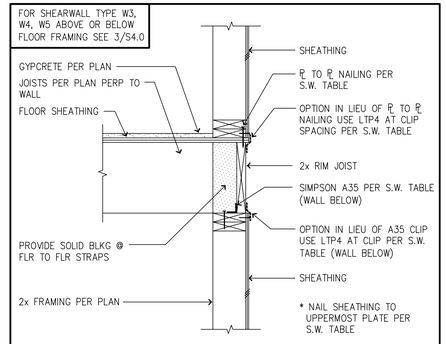
13 TYP INTERIOR WALL NON-BEARING (W1 ,W2 SHEAR TRANSFER)



9 TYP INTERIOR BEARING EA SIDE (W1 ,W2 SHEAR TRANSFER)



5 TYP PARTY WALL BEARING EA SIDE (W1 ,W2 SHEAR TRANSFER)



1 TYP FLOOR JOIST PERPENDICULAR TO WALL (W1 ,W2 SHEAR TRANSFER)

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OLEG G. KONDRATYUK, PE

4-24-25

Revisions to this sheet:
1 8-30-24 PERMIT CORRECTIONS & OWNER CHANGES

PRCNC20240278

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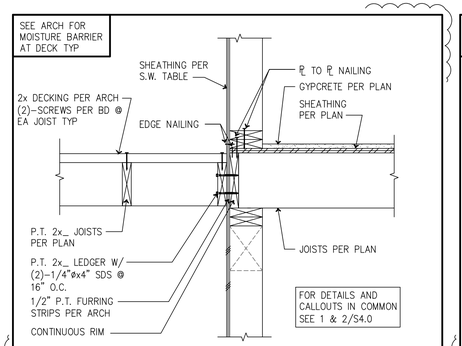
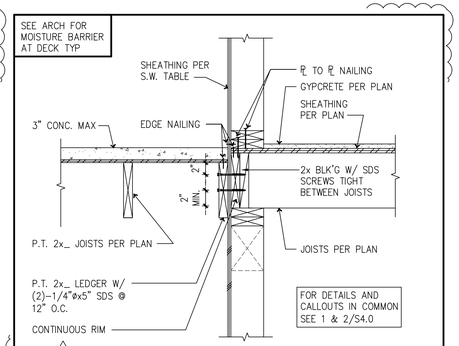
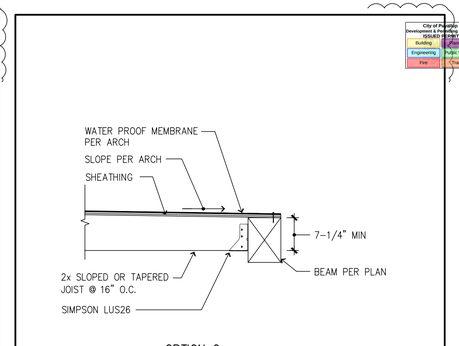
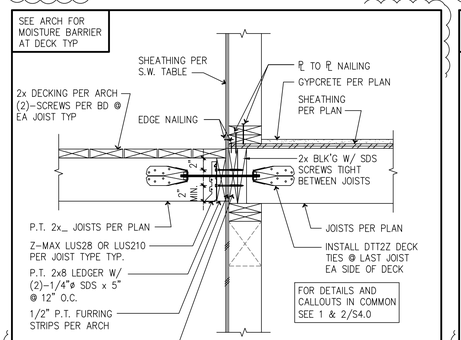
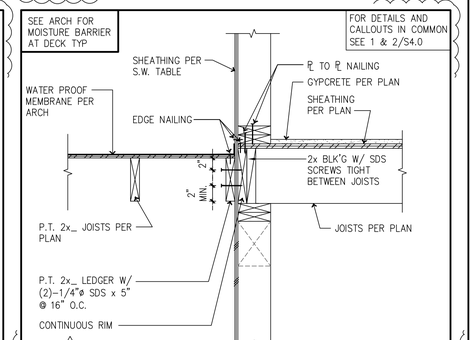
1
S4.0

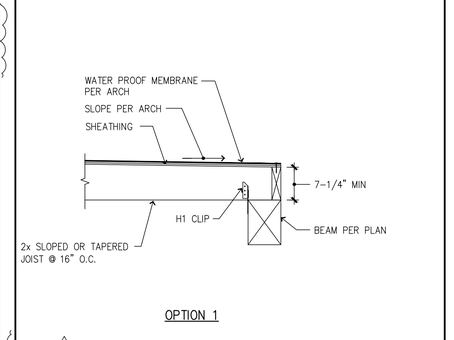


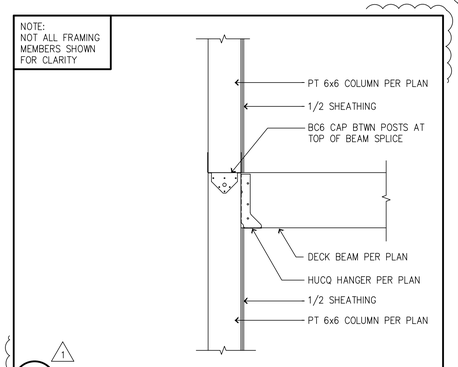


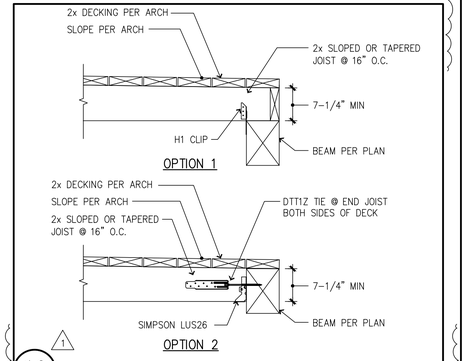


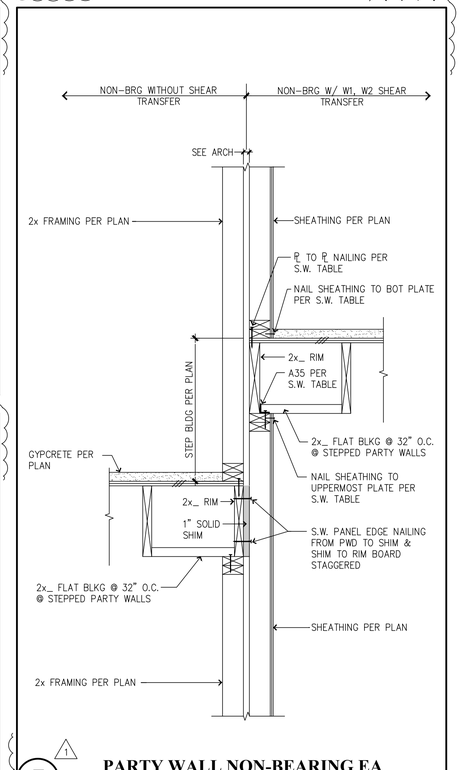


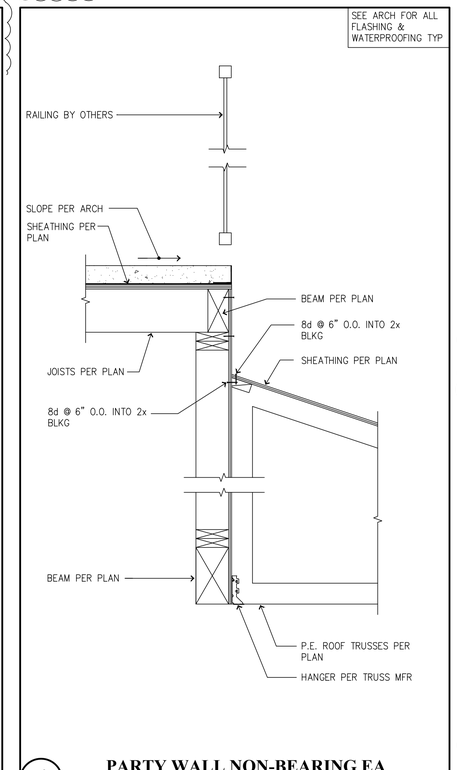


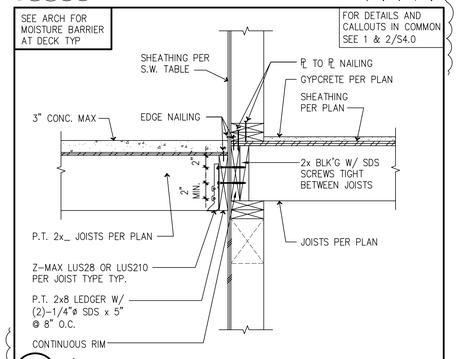


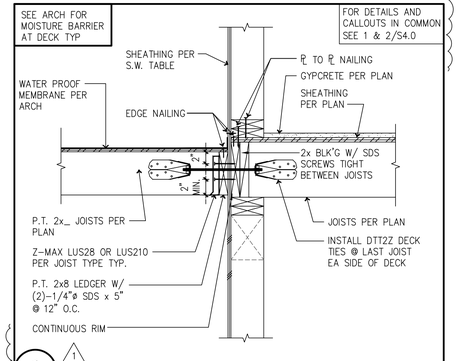












City of Puyallup Development & Permitting Services
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4-24-25

THOMAS L. CHASE, PE
MARTIN R. OMAN, PE, SE
OLEG G. KONDRATYUK, PE

Revisions to this sheet:

1 8–30–24 PERMIT CORRECTIONS & OWNER CHANGES

PRCNC20240278

Bradley Heights Apartments
202 27th Ave SE
Puyallup, Washington

Solutions 4 Structures
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PROJECT NO. : 23.007
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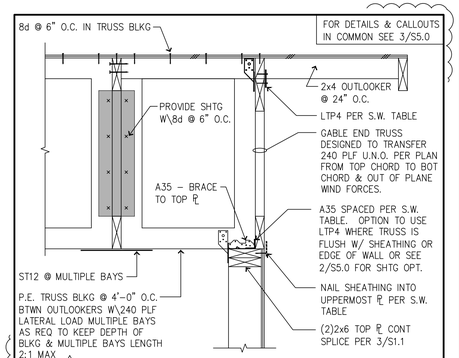
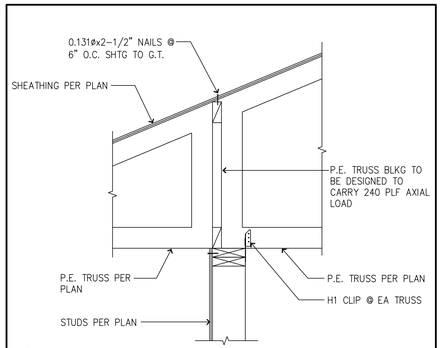
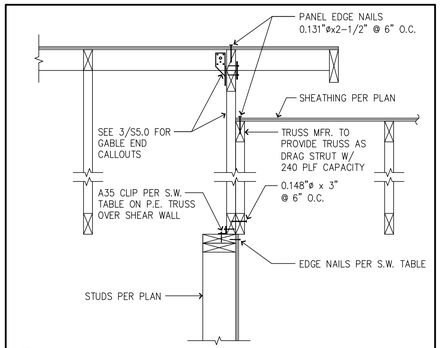
S4.1



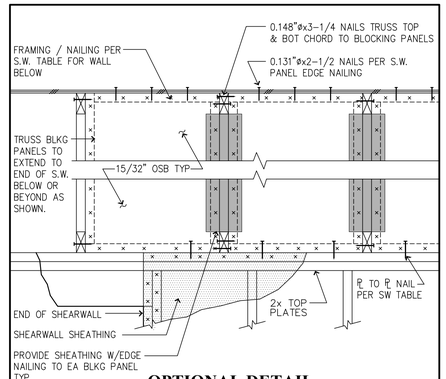
19 ALTERNATE GABLE END CONNECTION



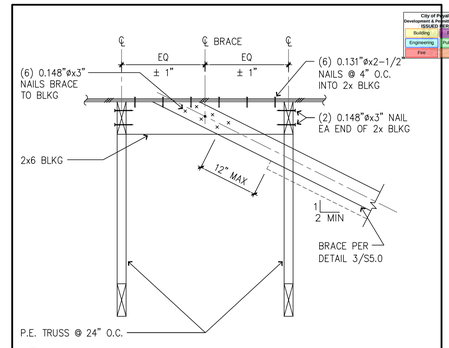
15 P.E. TRUSS TO WALL



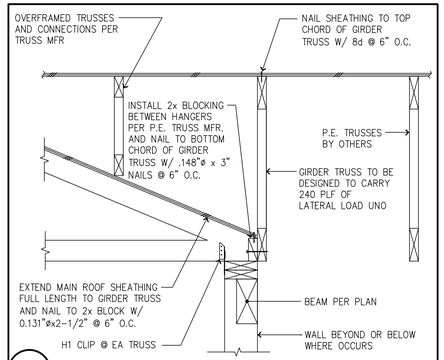
11 SHEAR TRANSFER AT SINGLE SHEAR WALL WITH STEP IN ROOF



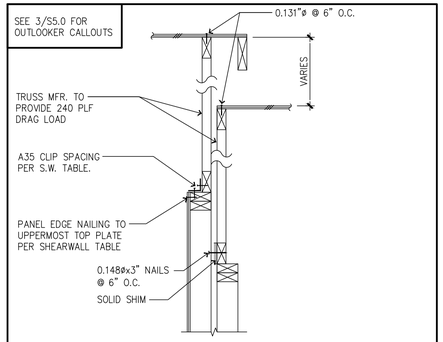
OPTIONAL DETAIL



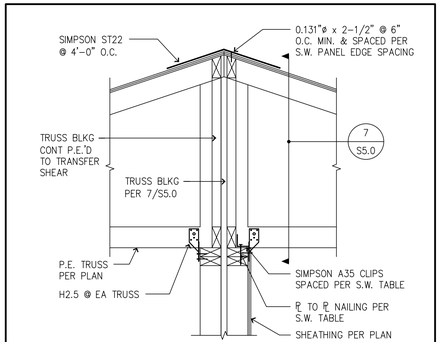
4 2x_ BRACE TO ROOF CONNECTION



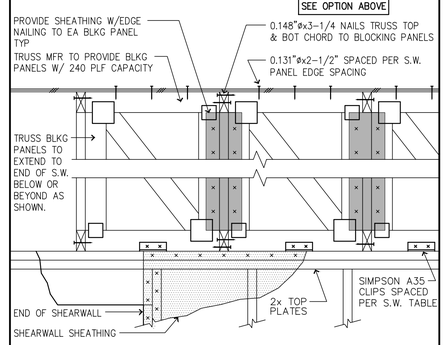
18 SHEAR TRANSFER @ GIRDER TRUSS



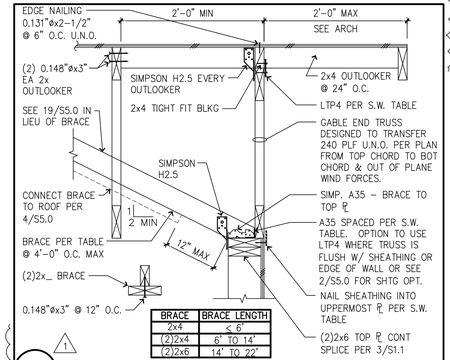
14 ROOF SHEAR TRANFER @ STEPPED PARTYWALL



10 ROOF SHEAR TRANSFER TO PARTY WALL @ RIDGE

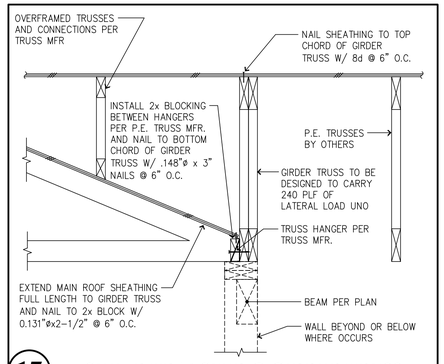


7 ROOF SHEAR TRANSFER W/ TRUSSES PERPENDICULAR

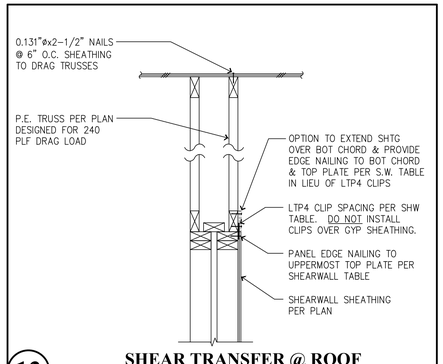


BRACE	BRACE LENGTH
2x4	< 6'
(2)2x4	6' TO 14'
(2)2x6	14' TO 22'

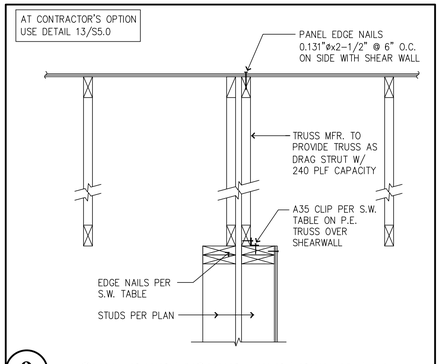
3 TYPICAL GABLE END CONNECTION



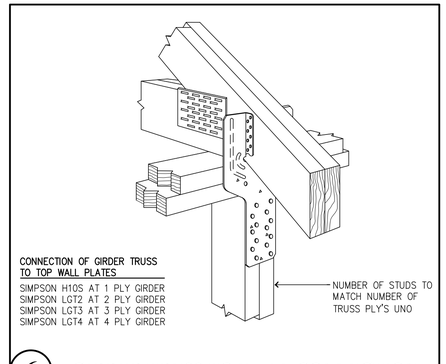
17 SHEAR TRANSFER @ GIRDER TRUSS



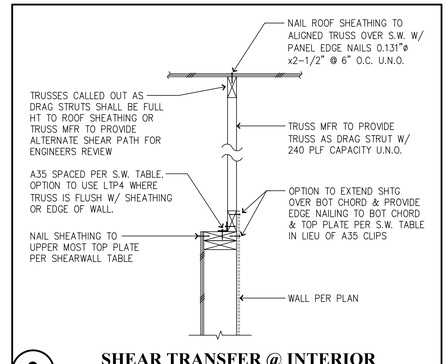
13 SHEAR TRANSFER @ ROOF PARTY WALL



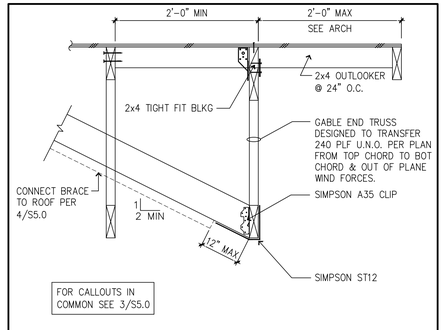
9 SHEAR TRANSFER AT PARTY WALL



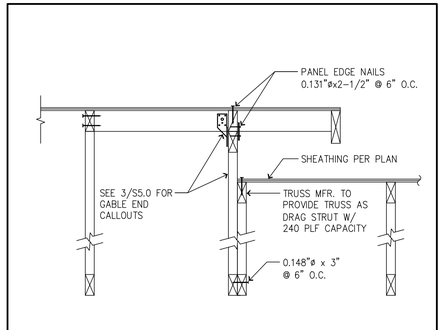
6 GIRDER TRUSS TO WALL CONNECTION



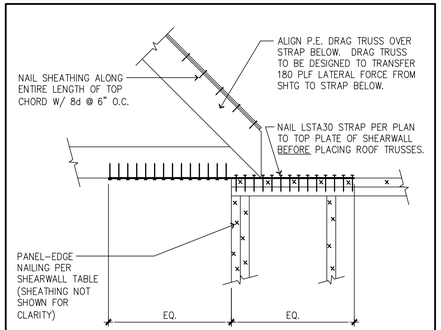
2 SHEAR TRANSFER @ INTERIOR W/ ALIGNED TRUSS



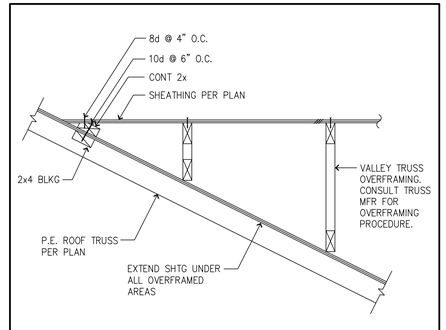
16 OPEN GABLE END CONNECTION



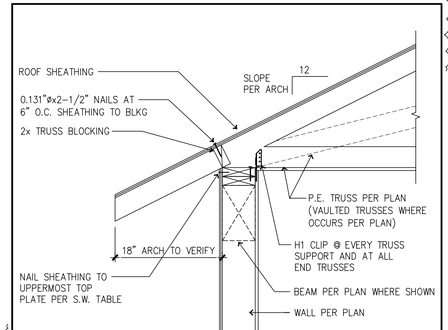
12 SHEAR TRANSFER AT STEP IN ROOF



8 DRAG TRUSS TO STRAP @ SHEARWALL TOP PLATE



5 TYP CONNECTION @ OVERFRAMING



1 TYPICAL EXT. WALL PERP. TO TRUSS

Solutions 4 Structures
A Structural Engineering Corporation
Puyallup, Washington 98374
Ph 253.314-9822
www.solutions4structures.com

THOMAS L. CHASE, PE
MARTIN R. OMAN, PE, SE
OLEG G. KONDRATYUK, PE

4-24-25

City of Puyallup Development & Permitting Services
SS/UBO REVIEW
Building | Planning
Engineering | Public Works
Fire | Traffic

Revisions to this sheet:
1 8–30–24 PERMIT CORRECTIONS & OWNER CHANGES

PRCNC20240278

Bradley Heights Apartments
202 27th Ave SE
Puyallup, Washington

PROJECT NO.	23.007
DESIGNED BY	TLC, OGK, MRO
DRAWN BY	RSO
ISSUE DATE	2-20-24
LATEST REV. OF DWG. SET	1 4-24-25

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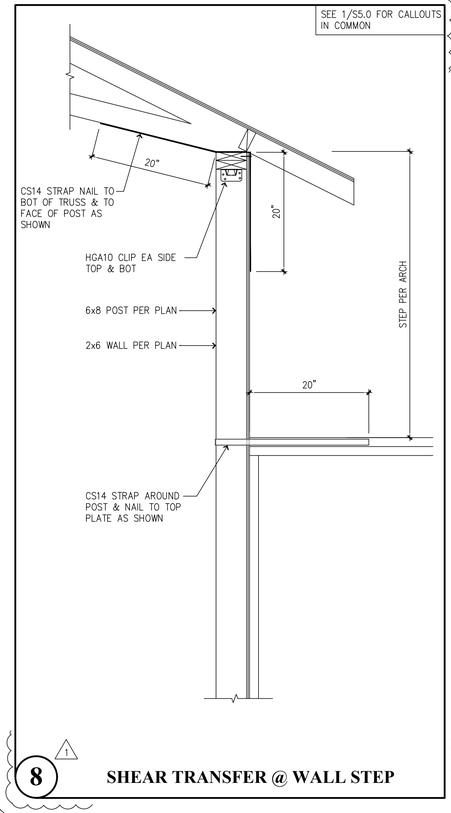
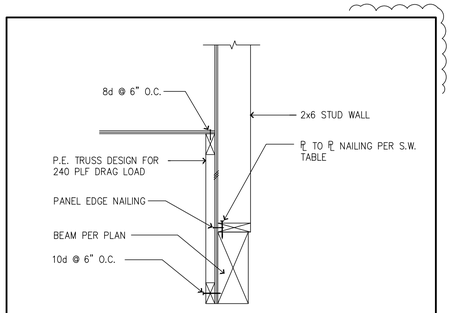
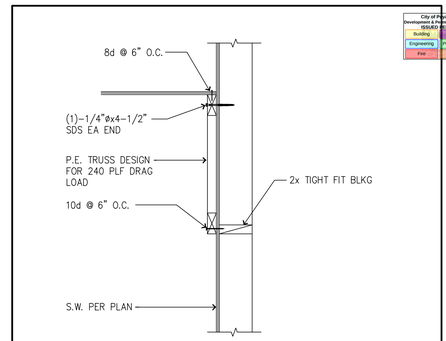
S5.0



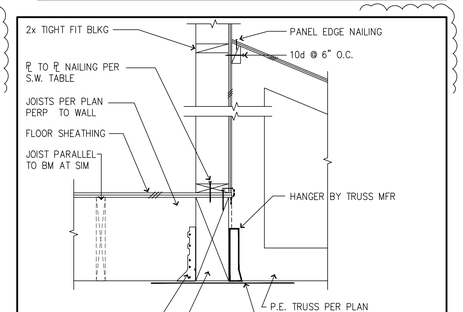
8 SHEAR TRANSFER @ WALL STEP



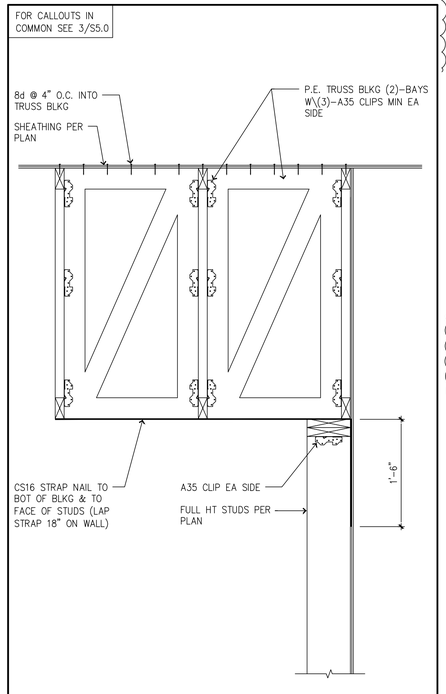
7 JOIST CANTILEVER @ FLOOR



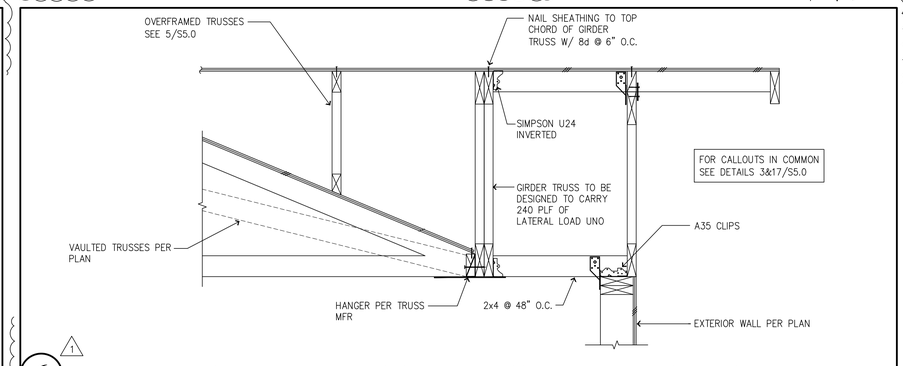
4 TRUSS // TO SHEARWALL



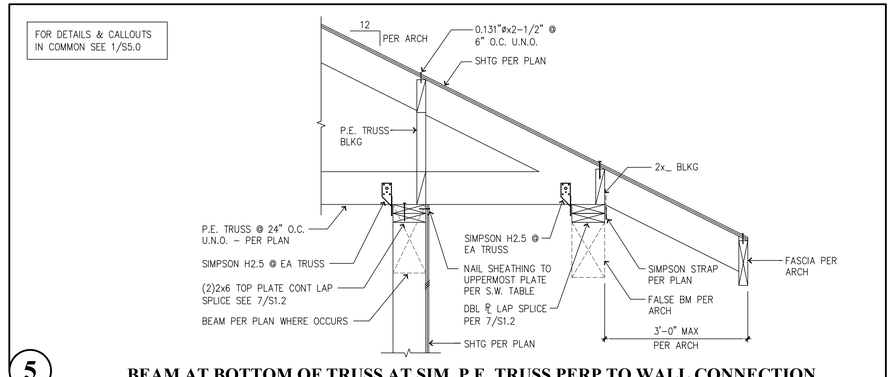
3 FLOOR JOIST P.E. TRUSS PERPENDICULAR TO WALL



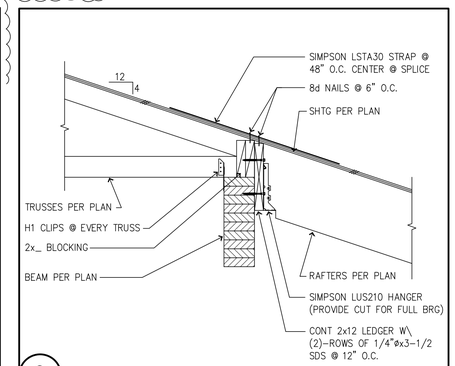
9 P.E. TRUSS BLOCKING CONNECTION



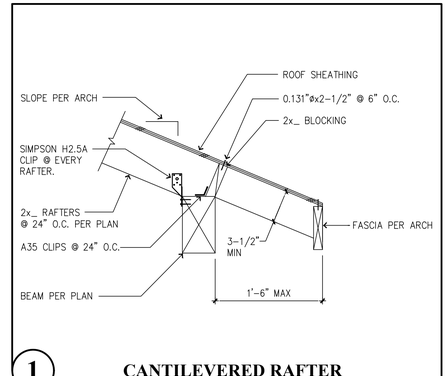
6 SHEAR TRANSFER @ GIRDER TRUSS AND VAULTED CEILING



5 BEAM AT BOTTOM OF TRUSS AT SIM. P.E. TRUSS PERP TO WALL CONNECTION



2 RAFTER CONNECTION



1 CANTILEVERED RAFTER

City of Puyallup Development & Permitting Services ISSUED FOR PERMIT
Building — Planning
Engineering — Public Works
Fire — Traffic

4-24-25

THOMAS L. CHASE, PE
MARTIN R. OMAN, PE, SE
OLEG G. KONDRATYUK, PE

Revisions to this sheet:
⚠1 8-30-24 PERMIT CORRECTIONS & OWNER CHANGES

PRCNC20240278

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PROJECT NO. : 23.007
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ISSUE DATE : 2-20-24
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S5.1

INSULATION AND ENERGY NOTES

Insulation - General

All insulation materials shall be installed according to the manufacturer's instructions to achieve proper densities, and maintain uniform R-values. Substantial contact of the insulation with the surface being insulated is required.

Where required, insulation shall be installed with clearances according to manufacturer's specifications. Insulation shall be installed so that required ventilation is unobstructed. For blown or poured loose fill insulation clearances shall be maintained through installation of a permanent retainer.

Slab on Grade

R-10 slab on grade insulation shall be installed inside the foundation wall and shall extend down vertically 24" or to the top of the footing whichever is less.
No slab insulation required at Amenity Building.

Insulated Floors

Floor insulation shall be installed in a permanent manner in substantial contact with the surface being insulated. Insulation supports shall be installed so spacing is no more than twenty-four inches on center.

Floors separating conditioned space from unconditioned space shall have a vapor barrier installed. Vapor barrier shall be installed on the warm side of the insulation. The vapor barrier shall have a one perm dry cup rating or less (i.e. four mil. polyethylene or kraft faced material). The floor sheathing may be used as the vapor barrier if rated (and so stamped) at one perm (max.) Otherwise place vapor barrier on top of joists before placing sheathing.

Exterior Walls

All wall insulation shall fill the entire cavity. Exterior wall cavities isolated during framing shall be fully insulated to the levels of the surrounding walls. All faced insulation shall be face stapled to avoid compression.

Walls separating conditioned space from unconditioned space shall have a vapor barrier installed. Faced batt insulation shall be face stapled. Vapor barrier shall be installed on the warm side of the insulation.

Air Leakage

These air leakage notes apply to those locations separating outdoor ambient conditions from interior spaces that are heated or mechanically cooled.

Exterior joints around windows and door frames, between wall cavities and window or door frames, openings between walls and foundation, between walls and roof and wall panels; openings at penetrations of utility services through walls, floors and roof; and all other openings in the building envelope shall be sealed, caulked, gasketed, or weatherstripped to limit air leakage in a manner approved by the building official.

Doors

All exterior doors or doors serving as access to an enclosed unheated area shall be weatherstripped to limit leakage around their perimeter when in a closed position.

The thermal transfer characteristics of insulated doors shall be U-value 0.30 or as determined per NFRC 100-91 and ASHRAE 90.1-2016

Windows:

Glazing U-values shall be determined in accordance with NFRC 100-91. and ASHRAE 90.1-2016

Windows and SGD shall be double glazed vinyl type with the U-values indicated on the unit plans and Amenity building plan. 1

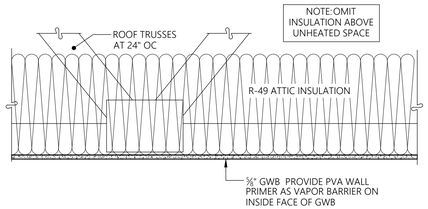
Roof/Ceilings:

Roof/Ceiling insulation: Open-Blown or poured loose fill insulation may be used in attic spaces where the slope of the ceiling is more than 4 in 12 and there is at least 44 inches of clear distance from the top of the bottom chord of the truss or ceiling joist to the underside of the sheathing. When eave vents are installed, baffling of the vent openings shall be provided so as to deflect the incoming air above the surface of the insulation. Baffles shall be rigid material, resistant to wind driven moisture. When feasible, the baffles shall be installed from the top of the outside of the exterior wall, extending inward, to a point six inches vertically above the height of noncompressed insulation, and twelve inches vertically above loose fill insulation. Baffles shall be in place at the time of framing inspection.

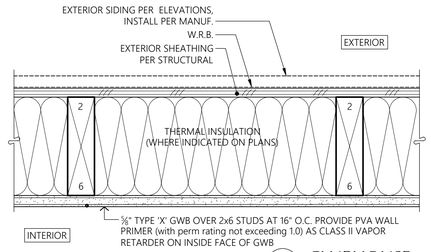
Where the ventilation space above the insulation is less than an average of twelve inches roof ceiling assemblies shall be provided with a vapor barrier having a 0.5 perm cup rating or less. Faced batt insulation where used as a vapor barrier shall be face stapled.

Vapor barriers shall not be required in roof/ceiling assemblies where the ventilation space above the insulation averages twelve inches or greater.

Vapor barriers shall be installed on the warm side of the insulation.

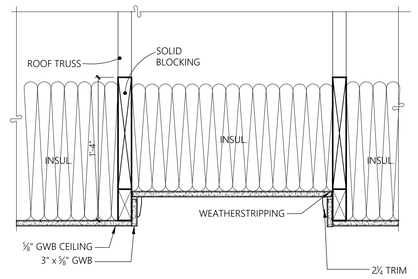


5 TYPICAL ROOF/CEILING SECTION
1 1/2" = 1'-0"

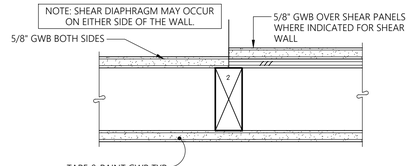


A CLUBHOUSE

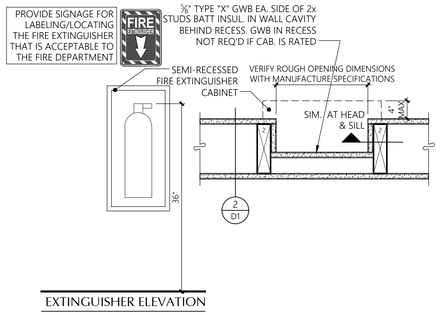
1 EXTERIOR WALL PLAN
3" = 1'-0"



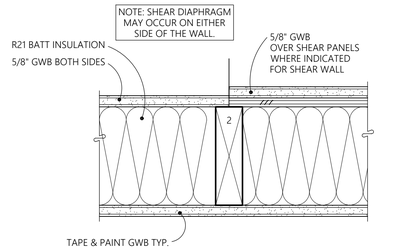
6 ATTIC ACCESS SECTION
1 1/2" = 1'-0"



2 TYP. INTERIOR WALL PLAN
3" = 1'-0"



7 SEMI-RECESSED FIRE EXT. CAB. PLAN
1-1/2" = 1'-0"



3 INSULATED INTERIOR WALL PLAN
3" = 1'-0"

City of Puyallup Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
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MILBRANDT ARCHITECTS
PRCNC20240278

25 Central Way, Suite 210
Kirkland, Washington 98033
P: 425.454.7130 F: 425.658.1208
Web: www.milbrandtarch.com

11063 REGISTERED ARCHITECT
ANNA P. THOMPSON
STATE OF WASHINGTON

Details
Clubhouse

Bradley Heights Apartments
Puyallup, Wa

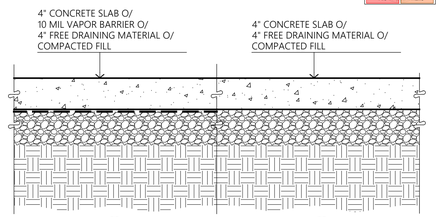
Timberlane Partners

Revisions

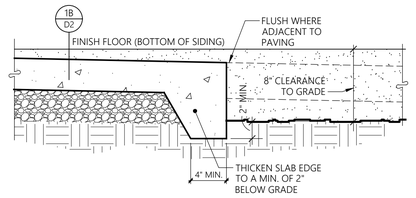
No.	Date	Description
1	8-30-24	Owner Changes/ Permit Corrections

Initial Publish Date:
Date Plotted: 5-7-25
Job No.: 23-06
Drawn By:
Sheet No.: D1

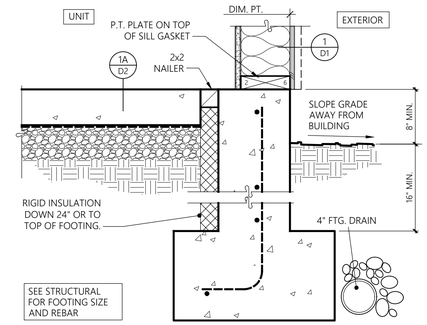
PLT: \2306 \CLUBHOUSE \CLUBHOUSE_DETAILS.DWG



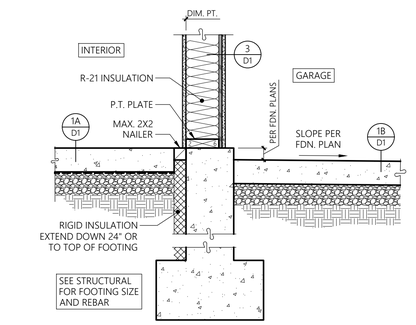
1 TYP. SLAB-ON-GRADE
1-1/2" = 1'-0" SECTION



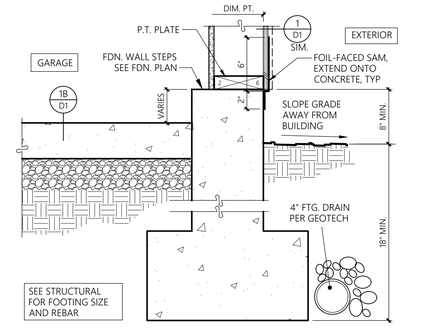
6 THICKENED EDGE AT PORCH/ PATIO SLABS
1-1/2" = 1'-0" SECTION



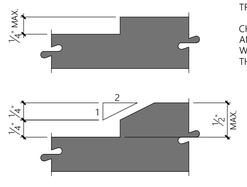
2 TYP. EXTERIOR WALL FOOTING
1 1/2" = 1'-0" SECTION



7 FDN. AT GARAGE/INTERIOR WALL
1" = 1'-0" SECTION



3 FDN. AT GARAGE EXTR. WALL
1-1/2" = 1'-0" SECTION

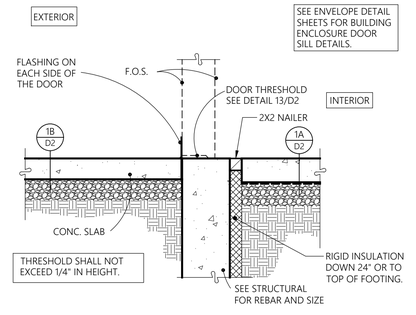


CHANGES IN LEVEL

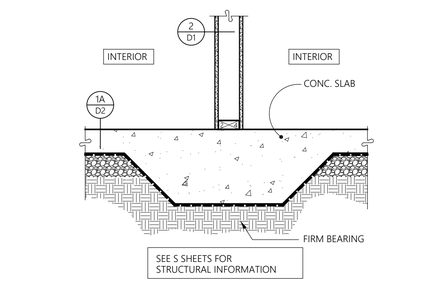
CHANGES IN LEVLE OF 1/4" MAX. SHALL BE PERMITTED TO BE VERTICAL AND WITHOUT EDGE TREATMENT.

CHANGES IN LEVEL BETWEEN 1/4" AND 1/2" MAX. SHALL BE BEVELED WITH A SLOPE NOT STEEPER THAN 1:2

12 DOOR CHANGES IN LEVEL
1" = 1'-0" SECTION



8 FLUSH DOOR DETAIL
1" = 1'-0" SECTION



4 INTERIOR WALL FOOTING
1" = 1'-0" SECTION

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STATE OF WASHINGTON

Details
Clubhouse

Bradley Heights Apartments
Puyallup, Wa

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Revisions

No.	Date	Description

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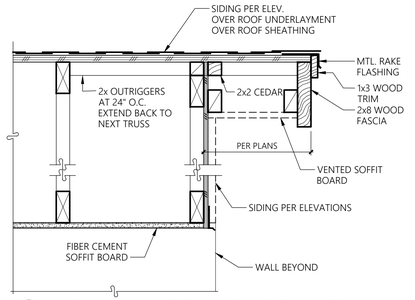
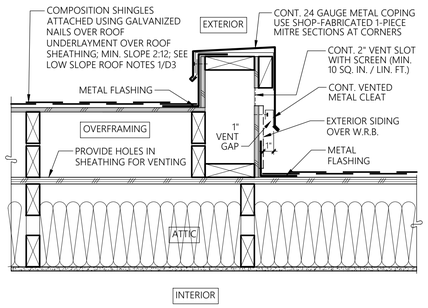
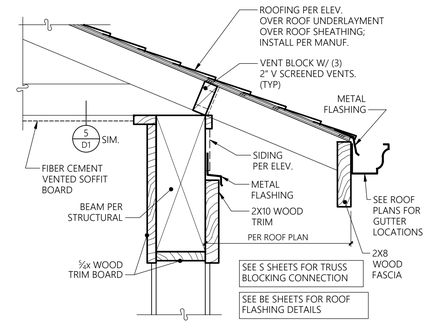
Job No.: 23-06
Drawn By:
Sheet No.: **D2**



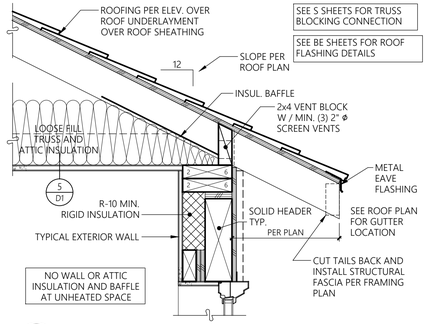
17 RAKE AT COVERED PATIO
1-1/2" = 1'-0" SECTION



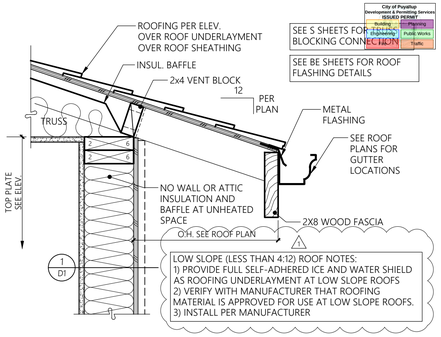
13 PARAPET AT ROOF
1-1/2" = 1'-0" SECTION



9 EAVE @ VENTED SOFFIT
1-1/2" = 1'-0" SECTION

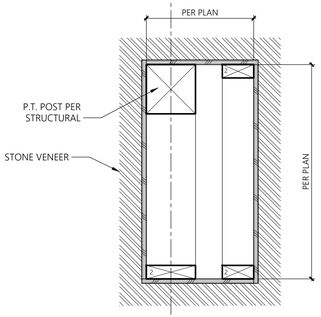


5 TYPICAL EAVE @ WINDOW
1-1/2" = 1'-0" SECTION

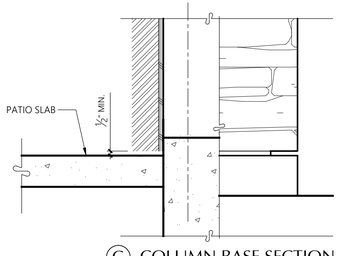


1 TYPICAL EAVE OVERHANG
1-1/2" = 1'-0" SECTION

A EAVE AT COLUMN



B COLUMN PLAN



C COLUMN BASE SECTION

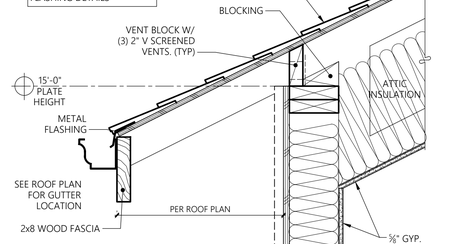
20 COLUMN AT VAULTED PATIO
1-1/2" = 1'-0" SECTION

14 PARAPET AT BOXED-OUT WINDOW
1-1/2" = 1'-0" SECTION

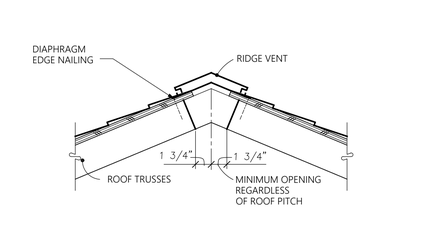
16 FURRED COLUMN
1-1/2" = 1'-0" PLAN

10 ROOF @ WALL
1-1/2" = 1'-0" SECTION

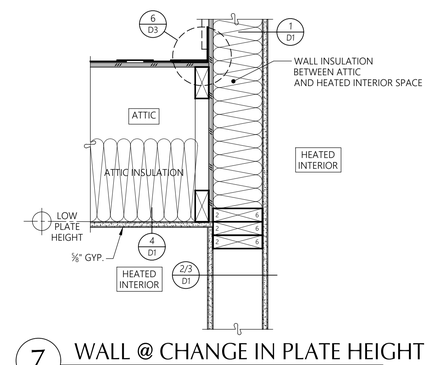
12 EAVE AT CEILING VAULT @ COVERED PATIO
1-1/2" = 1'-0" SECTION



6 CEILING @ CHANGE IN PLATE HEIGHT
1-1/2" = 1'-0" SECTION

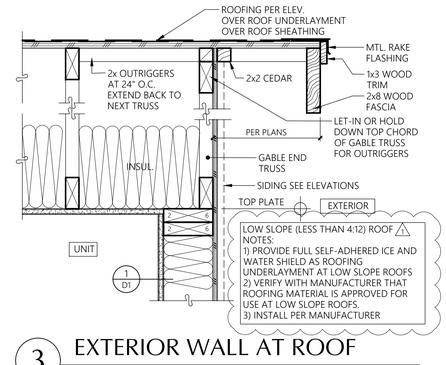


2 OVERHANG W/ RAISED HEEL
1-1/2" = 1'-0" SECTION



7 WALL @ CHANGE IN PLATE HEIGHT
1-1/2" = 1'-0" SECTION

8 EAVE AT CEILING VAULT
1-1/2" = 1'-0" SECTION



3 EXTERIOR WALL AT ROOF
1-1/2" = 1'-0" SECTION

4 RIDGE VENT
1 1/2" = 1'-0" SECTION

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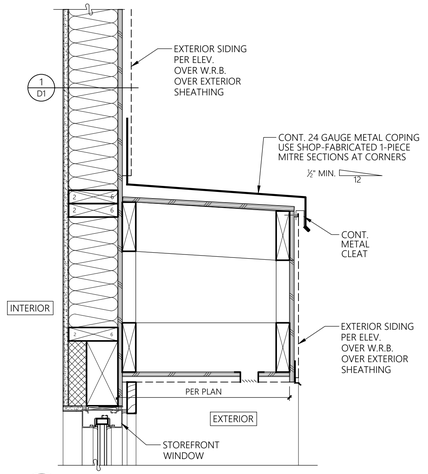
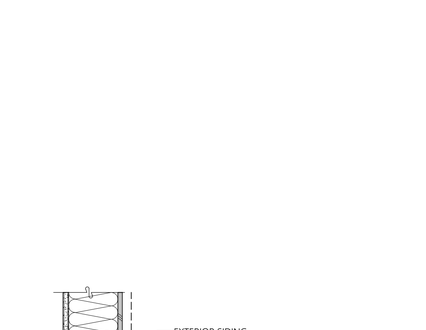


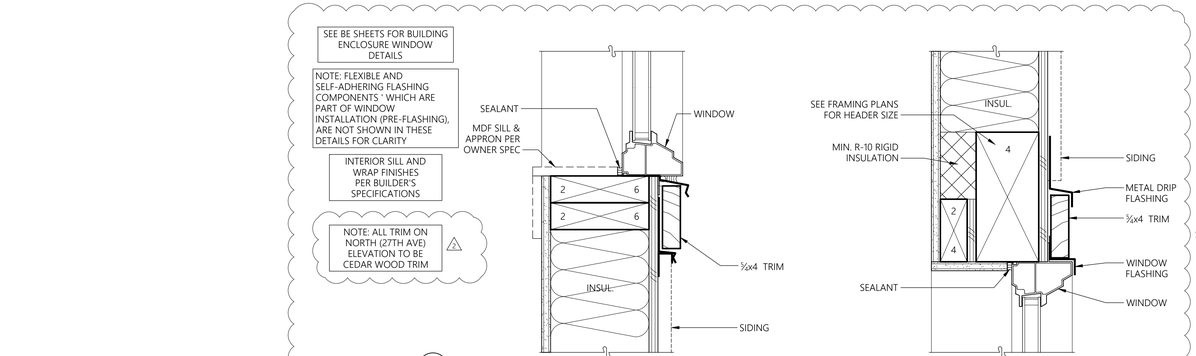
19 BOXED-OUT WEATHER COVER

1-1/2" = 1'-0" SECTION



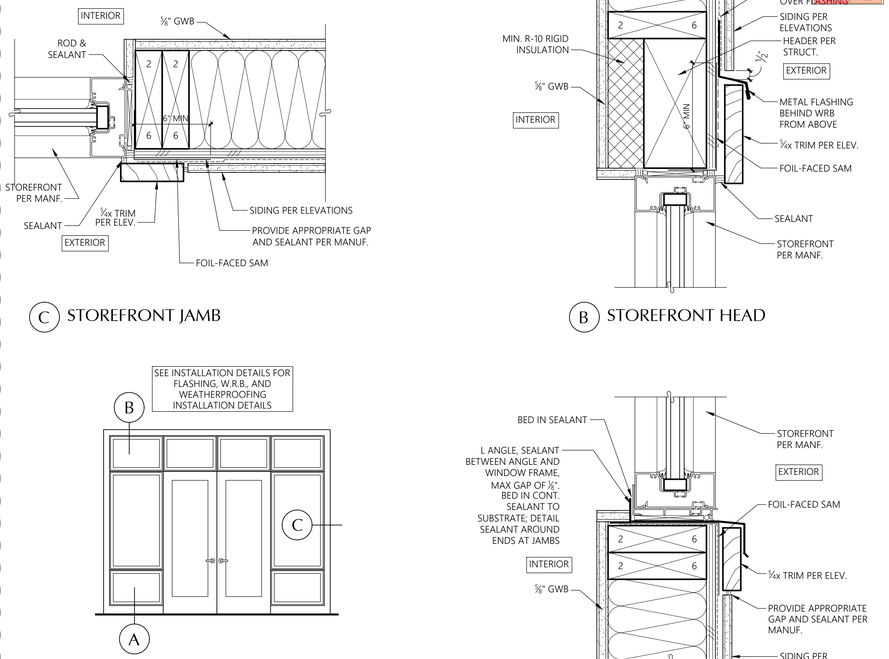
20 TYPICAL BELLY BAND

3" = 1'-0"



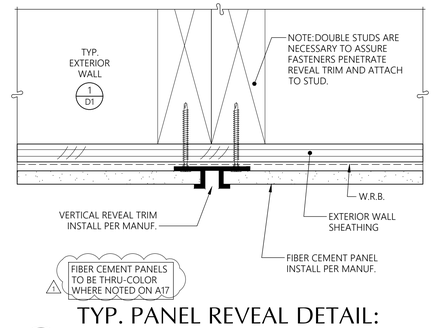
14 TYPICAL WINDOW DETAILS

3" = 1'-0"



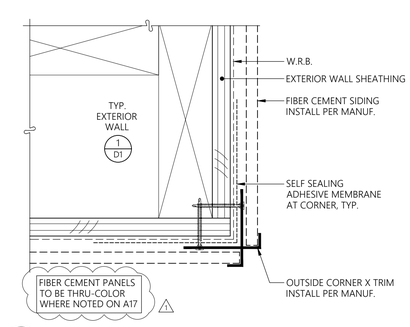
6 STOREFRONT DETAILS

3" = 1'-0"



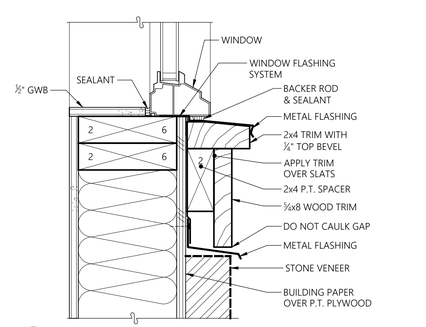
15 TYP. PANEL REVEAL DETAIL: VERTICAL REVEAL TRIM

6"=1'-0" PLAN



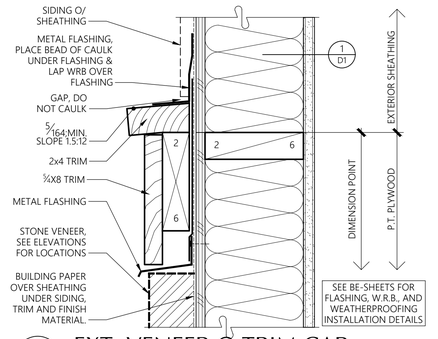
11 TYPICAL OUTSIDE CORNER

6"=1'-0" PLAN



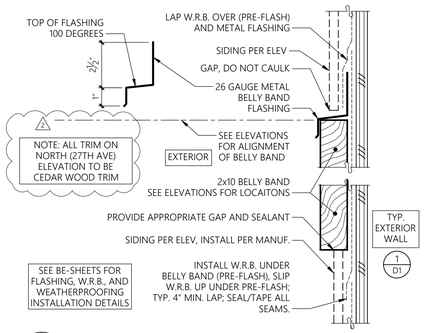
7 SILL @ STONE VENEER

3" = 1'-0"



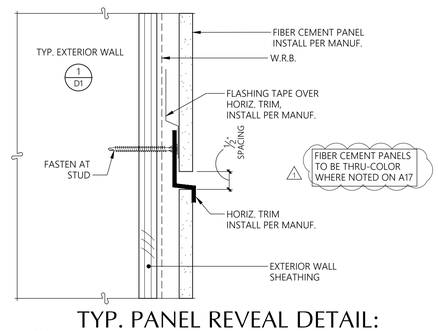
3 EXT. VENEER @ TRIM CAP

3" = 1'-0" SECTION



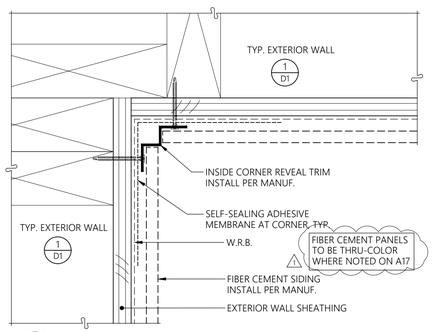
20 TYPICAL BELLY BAND

3" = 1'-0"



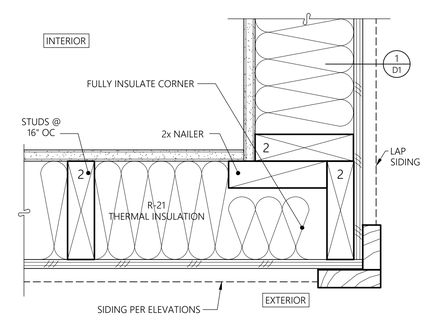
16 TYP. PANEL REVEAL DETAIL: HORIZONTAL REVEAL TRIM

6"=1'-0" SECTION



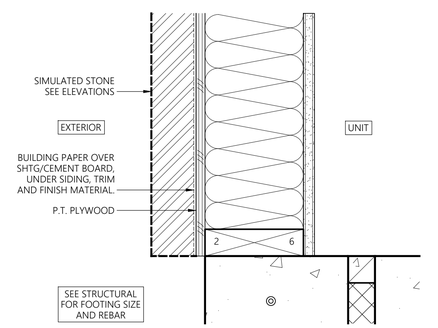
12 TYPICAL INSIDE CORNER

6"=1'-0" PLAN



8 TYPICAL EXTERIOR CORNER

3" = 1'-0" PLAN



4 EXT. VENEER BASE

3" = 1'-0" SECTION

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ANNA P. THOMPSON
STATE OF WASHINGTON

City of Puyallup Development & Permitting Services
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Building | Planning
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Details
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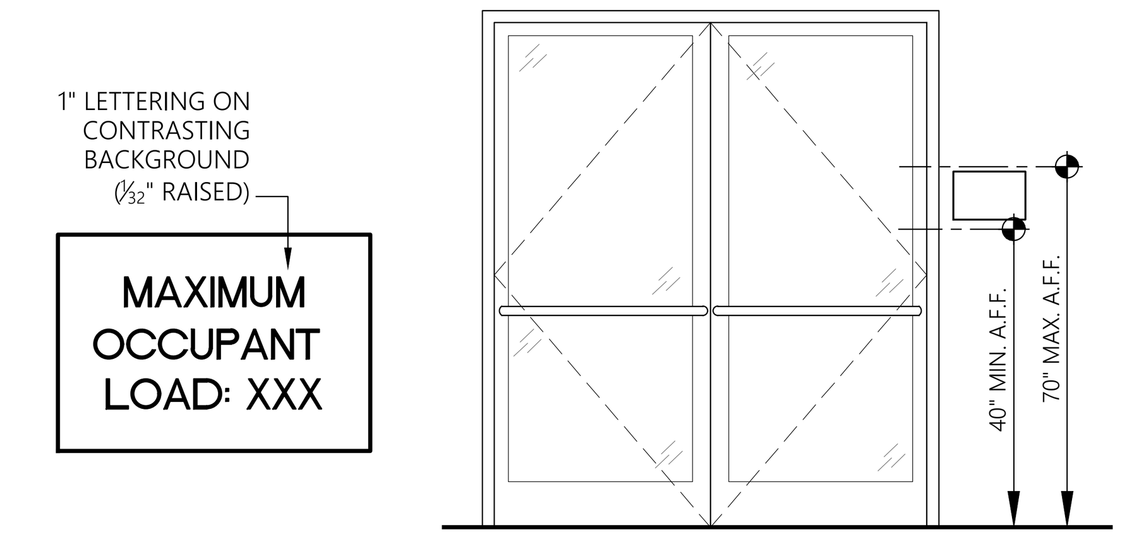
Timberlane Partners

Revisions

No.	Date	Description
1	8-30-24	Owner Changes/ Permit Corrections

Initial Publish Date:
Date Plotted: 5-7-25
Job No.: 23-06
Drawn By:
Sheet No.:
D4

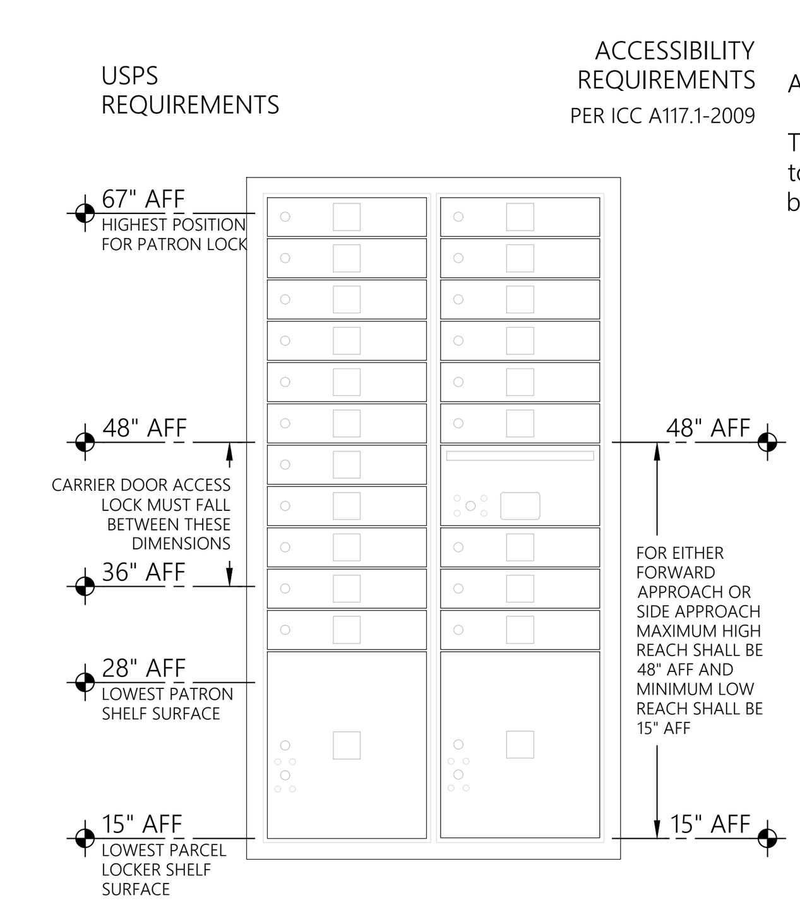


1 OCCUPANT LOAD SIGN

N.T.S.

NOTES:

1. PROVIDE TACTILE EXIT SIGNAGE AT ALL EXITS & UPON EXIT DOORS; ALL LETTERING SHALL BE PER A117.1-2009 703;
   - EACH GRADE-LEVEL EXTERIOR EXIT DOOR SHALL BE IDENTIFIED BY A TACTILE SIGN WITH THE WORD 'EXIT'
   - EACH EXIT DOOR THAT LEADS DIRECTLY TO A GRADE LEVEL EXTERIOR EXIT BY MEANS OF A STAIRWAY OR RAMP IS IDENTIFIED BY A TACTILE EXIT SIGN THAT STATES: "EXIT STAIR DOWN" "EXIT RAMP DOWN" "EXIT STAIR UP" "EXIT RAMP UP"'
   - SIGNS ARE INSTALLED ON THE WALL ADJACENT TO THE LATCH SIDE OF THE DOOR (AT DOUBLE LEAF DOORS & WHEN THERE IS NO WALL SPACE AT THE LATCH SIDE, SIGNS SHALL BE PLACED ON THE NEAREST ADJACENT WALL). TACTILE SIGNAGE SHALL BE PLACED PREFERABLY ON THE RIGHT AND RAISED CHARACTERS SHALL BE 48" MIN. FROM THE BASELINE OF THE LOWEST LINE OF BRAILLE AND 60" MAX. FROM THE BASELINE OF THE HIGHEST LINE OF BRAILLE FROM FINISH FLOOR.
2. PROVIDE INTERNATIONAL SYMBOL OF ACCESS DECAL, PER A117.1-2009 703.6.3.1
   - ALL BUILDING ENTRANCES THAT AREA ACCESSIBLE TO & USABLE BY PERSONS WITH DISABILITIES SHALL BE IDENTIFIED WITH AT LEAST (1) INTERNATIONAL SYMBOL OF ACCESSIBILITY AND WITH ADDITIONAL DIRECTIONAL SIGNS, UTILIZING THE SYMBOL, AT JUNCTIONS TO BE VISIBLE TO PERSONS ALONG APPROACHING PEDESTRIAN WAYS.
3. **OCCUPANT LOAD**
   - ANY ROOM THAT IS USED FOR AN ASSEMBLY, DINING, DRINKING OR SIMILAR PURPOSE WHERE FIXED SEATS ARE NOT INSTALLED SHALL HAVE THE CAPACITY OF THE ROOM POSTED IN A CONSPICUOUS PLACE ON AN APPROVED SIGN NEAR THE MAIN EXIT OR EXIT-ACCESS DOORWAY FROM THE ROOM.
   - SEE CODE SUMMARY SHEET FOR OCCUPANCY LOAD SIGN LOCATIONS WHEN REQUIRED.
4. **DOOR HARDWARE** PER A117.1-2009 404.2.6
   - ALL HARDWARE SHALL BE MOUNTED WITHIN 34"-48" A.F.F.
   - ALL HAND-ACTIVATED DOOR OPENING HARDWARE, HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERATING DEVICES ON ACCESSIBLE DOORS TO HAVE A SHAPE THAT IS EASILY GRASPED WITH ONE HAND & DOES NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST TO OPERATE.
   - ALL HAND ACTIVATED DOORS IN THE PATH OF TRAVEL SHALL BE OPERABLE WITH A SINGLE EFFORT BY LEVER-TYPE HARDWARE, PANIC BARS, OR OTHER HARDWARE DESIGNED TO PROVIDE PASSAGE.
5. **DOOR SURFACE** PER A117.1-2009 404.2.9
   - BOTTOM 10" OF ALL DOORS MUST BE A SMOOTH, UNINTERRUPTED SURFACE.
6. **DOOR CLOSERS** PER A117.1-2009 404.2.7.1
   - PROVIDE CLOSER AT ENTRY AND RESTROOM DOORS AS REQUIRED.
   - FORCE FOR PULLING/PUSHING MUST BE LESS THAN 5 lbs.



ADDITIONAL USPS REGULATIONS

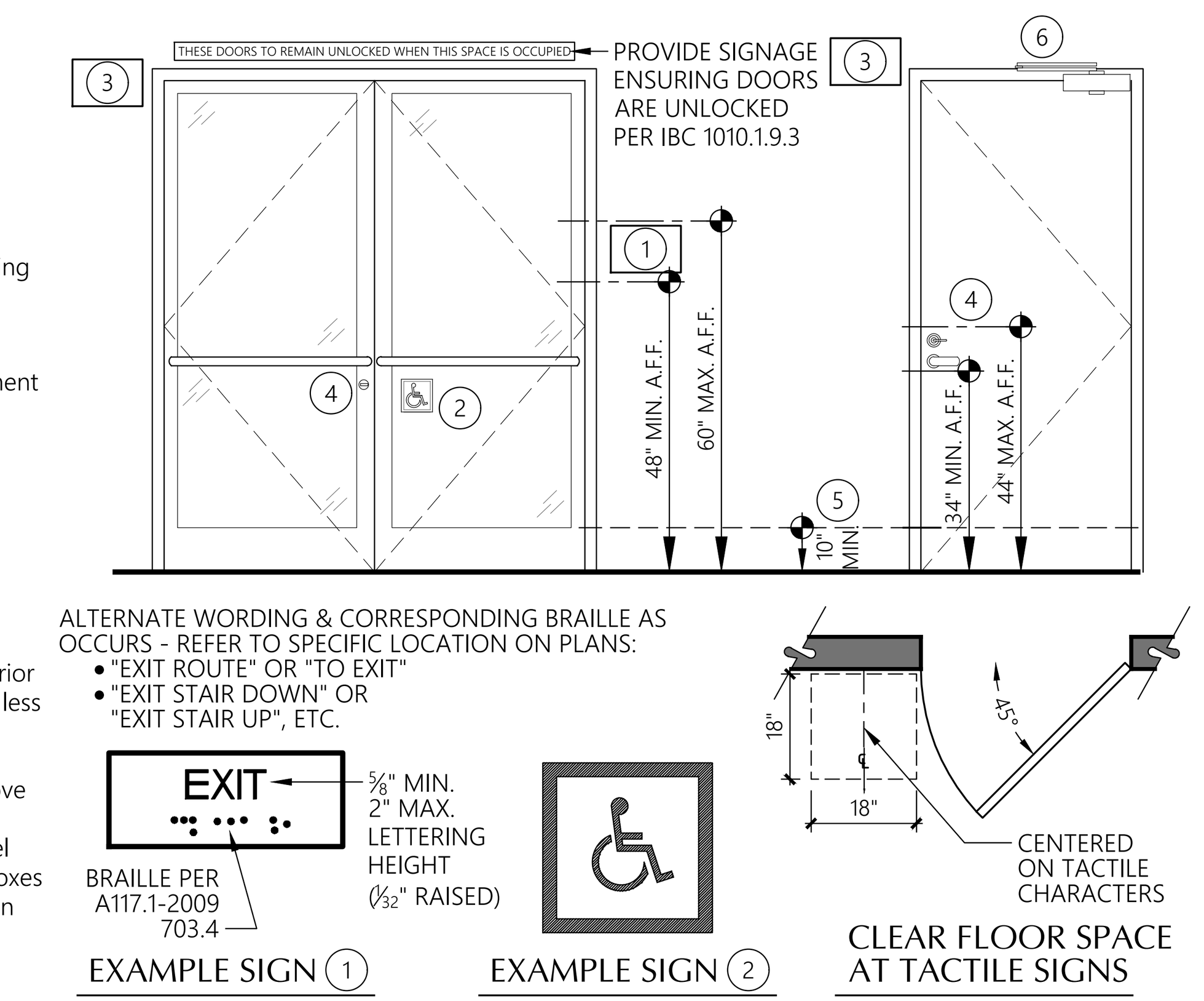
The mailboxes must be installed according to USPS-STD-4C regulations as listed below:

1. "At least one customer compartment shall be positioned less than 48" from the finished floor."
2. "No parcel locker compartment (interior bottom shelf) shall be positioned less than 15" from the finished floor."
3. "No patron lock shall be located more than 67" above the finished floor."
4. "No customer compartment (interior bottom shelf) shall be positioned less than 28" from the finished floor."
5. "The USPS Arrow lock shall be located between 36" and 48" above the finished floor."
6. "There must be at least one parcel locker for every ten patron mailboxes in installation of 10 or more patron mailboxes."

7 MAILBOX CONFIGURATION

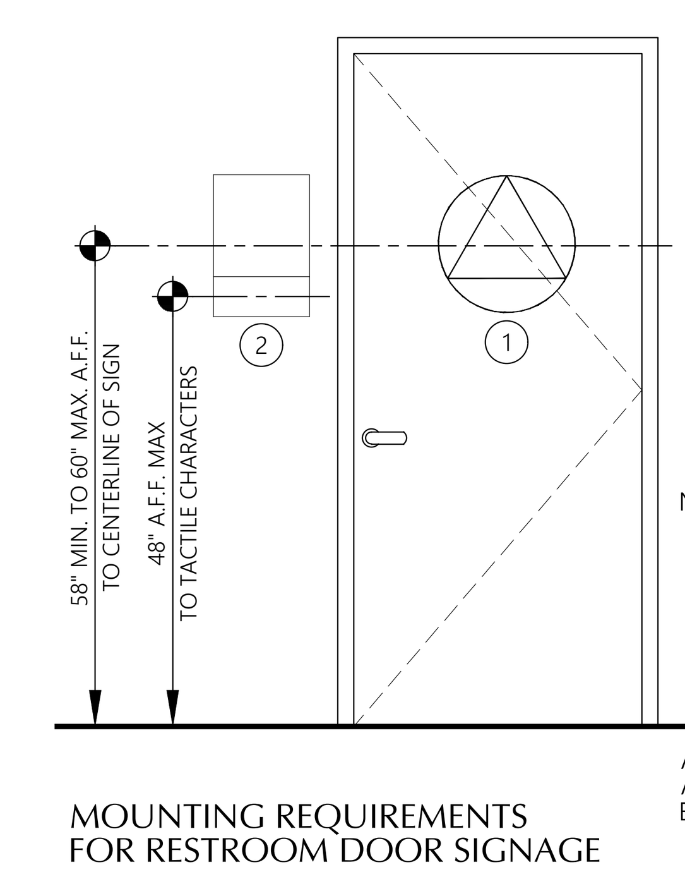
ELEVATION

3/4" = 1'-0"



3 EXIT DOOR SIGNAGE

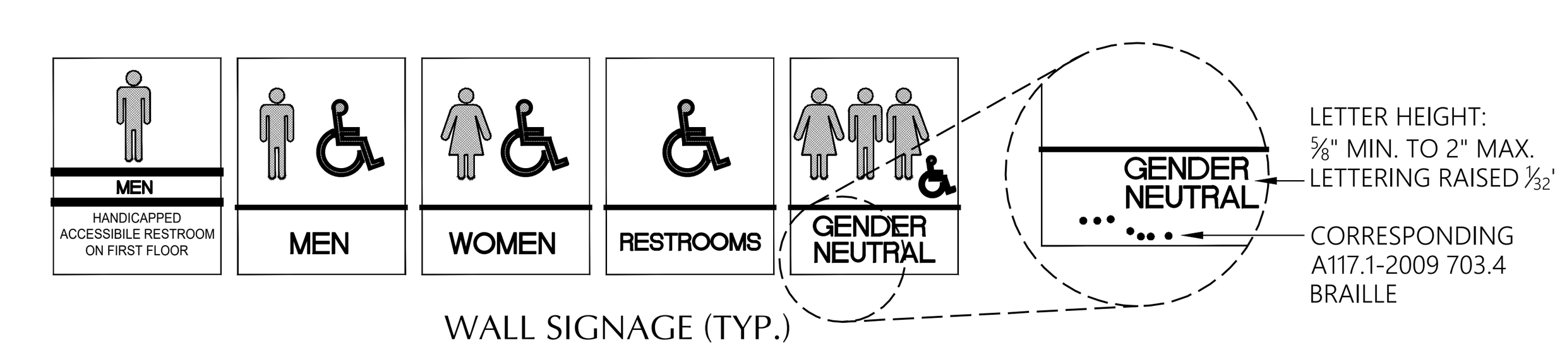
NTS

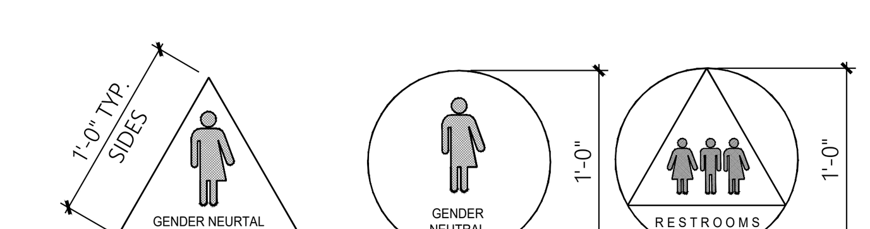


NOTES:

1. PROVIDE DOOR-MOUNTED SIGN AS SHOWN; SHALL COMPLY WITH A117.1-2009 703
2. PROVIDE WALL-MOUNTED SIGNAGE AS SHOWN; SIGNAGE TO BE PLACED AT THE LATCH/STRIKE SIDE OF DOOR AND BE CLEAR OF THE DOOR SWING; SHALL COMPLY WITH A117.1-2009 703

ALL SIGNAGE SHALL BE PLACED ON THE APPROACH SIDE OF THE DOOR AS ONE ENTERS THE ROOM OR SPACE





NOTES:

1. DOORWAYS LEADING TO TOILET ROOMS SHALL HAVE THE APPROPRIATE SYMBOL MOUNTED AT THE CENTERLINE OF THE DOOR AT THE HEIGHTS INDICATED. THEY SHALL BE 1/4" THICK IN A COLOR AND CONTRAST DIFFERENT FROM THE DOOR.
2. USE OF A117.1-2009 703.4 BRAILLE ONLY.

DOOR SIGNAGE (TYP.)

8 RESTROOM SIGNAGE

NTS

MILBRANDT ARCHITECTS

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Drawn By:

Sheet No.:

D5

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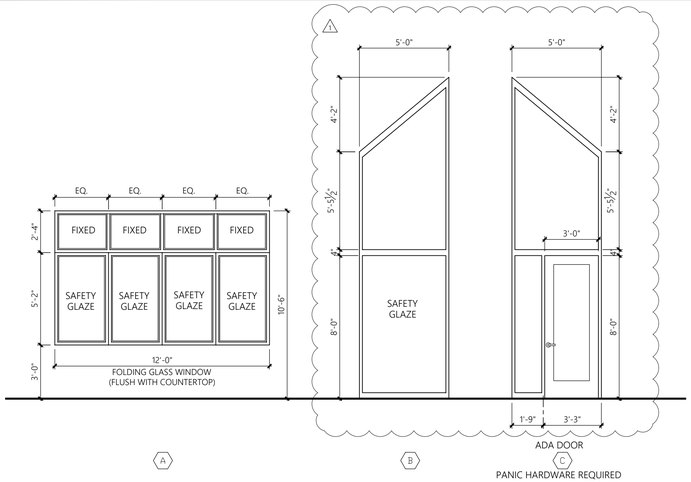
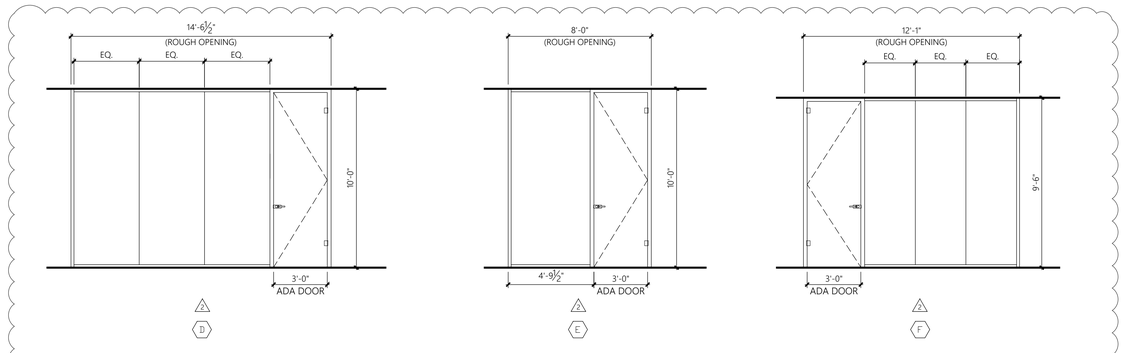


STOREFRONT SCHEDULE

NTS

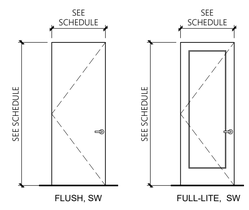
DOOR/GATE HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERATING DEVICES ON DOORS REQUIRED TO BE ACCESSIBLE BY CHAPTER 11 SHALL NOT REQUIRE TIGHT GRASPING, TIGHT PINCHING OR TWISTING OF THE WRIST TO OPERATE. KEY-LOCKING HARDWARE MAY BE USED ON THE MAIN EXIT WHEN THE MAIN EXIT CONSISTS OF A SINGLE DOOR OR PAIR OF DOORS IF THERE IS A SIGN STATING THIS DOOR MUST REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED. WHEN UNLOCKED, DOOR(S) MUST SWING WITHOUT OPERATION OF ANY LATCHING DEVICE PER SECTION 1010.1.9.1 OSSC 2019.

OPERABLE PART OF HARDWARE TO BE INSTALLED BETWEEN 34" AND 48" A.F.F.



INTERIOR GLASS PARTITIONS

NTS



DOOR SCHEDULE

NTS

Door Schedule - Clubhouse

Door No.	Type	Size	Construct	Finish	Fire Rating	Frame or Head/Jamb		Remarks	Min. U Factor	Max. SHGC
						Construct.	Finish			
15	FULL LITE, SW	3'-0" x 8'-0"	INSUL MTL	FF	45 min.	MTL.	PP	Latchset lockable from the outside, Accessible lever hardware, flush threshold, weatherstrip, Ext. grade door, self closing, Safety Glass, Card Reader, Exiting Hardware	0.24	0.61
16	FULL LITE, SW	3'-0" x 8'-0"	INSUL MTL	FF		MTL.	PP	Latchset lockable from the outside, Accessible lever hardware, flush threshold, weatherstrip, Ext. grade door, self closing, Safety Glass	0.24	0.61
17	FULL LITE, SW	3'-0" x 8'-0"	MTL	PP		MTL.	PP	Latchset lockable from the outside	-	-
18	FLUSH, SW	3'-0" x 8'-0"	SCW	PP		WOOD	PP	Latchset lockable from the outside, Accessible lever hardware, deadbolt, Card Reader	-	-
19	FLUSH, SW	3'-0" x 8'-0"	SCW	PP		WOOD	PP	Latchset lockable from the outside, Accessible lever hardware	-	-
20	FLUSH, SW	3'-0" x 8'-0"	INSUL MTL	FF		MTL.	PP	Latchset lockable from the outside, Accessible lever hardware, flush threshold, weatherstrip, Ext. grade door, self closing, Card Reader	0.24	0.61
21	FULL LITE, DBL SW	6'-0" x 8'-0"	INSUL MTL	FF		MTL.	PP	Latchset lockable from the outside, Accessible lever hardware, flush threshold, weatherstrip, Ext. grade door, self closing, Card Reader, Exiting Hardware	0.24	0.61
22	ROLL UP GARAGE	8'-0" x 8'-0"	MTL	FF		MTL.	PP	Roll up garage door	-	-

DOOR KEY
SCW = SOLID CORE WOOD
HCW = HOLLOW CORE WOOD
MTL = METAL
SW = SWING
DBL SW = DOUBLE SWING
PP = PRIME & PAINT
FF = FACTORY FINISH

City of Puyallup
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MILBRANDT ARCHITECTS
PRCNC20240278

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11063 REGISTERED ARCHITECT
ANNA P. THOMPSON
STATE OF WASHINGTON

Storefront and Door Schedule
Clubhouse

Bradley Heights Apartments

Puyallup, Wa

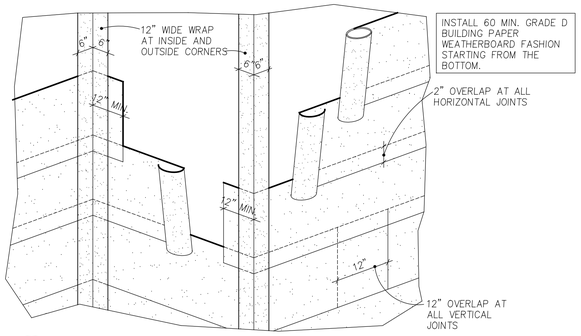
Timberlane Partners

Revisions

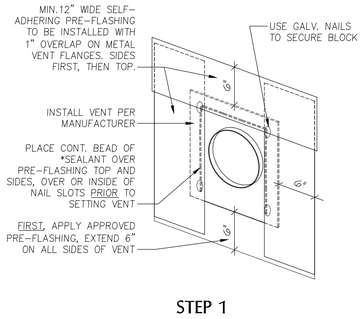
No.	Date	Description
1	8-30-24	Owner Changes/ Permit Corrections
2	4-24-25	Owner Changes/ Permit Corrections

Initial Publish Date:
Date Plotted: 5-7-25
Job No.: 23-06
Drawn By:
Sheet No.: D6

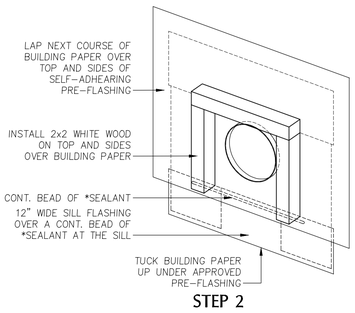
P:\2306 \CLUBHOUSE \CLUBHOUSE_DETAILS.DWG



17 BUILDING PAPER INSTALLATION
NO SCALE

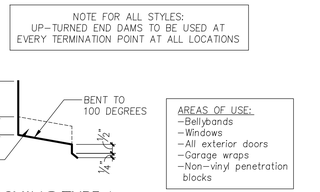


STEP 1

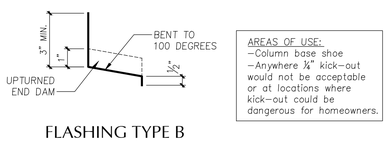


STEP 2

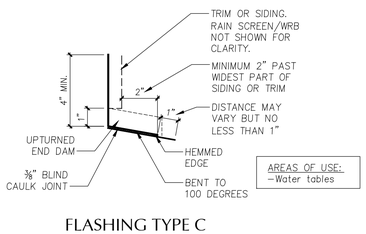
18 AIR VENT (8" OR LARGER)
NO SCALE



FLASHING TYPE A

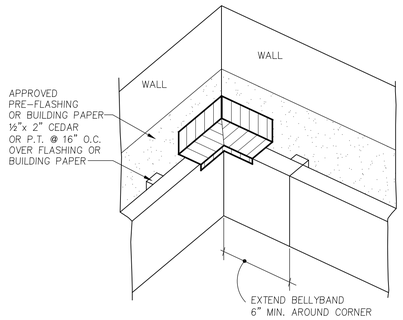


FLASHING TYPE B



FLASHING TYPE C

20 HEAD FLASHING TYPES
3" = 1'-0" SECTION



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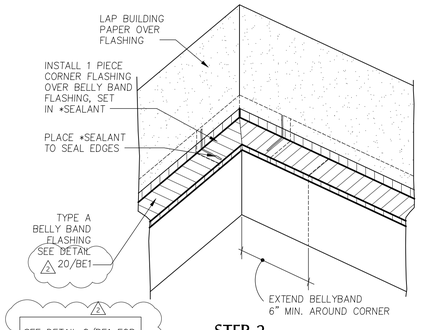

STEP 2

16 BELLYBAND FLASHING
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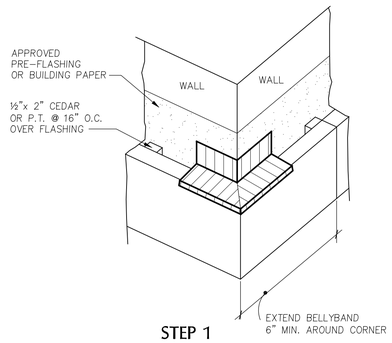

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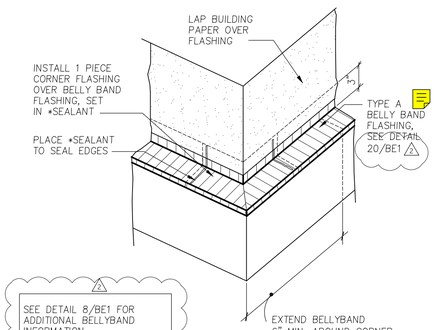
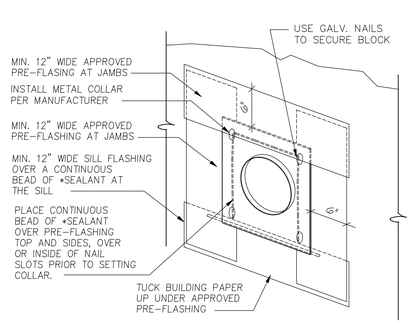


STEP 2

12 BELLYBAND FLASHING
NO SCALE



10 DIRECT VENT F.P.
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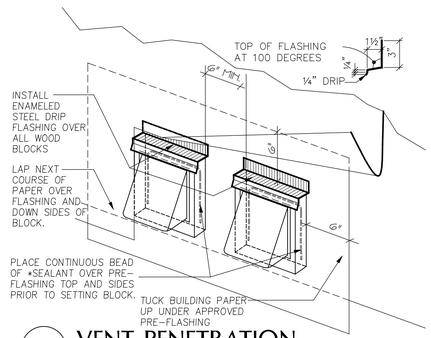

5 VENT PENETRATION
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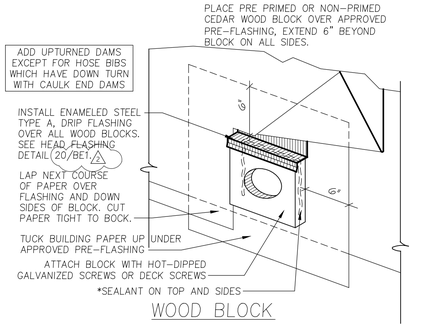
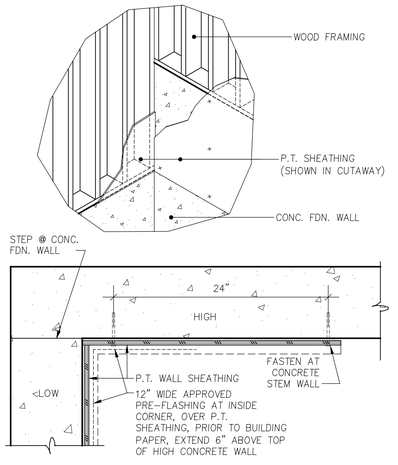
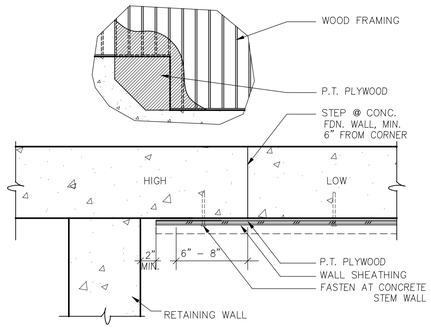


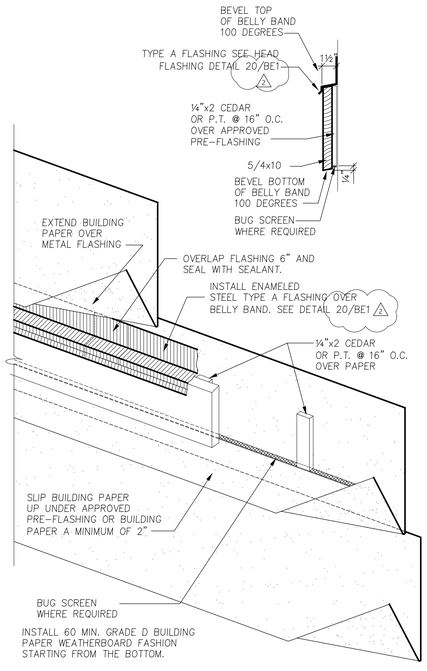
6 PENETRATION DETAIL
NO SCALE



2 CORNER AT FDN. STEP
NO SCALE



3 SIDING AT FDN. STEP
NO SCALE



8 BELLY BAND
NO SCALE

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Web: www.milbrandtarch.com

11063 REGISTERED ARCHITECT
ANNA P. THOMPSON
STATE OF WASHINGTON

Building Envelope Details

Bradley Heights Apartments
Puyallup, Wa

Timberlane Partners

Revisions

No.	Date	Description

Initial Publish Date:
Date Plotted: 5-7-25
Job No.: 23-06
Drawn By: REW/DJV
Sheet No.: **BE1**

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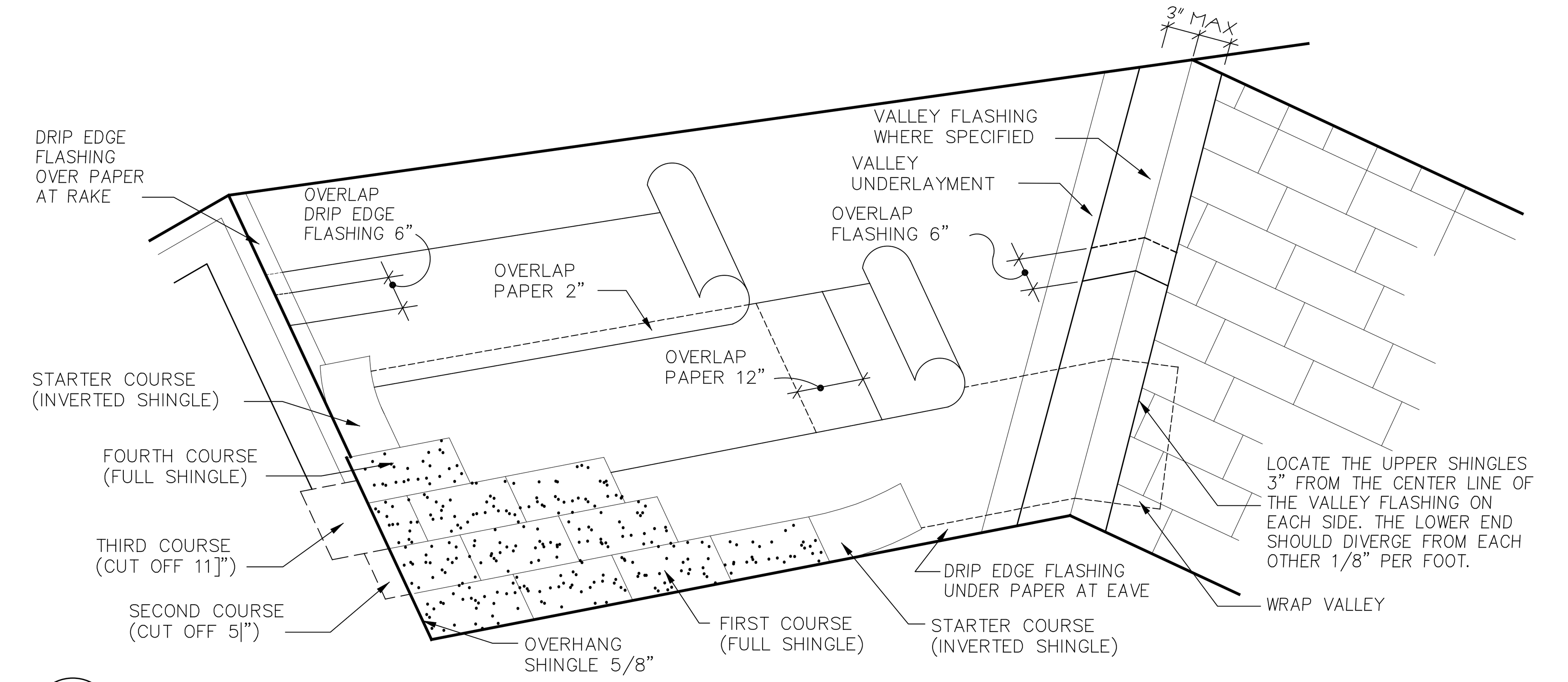
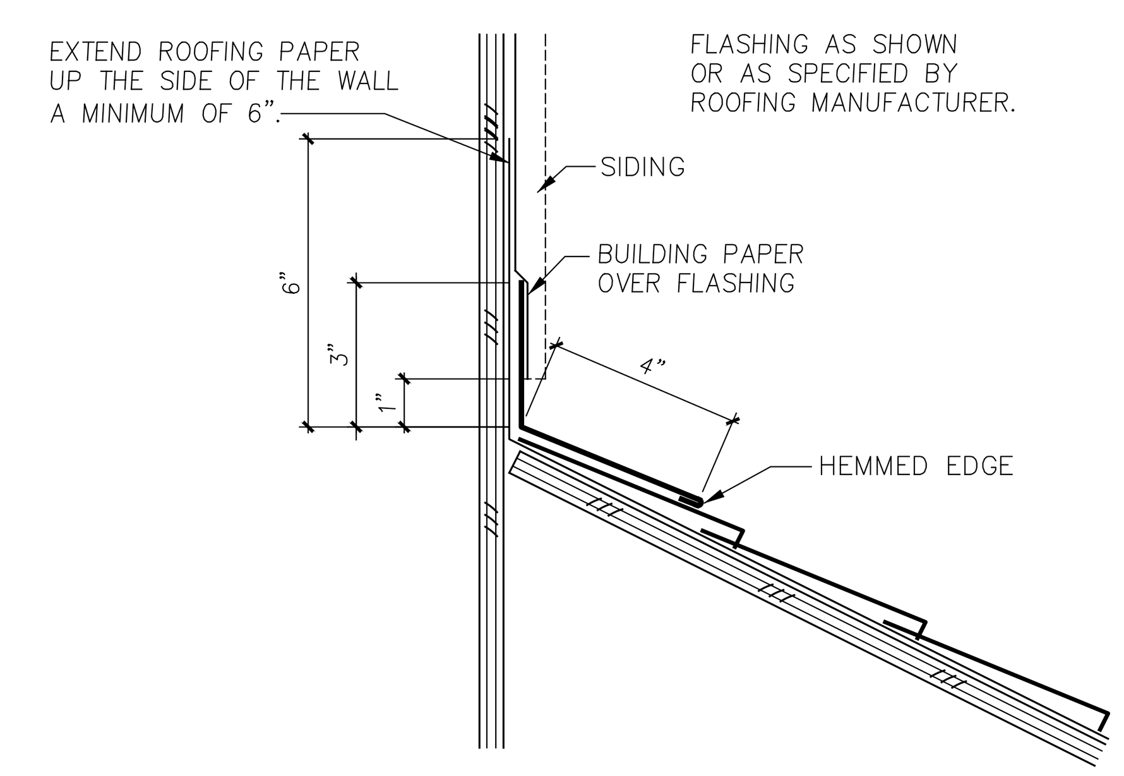
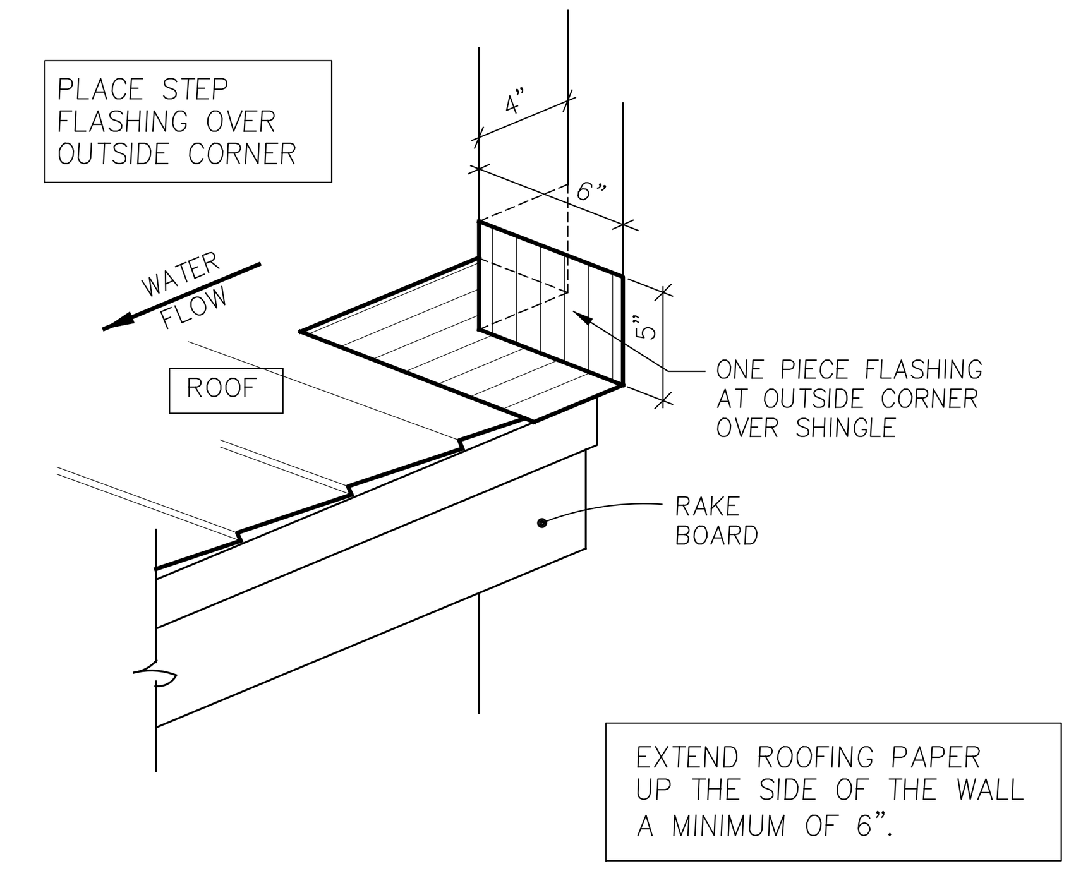


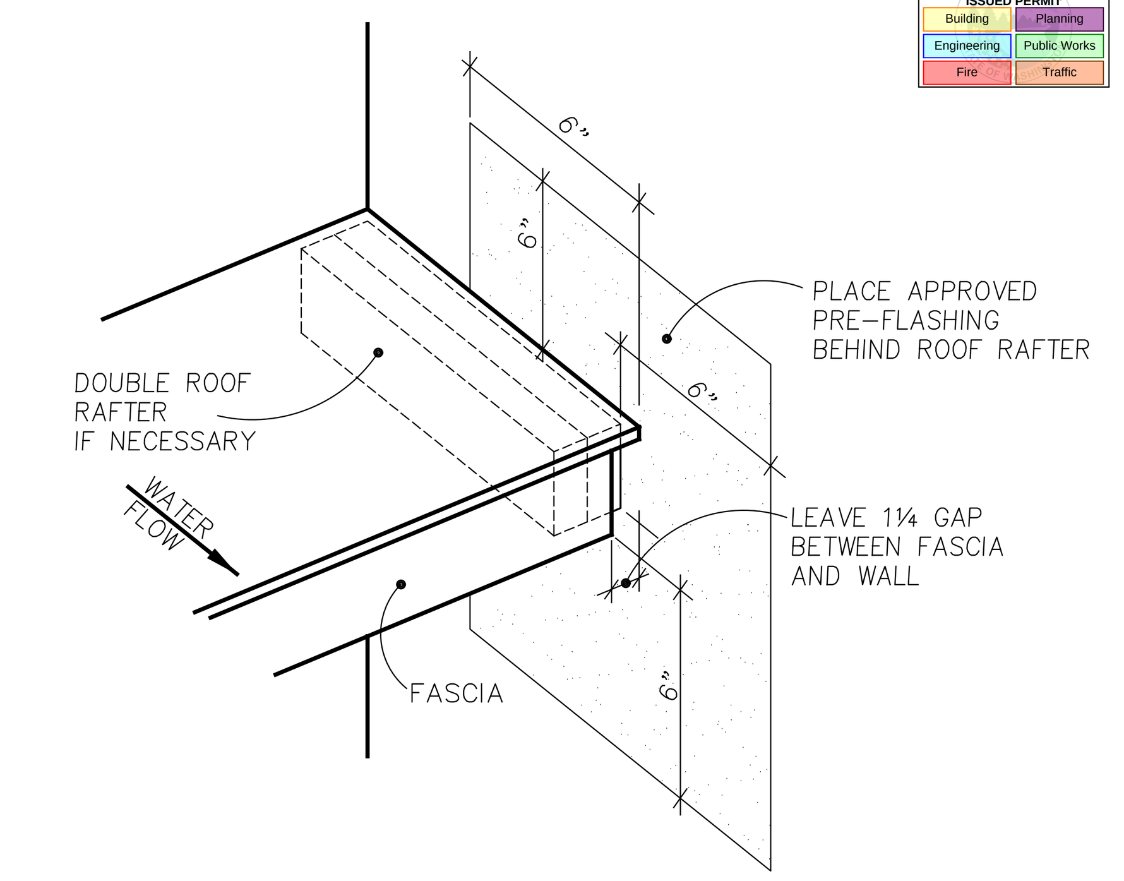
17 ROOF AND VALLEY INSTALLATION
NO SCALE



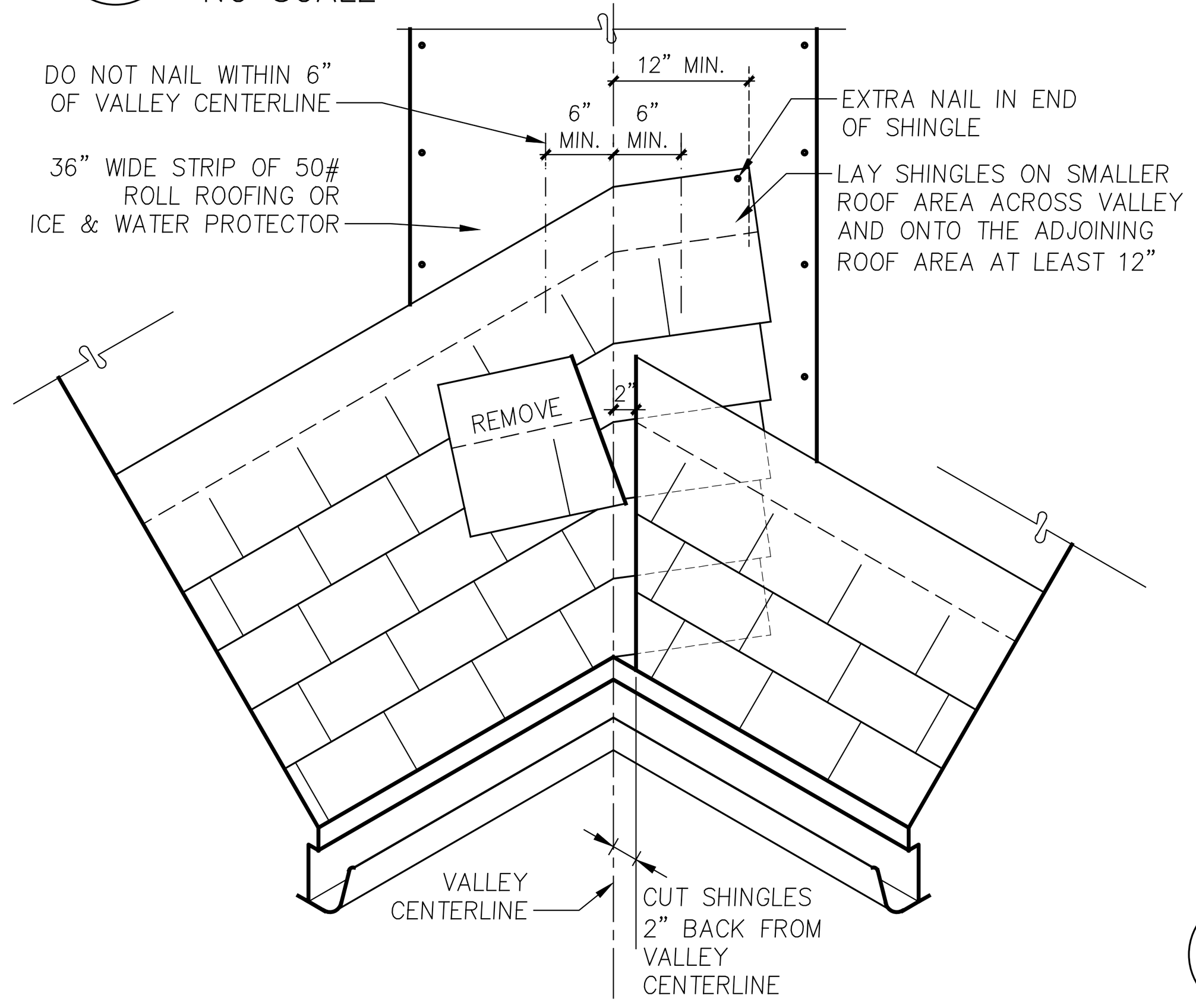
9 ROOF TO WALL
3"= 1'-0"



5 ROOF / OUTSIDE CORNER
1-1/2"=1'-0"



1 ROOF TO WALL
NO SCALE



18 NON METAL VALLEY INSTALLATION
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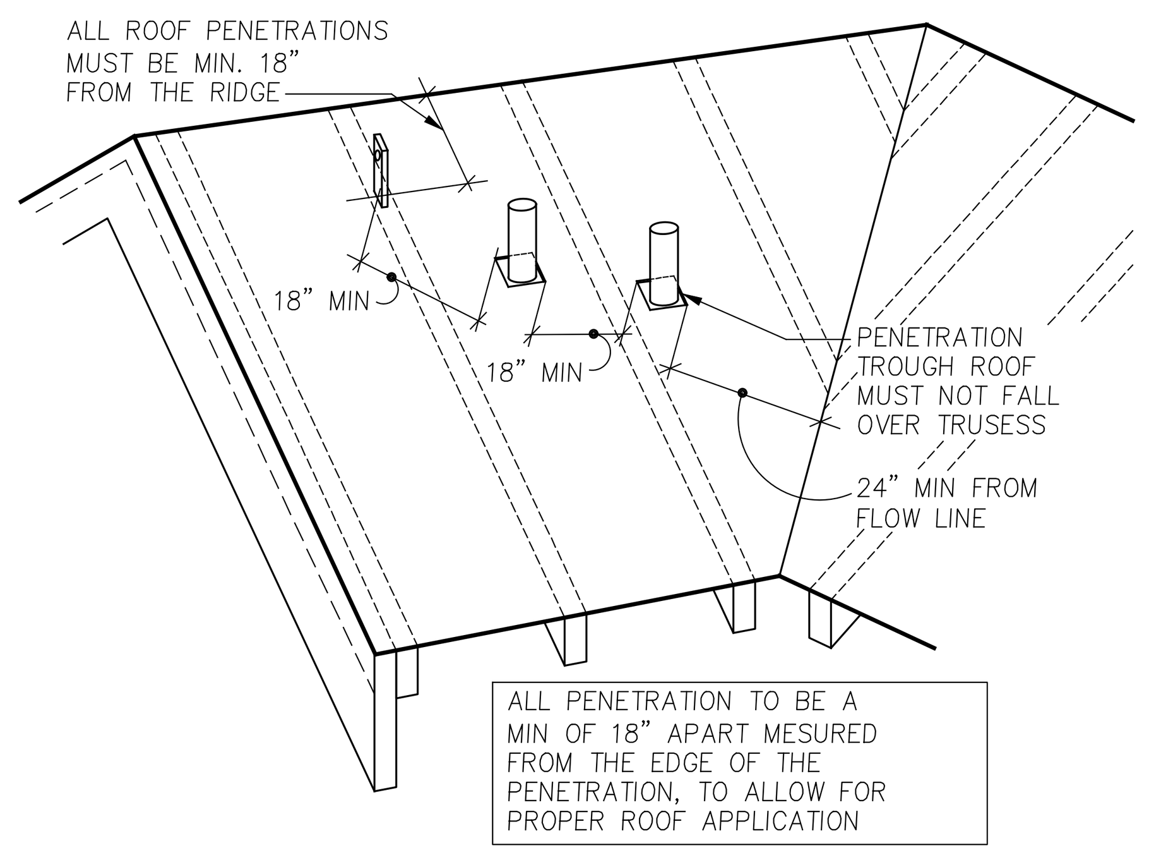
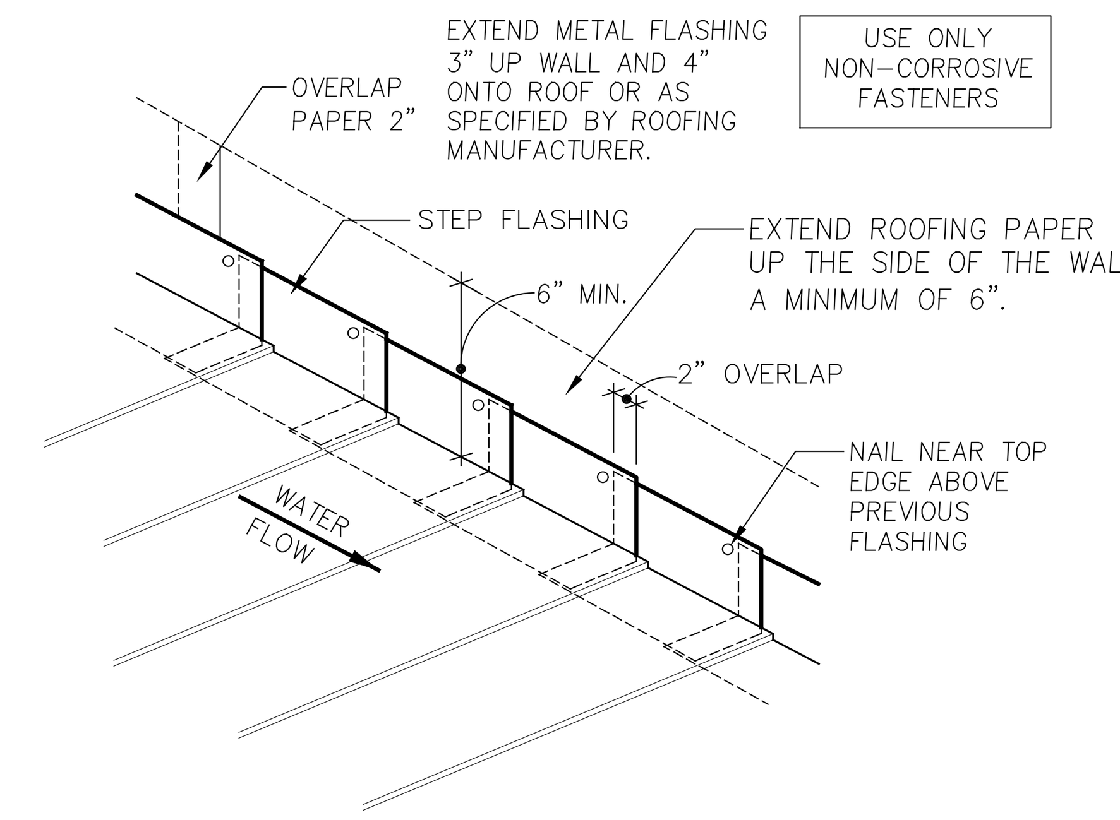


14 ROOF PENETRATION
NO SCALE



10 STEP FLASHING
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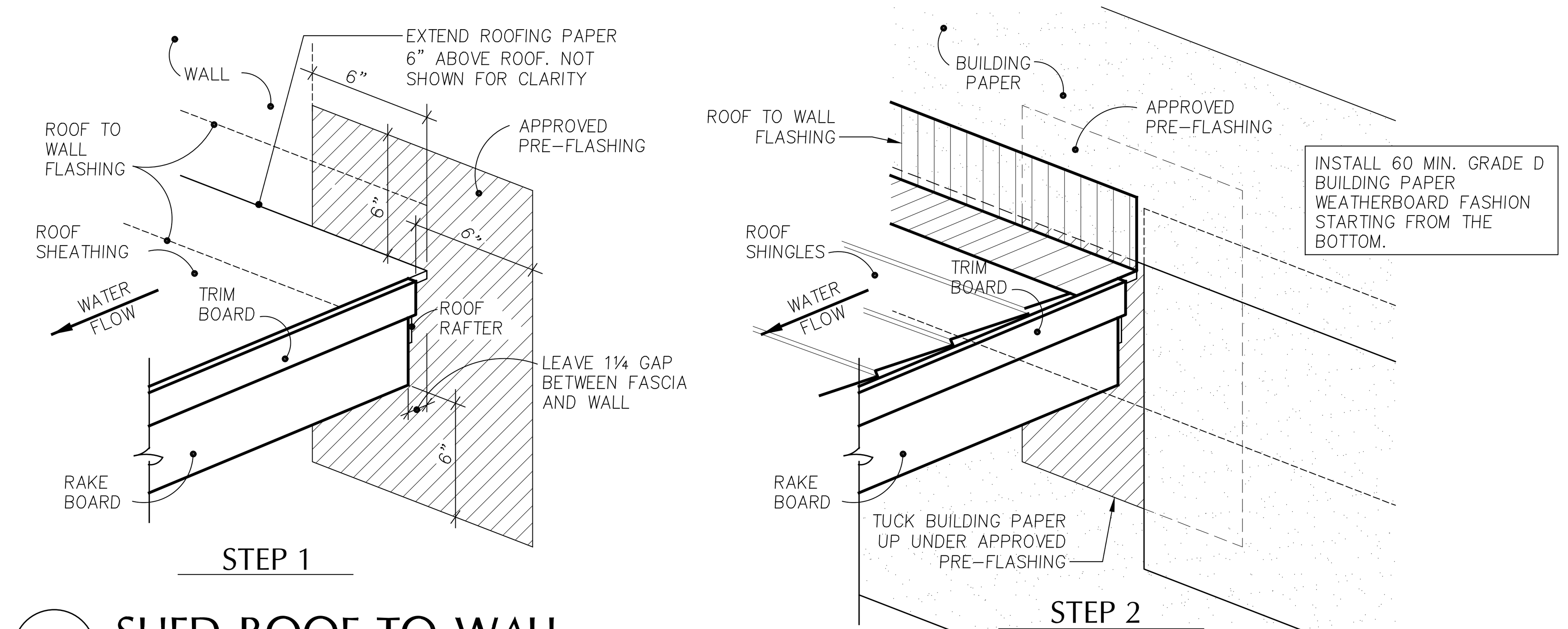
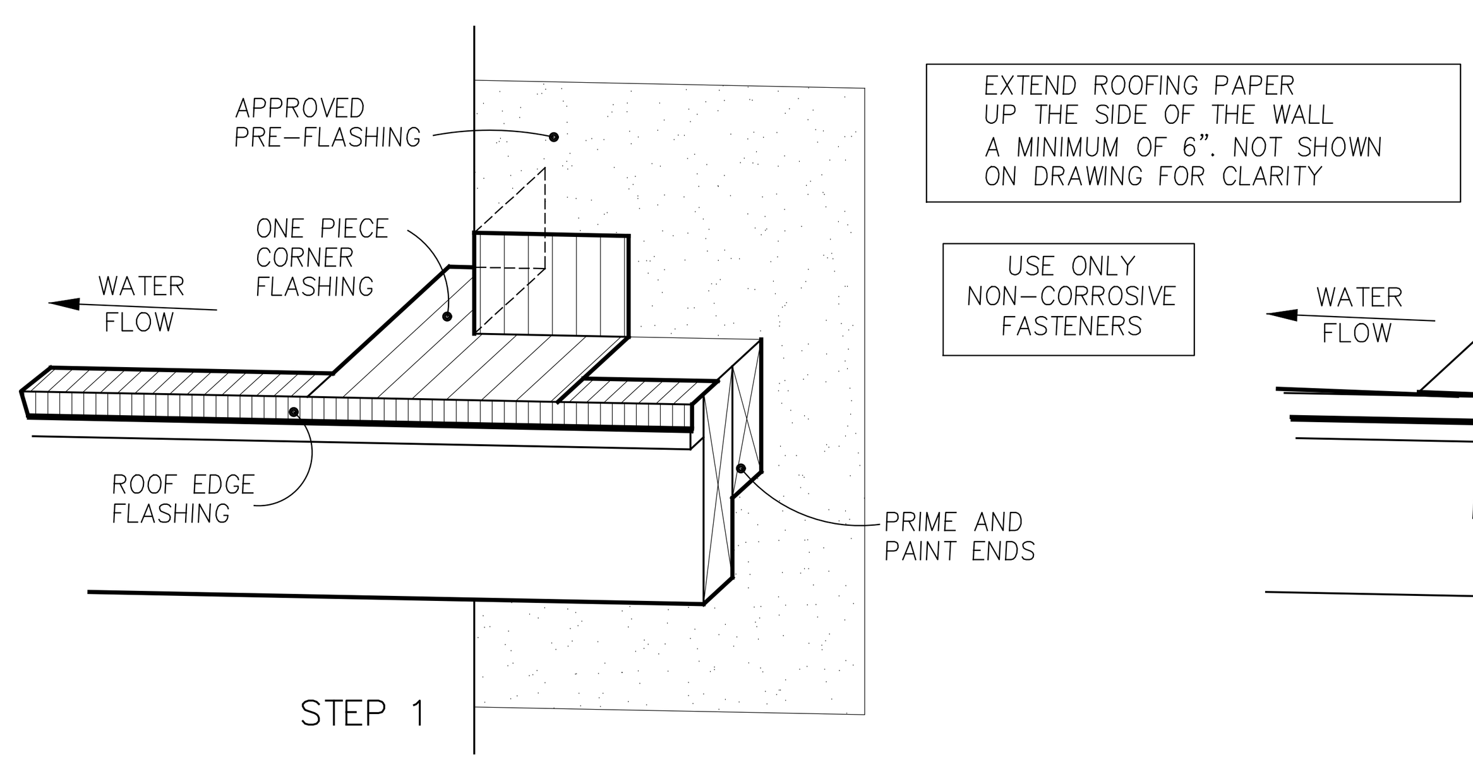
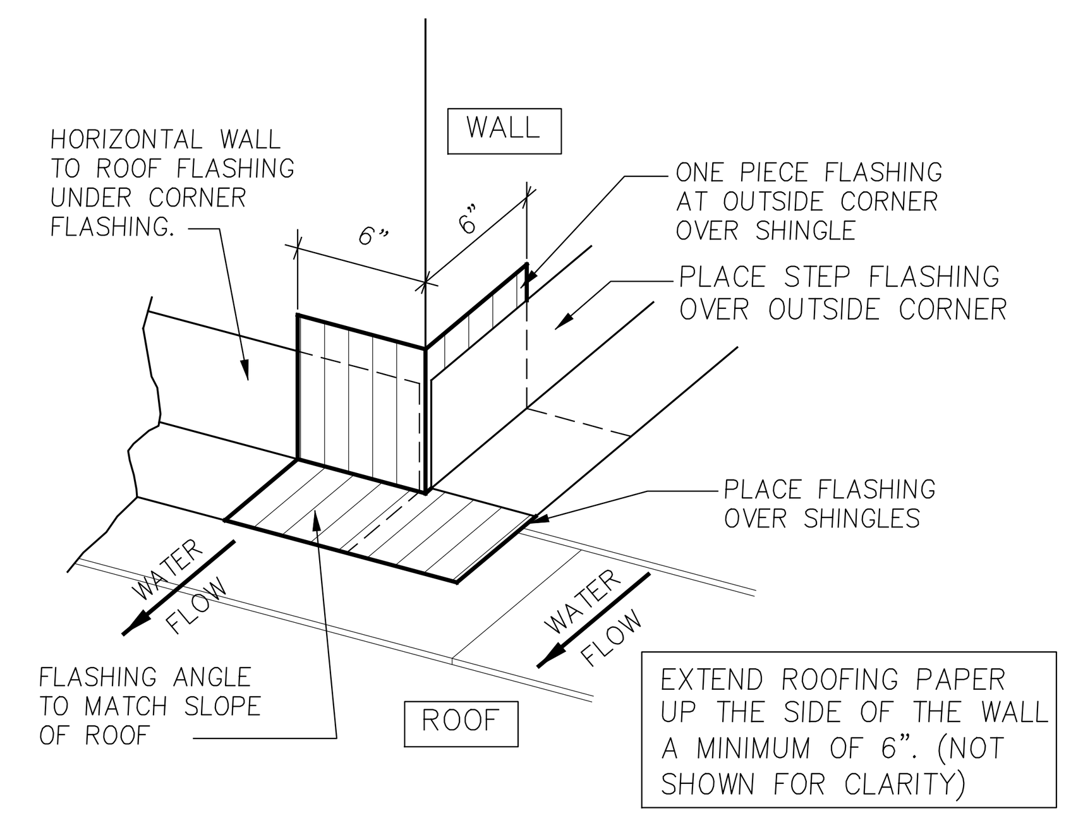


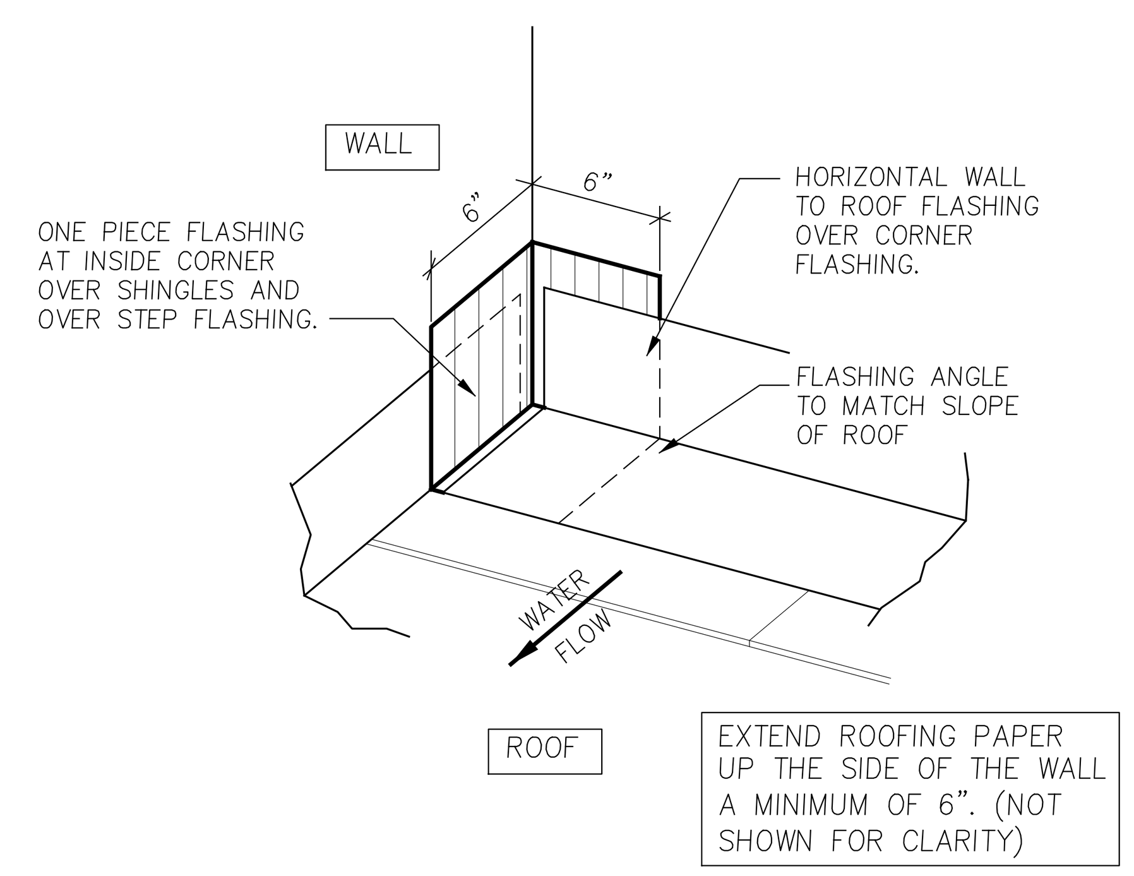
6 SHED ROOF TO WALL
NO SCALE



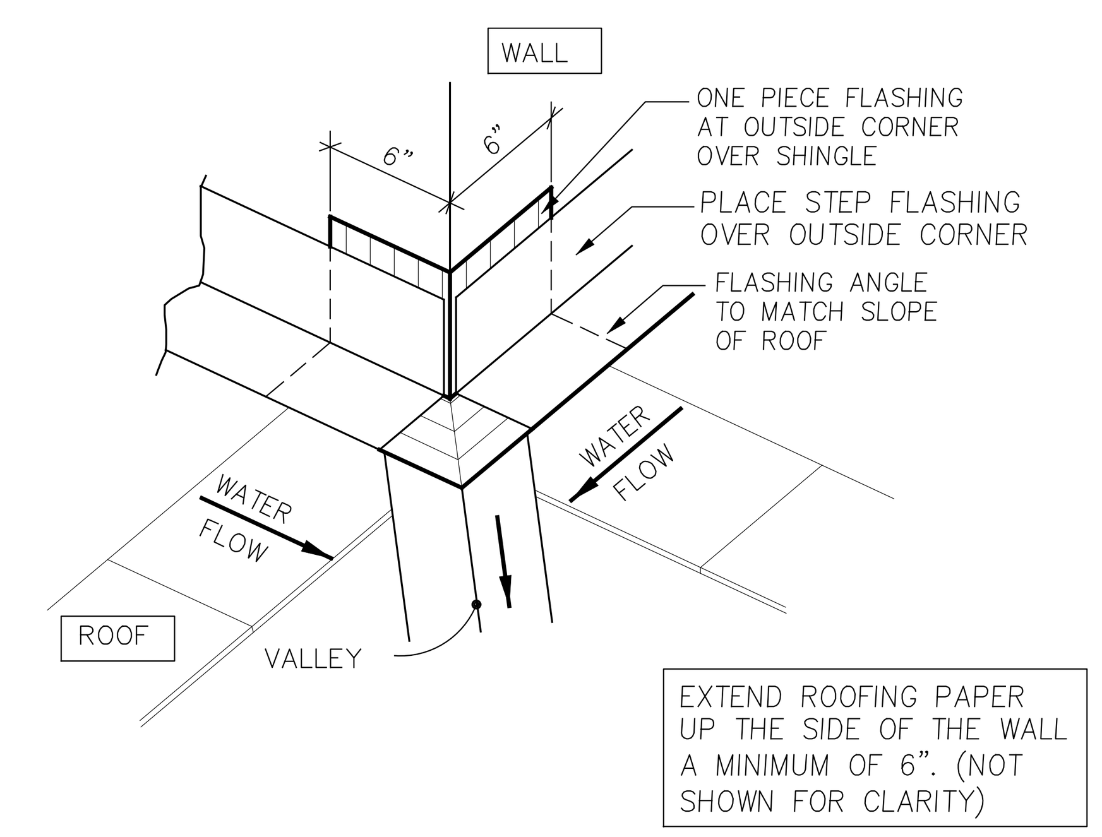
19 ROOF / CORNER OVERLAP
1-1/2" = 1'-0"



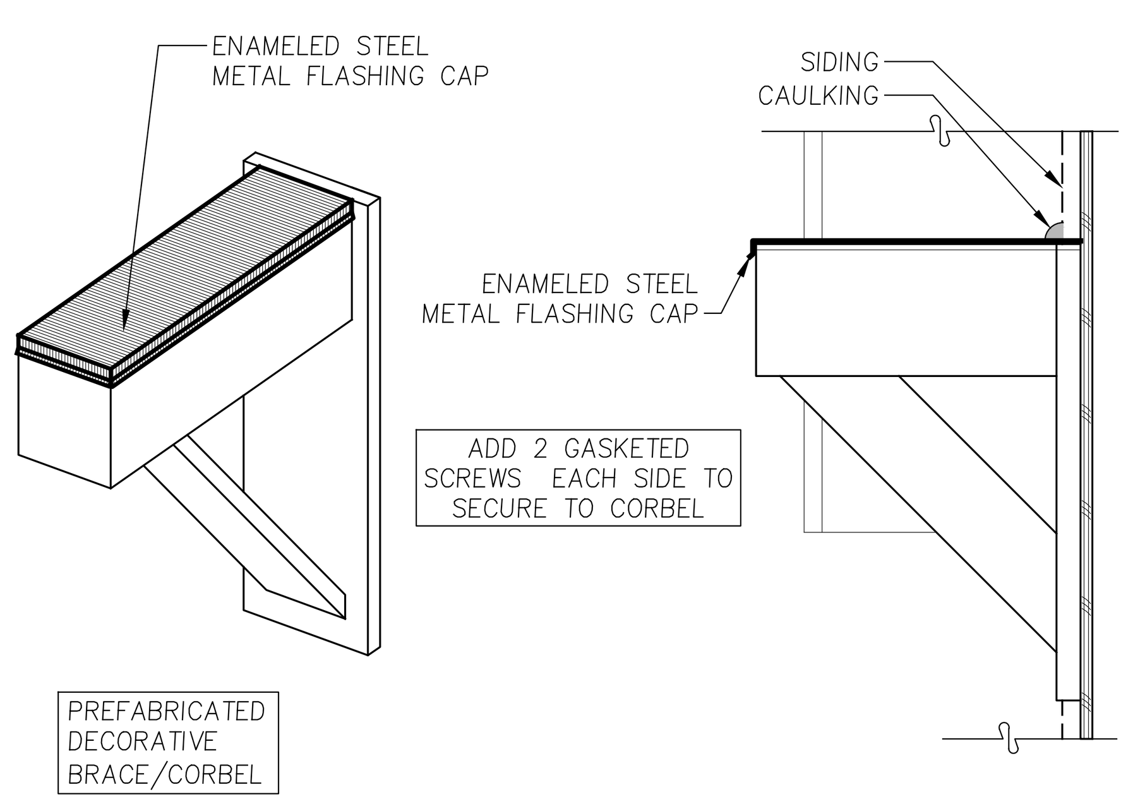
11 OUTSIDE CORNER
NO SCALE



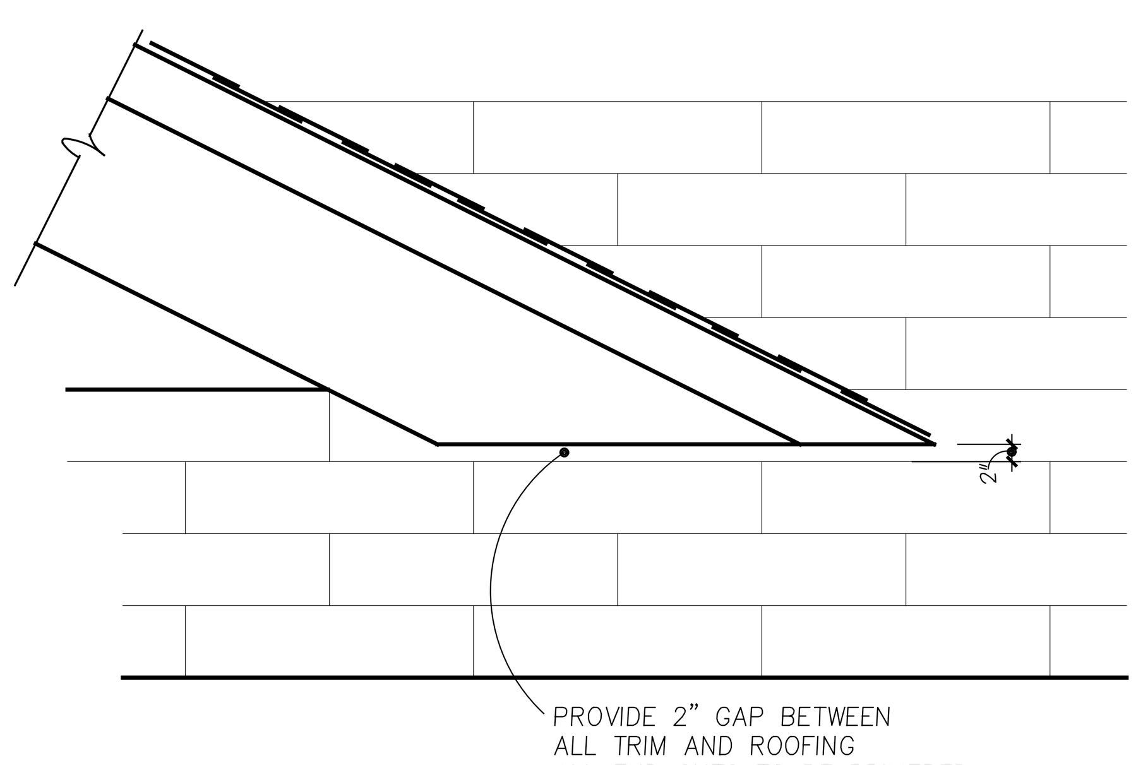
7 INSIDE CORNER AT ROOF
NO SCALE



3 OUTSIDE CORNER AT VALLEY
NO SCALE



20 DECORATIVE CORBEL/BRACE
NO SCALE



16 ROOF SEPARATION
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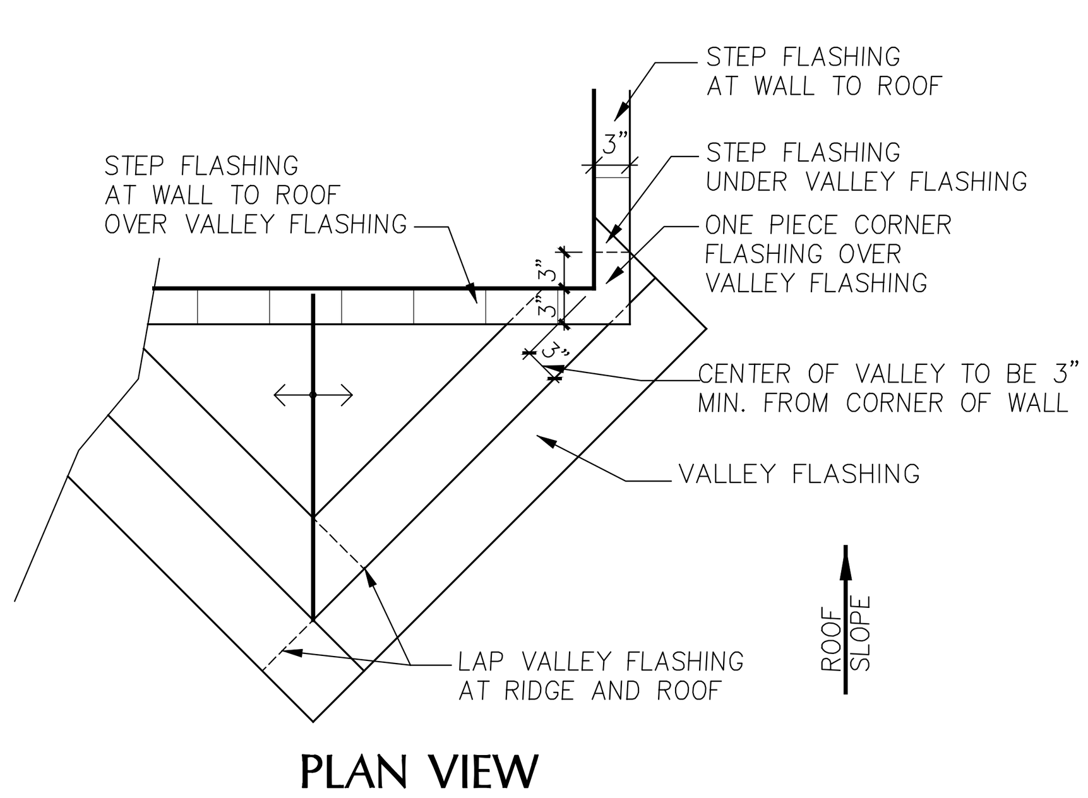
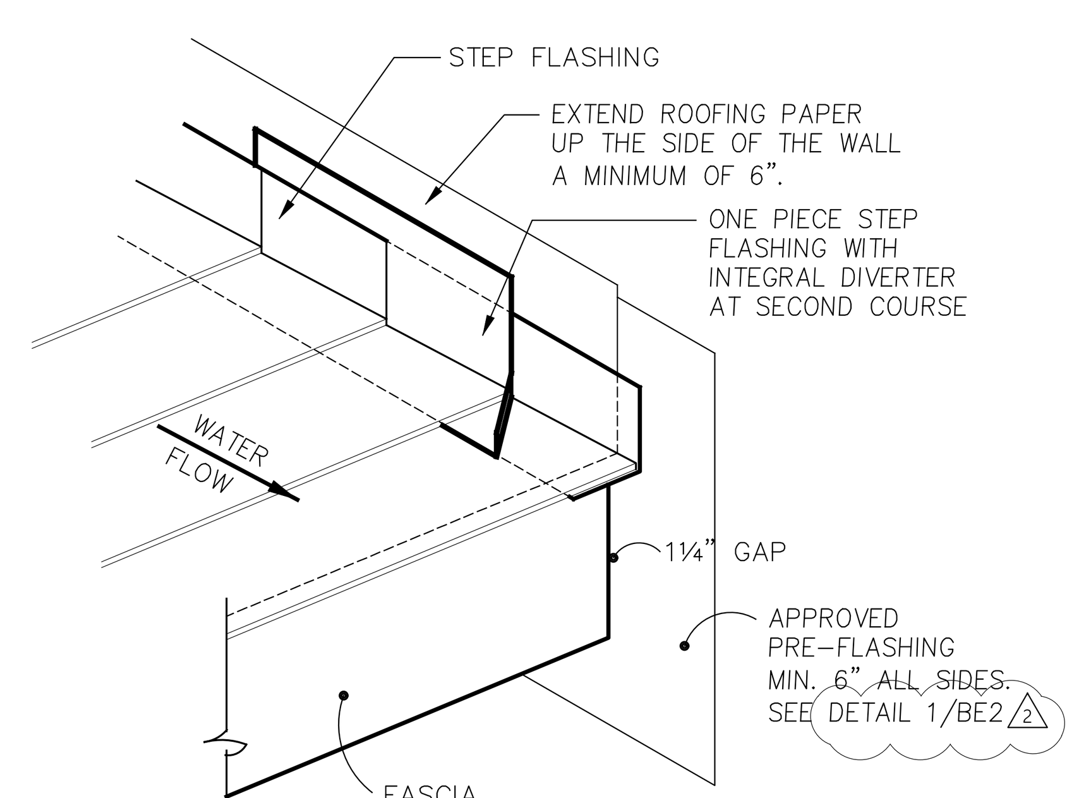


12 CRICKET DETAIL
3/4"=1'-0"



8 ROOF DIVERTER
NO SCALE

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11063 REGISTERED ARCHITECT
ANNA P. THOMPSON
STATE OF WASHINGTON

Building Envelope Details

Bradley Heights Apartments

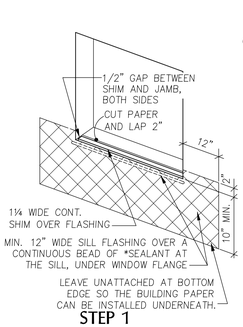
Puyallup, Wa

Timberlane Partners

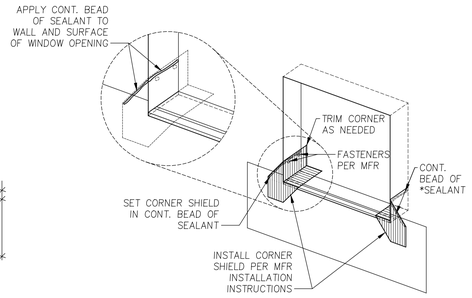
Revisions

No.	Date	Description

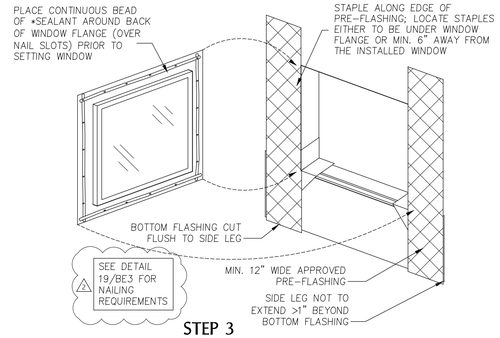
Initial Publish Date:
Date Plotted: 5-7-25
Job No.: 23-06
Drawn By: REW/DJV
Sheet No.: **BE2**



STEP 1



STEP 2



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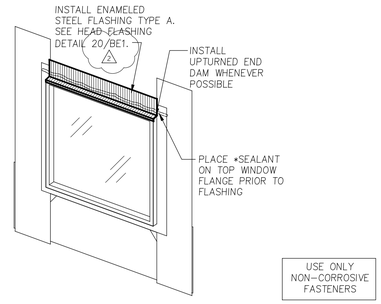

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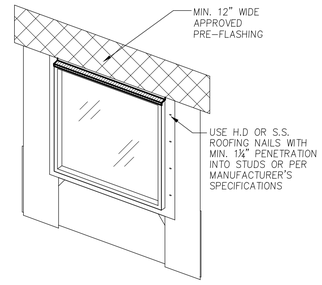

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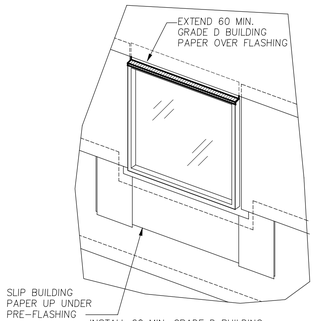

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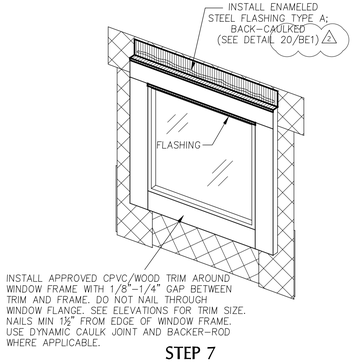

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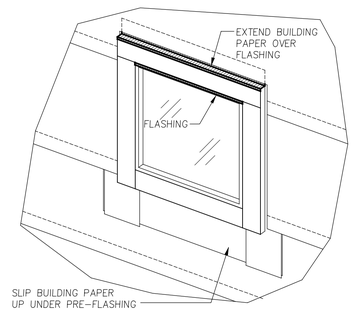
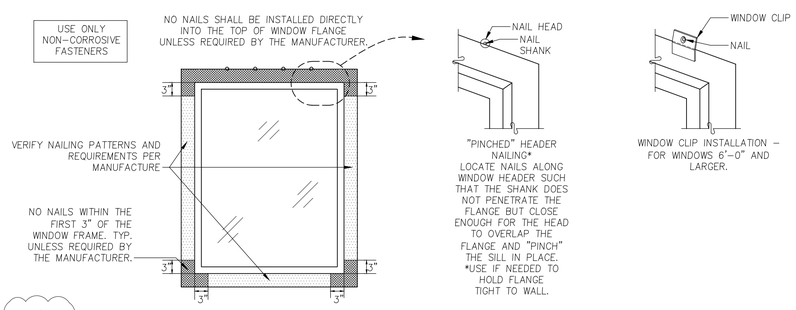


STEP 8

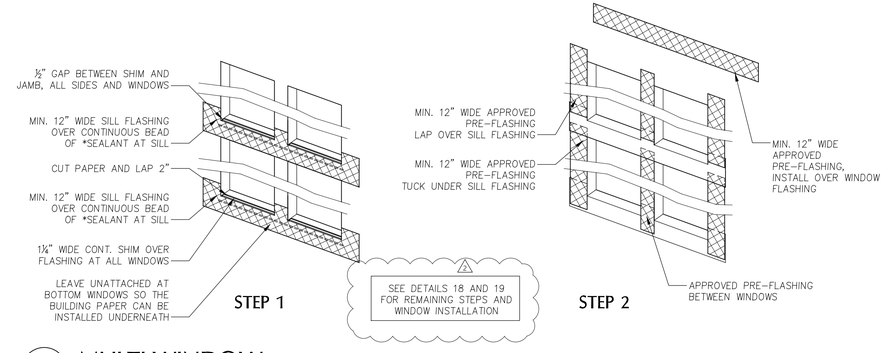
18 WINDOW INSTALLATION WITH WOOD TRIM

NO SCALE



19 TYPICAL WINDOW FLANGE NAILING

NO SCALE

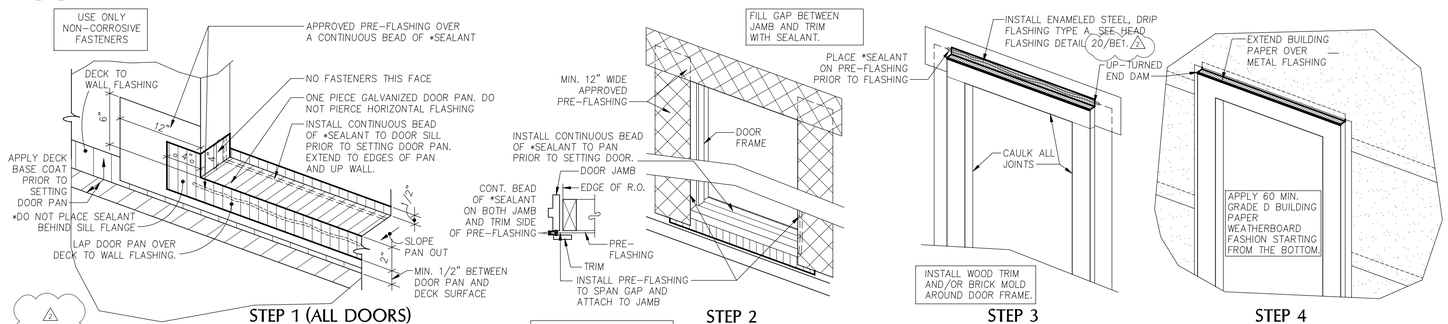


STEP 1 STEP 2

DETAIL REMOVED

12 MULTI-WINDOW

NO SCALE



20 DOOR INSTALLATION PROCEDURE

NO SCALE

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11063 REGISTERED ARCHITECT
ANNA P. THOMPSON
STATE OF WASHINGTON

Building Envelope Details

Bradley Heights Apartments

Puyallup, Wa

Timberlane Partners

Revisions

No.	Date	Description

Initial Publish Date:
Date Plotted: 5-7-25
Job No.: 23-06
Drawn By: REW/DJV
Sheet No.: **BE3**

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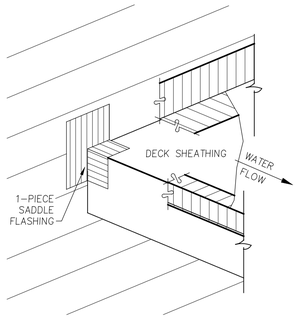
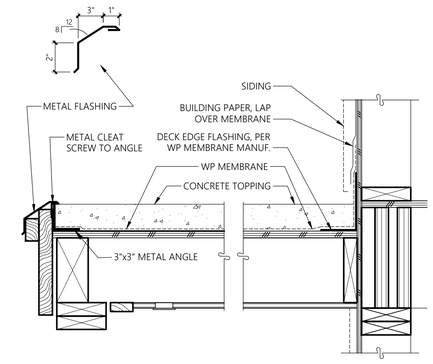
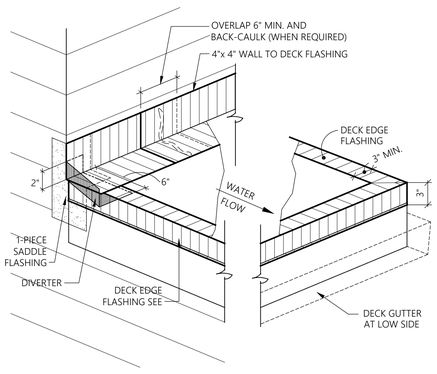


14 1-PIECE DECK SADDLE FLASHING
NO SCALE

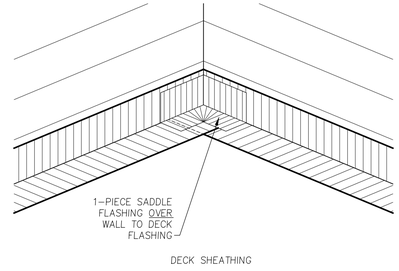
CLEAN AND PREPARE SURFACES PRIOR TO COATING, REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR BEST PRACTICES.



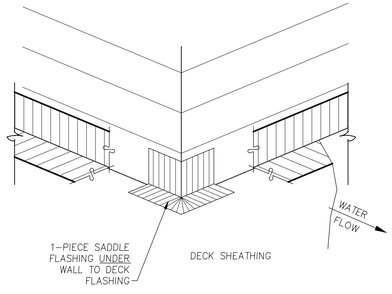
15 DECK FLASHING - INSIDE CORNER
NO SCALE

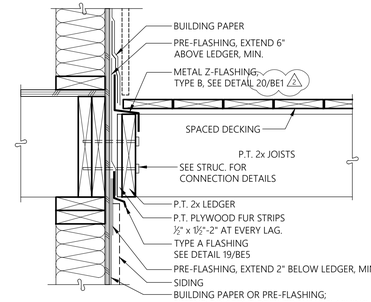


20 DECK DETAILS
NO SCALE



16 DECK FLASHING - OUTSIDE CORNER
NO SCALE





2 DECK TO WALL FLASHING SPACED DECKING
1-1/2" = 1'-0" SECTION

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Job No.: 23-06
Drawn By: REW/DJV
Sheet No.: **BE4**

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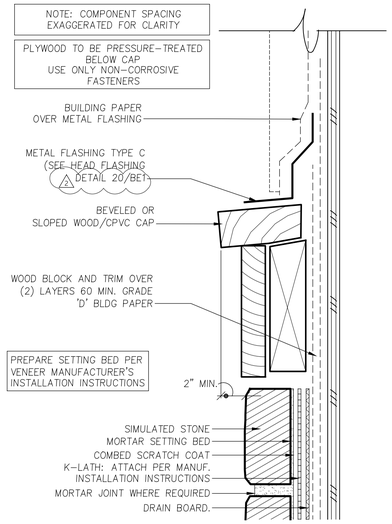
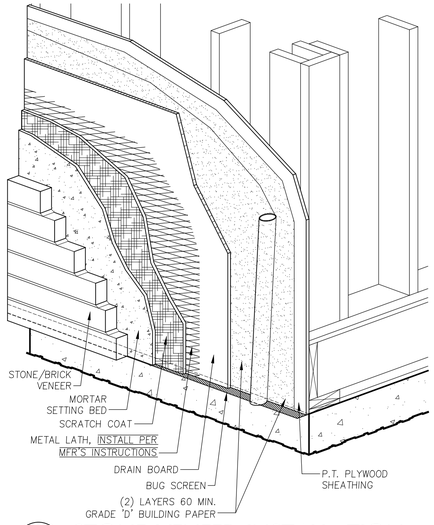
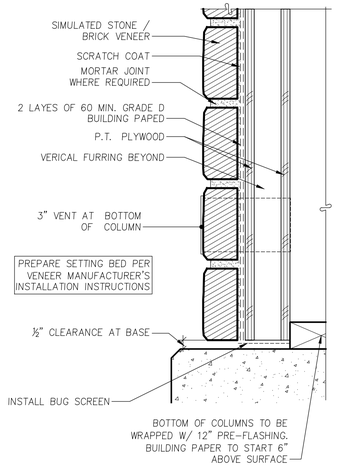


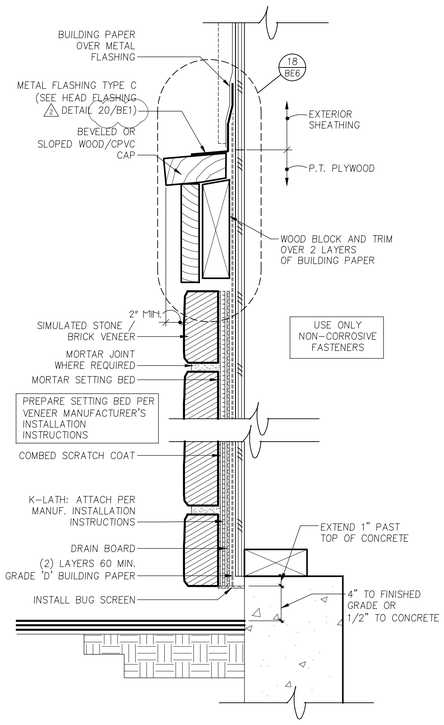
18 TYPICAL WATERTABLE TRIM
4" = 1'-0" SECTION



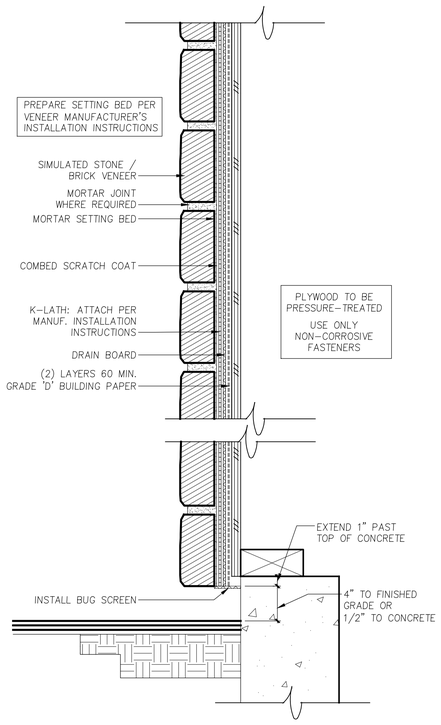
14 STONE VENEER INSTALLATION
NO SCALE



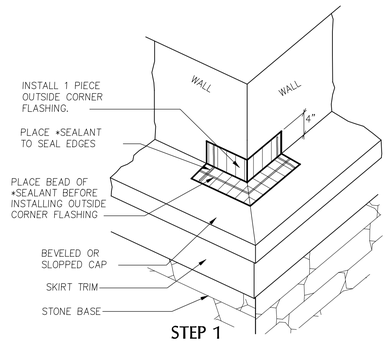
10 BRICK VENEER AT COLUMN BASE
3" = 1'-0" SECTION



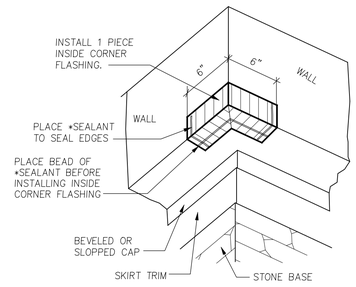
20 STONE WATERTABLE ON FRAMING
3" = 1'-0" SECTION



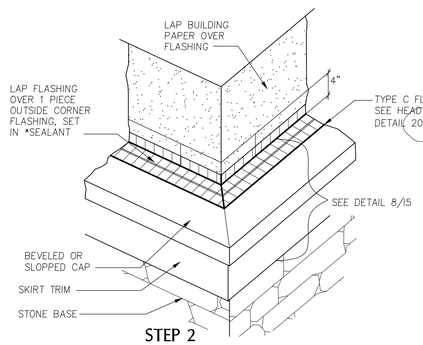
16 STONE ON FRAMING (FULL-HEIGHT)
3" = 1'-0" SECTION



STEP 1

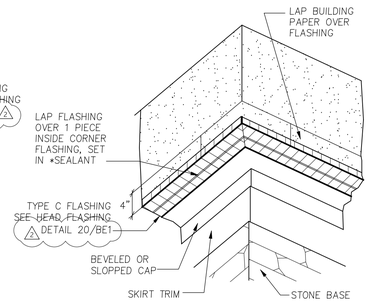


STEP 1



STEP 2

OUTSIDE CORNER



STEP 2

INSIDE CORNER

12 STONE TRIM FLASHING (WATERTABLE TRIM)
NO SCALE

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Initial Publish Date:
Date Plotted: 5-7-25
Job No.: 23-06
Drawn By: REW/DJV
Sheet No.: **BE5**

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GENERAL NOTES

GENERAL NOTES – MECHANICAL

1. REFERENCE TO RELATED WORK: "REF" INDICATIONS DENOTE WORK COVERED ELSEWHERE (ARCHITECTURAL, STRUCTURAL, CIVIL, ELECTRICAL, LANDSCAPE, OR KITCHEN), OR ITEM BASED ON A SPECIFIC MANUFACTURER'S DIMENSIONS (VERIFY).
2. ELECTRICAL CHARACTERISTICS: REFER TO ELECTRICAL DRAWINGS FOR ELECTRICAL CHARACTERISTICS (VOLTAGES, ETC. OF MECHANICAL EQUIPMENT, UNLESS OTHERWISE INDICATED.
3. CODES: COMPLETE INSTALLATION OF THE MECHANICAL SYSTEM SHALL BE PER THE APPLICABLE BUILDING, MECHANICAL, ENERGY, PLUMBING, FIRE, AND HEALTH CODES AND REGULATIONS AS ADOPTED BY THE LOCAL AHJ.
4. PREPARE AND SUBMIT FOR REVIEW A SHOP DRAWING BASED ON FINAL STRUCTURAL SHOP DRAWINGS FOR LOCATING AND ROUTING ALL DUCTWORK, DAMPERS, EQUIPMENT, PIPING, ETC.
   A. COORDINATE FLOOR AND BEAM PENETRATIONS WITH STRUCTURAL.
   B. COORDINATE FINAL LOCATION AND ROUTING WITH CEILING, LIGHTS, WALLS, FIRE SPRINKLER PIPING, AND OTHER TRADES WORK.
   C. INCLUDE ADDITIONAL OFFSETS, ELBOWS, ROUTING, EQUIVALENT DUCT SIZING EXCHANGE, RELOCATING, ETC. AS REQUIRED FOR A COMPLETE OPERATING MECHANICAL SYSTEM.
   D. PROVIDE SHOP DRAWINGS AT NO ADDITIONAL COST TO THE OWNER.
5. MECHANICAL CONTRACTOR SHALL LOCATE AND COORDINATE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT WITHIN THE STRUCTURE.
6. ACCESS DOORS: COORDINATE WITH ARCHITECT AND LOCATE ALL ACCESS DOORS ON SHOP DRAWINGS PRIOR TO BEGINNING OF CONSTRUCTION. ACCESS DOORS IN FIRE RATED STRUCTURE SHALL BE FIRE RATED. VERIFY ACCESS DOOR LOCATIONS WITH GENERAL CONTRACTOR PRIOR TO BIDDING.
7. RATED PENETRATION: DUCT PENETRATIONS THROUGH RATED ENCLOSURES SHALL BE FIRE/SMOKE DAMPERED PER THE LATEST EDITION OF THE UNDERWRITERS LABORATORIES(UL) FIRE RESISTANCE WITH HOURLY RATINGS FOR THROUGH-PENETRATION FIRE STOPS SYSTEM VOLUME #2, OR SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S UL LISTINGS (3M OR EQUIVALENT). DETERMINE REQUIREMENTS WITH GENERAL CONTRACTOR PRIOR TO BID.
8. EXHAUST OUTLETS: SOURCE-SPECIFIC FANS SHALL BE VENTED TO OUTDOORS WITH A MINIMUM 3' CLEARANCE BETWEEN VENT OUTLETS AND BUILDING OPENINGS, AND 10' MINIMUM BETWEEN VENT OUTLETS AND MECHANICAL AIR INTAKES.
9. ROOF PENETRATIONS: SEE ARCHITECTURAL DRAWINGS FOR ROOF CAP, ROOF CURB, ROOF DRAIN, AND VTR DETAILS.
10. EXPOSED PIPING: PROVIDE CHROME PLATING FOR EXPOSED PIPING IN FINISHED ROOMS.
11. PENETRATIONS: PROVIDE ESCUTCHEON PLATES FOR EXPOSED PIPING PENETRATIONS AND SHEET METAL FLASHING FOR EXPOSED DUCTWORK PENETRATIONS.
12. SHAFT AND PLENUM CONNECTIONS: SEAL CONNECTIONS TO AIR SHAFTS AIRTIGHT. PROVIDE AIRTIGHT SEAL AROUND PENETRATIONS IN AIR PLENUMS.
13. LIGHT FIXTURE CLEARANCE: COORDINATE LOCATIONS OF MECHANICAL WORK TO PROVIDE CLEARANCES OVER LIGHTING FIXTURES FOR REMOVAL AND REPLACEMENT.
14. MOTORS: COMPLY WITH ENERGY CODE ENFORCED BY AHJ FOR MINIMUM EFFICIENCIES UNDER FULL LOAD.
15. ACCESS CLEARANCES FOR MAINTENANCE AND REPLACEMENT: VERIFY PHYSICAL DIMENSIONS OF EQUIPMENT TO ENSURE THAT ACCESS CLEARANCES CAN BE MET. COORDINATE LOCATIONS OF MECHANICAL WORK AND WORK OF OTHER TRADES TO PROVIDE ACCESS CLEARANCES FOR SERVICE AND MAINTENANCE.

COORDINATION REQUIREMENTS

1. PIPING: COORDINATE WITH STRUCTURAL FOR EXACT LOCATION OF ALL STRUCTURAL FRAMING AND FOOTINGS AND FINALIZE THE EXACT ROUTING OF ALL PIPES WITH STRUCTURAL AND AT THE SITE PRIOR AND DURING THE CONSTRUCTION.
2. DUCTWORK: LOCATE AND COORDINATE THE EXACT LOCATION OF DUCTWORK WITH STRUCTURAL PLANS AND WITH THE GENERAL CONTRACTOR PRIOR TO INSTALLATION OF ANY STRUCTURE OR EQUIPMENT. COORDINATE WITH FRAMING CONTRACTOR TO ASSURE JOIST SPACES LINE UP WHEN DUCTWORK MUST PASS THROUGH DIFFERENT JOIST SPACES.
3. ADJUSTMENTS: ALL EQUIPMENT, MOTORS, FANS GAS BURNERS, IGNITION DEVICES, DRIVES, ETC. SHALL BE ADJUSTED AND BALANCED TO OPERATE AT SPECIFIED RATINGS AS REQUIRED FOR THIS PROJECT SITE AND ACCOUNTING FOR ELEVATION ABOVE SEA LEVEL.
4. APPROVALS: MECHANICAL AND PLUMBING EQUIPMENT SHALL BE APPROVED FOR INSTALLATION IN THE PROJECT LOCATION AND SHALL HAVE ALL CERTIFICATIONS AND RATINGS TO MEET ALL ENERGY, POLLUTION, ENVIRONMENTAL, SEISMIC, ETC. CODES AND REGULATIONS. THE CONTRACTOR SHALL COORDINATE WITH HIS MANUFACTURE SUPPLIERS AND SHALL INCLUDE ALL COSTS REQUIRED TO MEET THESE REQUIREMENTS IN HIS BID.
5. FIRE PROTECTION: CONTRACTOR SHALL PROVIDE A FULLY DESIGNED FIRE PROTECTION SPRINKLER SYSTEM IN COMPLIANCE WITH NFPA AND LOCAL CODES. PROVIDE DESIGN, PERMITS, MATERIALS, INSTALLATION, TESTING AND ALL OTHER FOR A FULLY OPERATIONAL SYSTEM. LOCATION OF ALL PIPING TO BE COORDINATED WITH OTHER TRADES.

PIPING NOTES

1. DISASSEMBLY PROVISIONS: PROVIDE UNIONS OR FLANGES AT PIPING CONNECTIONS TO EQUIPMENT, COILS, TRAPS, CONTROL VALVES, AND OTHER COMPONENTS TO ALLOW DISASSEMBLY FOR MAINTENANCE.
2. REDUCERS: PROVIDE AS REQUIRED FROM LINE PIPE SIZE TO EQUIPMENT, TRAP, COIL, AND CONTROL VALVE CONNECTION SIZES.
3. OFFSETS: PROVIDE FOR BRANCH LINES TO EQUIPMENT.
4. DIELECTRIC UNIONS: PROVIDE AT CONNECTIONS OF DISSIMILAR PIPE.
5. REFRIGERANT PIPING: PROVIDE SIZING & INSTALLATION IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
6. CONDENSATE DRAIN: PROVIDE A P-TRAP FOR EACH HVAC UNIT CONDENSATE PAN WITH PLUG TEES FOR CLEANING. CONDENSATE DRAINS SHALL BE DISCHARGED TO AN INDIRECT WASTE OR OUTSIDE.

INSULATION/LINING NOTES

1. ENERGY CODE: AS A MINIMUM, COMPLY WITH THICKNESSES AND TYPES LISTED IN ENERGY CODE ENFORCED BY AHJ.
2. EXTENT OF INTERNAL DUCT LINING:
   A. GRILLE AND DIFFUSER BOXES AND BOOTS.
   B. TRANSFER DUCTS.
   C. THE FIRST 10 FEET OF SUPPLY AND RETURN DUCTWORK FROM THE AIR HANDLER.
3. EXTENT OF EXTERNAL DUCT INSULATION:
   A. SUPPLY AND RETURN AIR IN UNCONDITIONED SPACES, MECHANICAL ROOMS, ELECTRICAL ROOMS, AND EQUIPMENT ROOMS NOT SPECIFIED TO BE INTERNALLY LINED.
   B. SUPPLY AIR ABOVE CEILINGS OR EXPOSED NOT SPECIFIED TO BE INTERNALLY LINED.
   C. OUTDOOR AIR INTAKE.
4. MISCELLANEOUS DUCT FITTINGS (CONICAL TAKEOFFS, ETC.): WRAP WITH INSULATION FOR CONDENSATION CONTROL.

PLAN NOTES

1. DUCTWORK SHALL BE METALLIC DUCTWORK
2. TEST AND BALANCE WORK SHALL BE PERFORMED BY AN INDEPENDENT TEST AND BALANCE AGENCY. PROVIDE (3) COPIES OF TEST AND BALANCE REPORT TO OWNER.
3. COORDINATE DUCTWORK WITH MISCELLANEOUS OBSTRUCTIONS IN CEILING SPACE.
4. RESTROOM EXHAUST SHALL BE A MINIMUM OF 10' FROM ANY MECHANICAL OUTSIDE AIR INTAKES.
5. ROUTE DUCTWORK UNDERNEATH JOISTS UON.
6. TRANSITION DUCT UNDER BEAMS AND DUCTS. FIELD VERIFY AVAILABLE CEILING CAVITY DIMENSIONS.
7. COORDINATE MOUNTING HEIGHT OF DIFFUSERS WITH ARCHITECTURAL PLANS.

SHEET METAL NOTES

1. REFERENCE: SMACNA HVAC DUCT CONSTRUCTION STANDARDS, METAL AND FLEXIBLE, CURRENT EDITION.
2. CLEARANCE: COORDINATE DUCTWORK WITH MISCELLANEOUS OBSTRUCTIONS IN CEILING SPACE.
3. ROUND ELBOWS AND OFFSETS: FULL RADIUS (R/D = 1.5), 5-PIECE SEGMENTED OR STAMPED. REFER TO SMACNA HVAC FIG 2-7, 3-3. DO NOT USE ANGLED OFFSET (TYPE 1). MITERED OFFSET (TYPE 2) MAY BE USED UP TO 30 DEGREE OFFSET ANGLE.
4. ROUND TEES AND LATERALS: CONICAL TEE PER SMACNA HVAC FIG 3-5; DO NOT USE STRAIGHT TEE; DO NOT USE CONICAL SADDLE TAP FOR EXPOSED DUCTWORK IN FINISHED SPACES. 90-DEGREE TEE WITH OVAL TO ROUND TAP, LATERAL, AND 45-DEGREE RECTANGULAR LEAD-IN PER SMACNA HVAC FIG 3-4.
5. RECTANGULAR ELBOWS AND OFFSETS: FULL RADIUS WHERE SPACE PERMITS, R/W = 1.5; OTHERWISE USE SQUARE CORNER ELBOW WITH TURNING VANES.
6. RECTANGULAR DIVIDED FLOW FITTINGS: USE GENERALLY, EXCEPT BRANCHES TO TERMINALS; SMACNA HVAC FIG 2-5, TYPES 1, 2, 4A, AND 4B. DO NOT USE TYPE 3.
7. TURNING VANES: H.E.P. MANUFACTURER OR APPROVED HIGH EFFICIENCY PROFILE AIRFOIL TYPE FOR RECTANGULAR SQUARE THROAT ELBOWS. ACOUSTICAL TYPE FOR RETURN AIR MITERED ELBOWS.
8. TAKEOFFS TO OPENINGS: CONICAL TYPE WITH VOLUME DAMPER FOR ROUND DUCT BRANCHES PER SMACNA HVAC FIG 2-6, MINIMUM INLET DIAMETER 2 INCHES LARGER THAN DUCT SIZE. 45 DEGREE ENTRY FITTING FOR RECTANGULAR DUCT BRANCHES PER SMACNA HVAC FIG 2-6.
9. FLEXIBLE CONNECTIONS: PROVIDE AT EACH DUCT CONNECTION TO FANS, PACKAGED HVAC EQUIPMENT, EXTERNALLY ISOLATED AIR HANDLING UNITS, FAN COIL UNITS, AND SIMILAR EQUIPMENT. EXCEPTION: EQUIPMENT IN CORRIDOR CEILING SPACES WHERE FIRE RATING IS REQUIRED.
10. ALL DUCT WORK SHALL BE CLASSIFIED FOR LOW PRESSURE SYSTEMS PER IMC SECTION 603.
11. ALL DUCTS AND JOINTS SHALL BE SEALED PER IMC SECTION 603.

HVAC NOTES

1. ATTACHMENTS: AIR DISTRIBUTION OUTLETS AND LOUVERS SHALL HAVE ALL REQUIRED ACCESSORIES AND ATTACHMENTS FOR A COMPLETE CONNECTION TO THE SPECIFIC TYPE OF STRUCTURE THAT THEY ARE BEING ATTACHED TO. THIS INCLUDES, BUT IS NOT LIMITED TO, EXTERIOR BRICKS, GWB WALLS, GWB CEILING, ETC.
2. DUCTWORK: DUCTWORK SHALL BE SMOOTH SHEET METAL (CLASS-1). DUCTWORK THROUGH FIRE RATED STRUCTURE AND FLOOR SHALL BE MIN. 26 GA. STEEL. MAXIMUM LENGTH OF FLEXIBLE DUCTS SHALL BE 5'-0", UNLESS OTHERWISE NOTED ON DRAWINGS. DUCTWORK SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS.
3. SEISMIC: PROVIDE SEISMIC RESTRAINTS FOR MECHANICAL EQUIPMENT, PIPING, AND DUCTWORK PER SMACNA AND LOCAL REGULATIONS.
4. FILTER CLEARANCE: PROVIDE ADEQUATE CLEARANCE FOR CHANGING AIR FILTERS.
5. DUCTWORK AND PIPING OUTSIDE OF MECHANICAL ROOMS SHALL BE CONCEALED, COORDINATE WITH THE GENERAL CONTRACTOR TO FUR-OUT AS REQUIRED.
6. FIRE RATINGS: RATED FLOOR/CEILING JOINT SPACES HAVING DUCTWORK INSIDE THEM SHALL BE FIRE/SMOKE PROTECTED TO MAINTAIN THE 1-HOUR FLOOR/CEILING RATING PER LOCAL JURISDICTIONS. EXHAUST DUCTWORK PENETRATING THE 1-HOUR ROOF/CEILING OR FLOOR/CEILING ASSEMBLY SHALL HAVE ACCESSIBLE CEILING FIRE DAMPERS. ALTERNATIVELY, THE EXHAUST DUCTWORK SHALL BE ROUTED INSIDE A RATED SHAFT TO PROTECT THE CEILING/ROOF RATING PER THE LOCAL JURISDICTIONS.
7. FIRESTOP: PIPE, DUCT AND CONDUIT PENETRATIONS THROUGH RATED ASSEMBLIES SHALL BE FIRE AND SMOKE STOPPED PER CODE.
8. DUCTWORK: DUCTWORK SHALL BE SMOOTH SHEET METAL (CLASS-1). DUCTWORK THROUGH FIRE RATED STRUCTURE AND FLOOR SHALL BE MIN. 26 GA. STEEL. MAXIMUM LENGTH OF FLEXIBLE DUCTS SHALL BE 5'-0" UNLESS OTHERWISE NOTED ON DRAWINGS. DUCTWORK SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS.
9. VOLUME DAMPERS: PROVIDE AN ACCESSIBLE MANUAL VOLUME DAMPER FOR EACH SUPPLY, RETURN, OSA AND EXHAUST OPENING, LOCATED AS FAR UPSTREAM AS POSSIBLE FROM THE OPENING. PROVIDE A MANUAL VOLUME DAMPER FOR BRANCH MAINS SERVING MORE THAN ONE OPENING. VOLUME DAMPERS IN NON-ACCESSIBLE CEILING SHALL HAVE A CONTROL ARM EXTENDED TO AN ACCESSIBLE LOCATION. PROVIDE "YOUNG" REGULATOR OR EQUAL. EXACT LOCATION OF CONTROL DEVICES VISIBLE IN FINISHED SPACES SHALL BE COORDINATED WITH THE ARCHITECT.
10. CORRIDOR THERMOSTAT: PROVIDE TAMPERPROOF THERMOSTATS IN CORRIDORS. DO NOT PROVIDE PLASTIC GUARDS TO MAKE THE THERMOSTATS TAMPERPROOF. PROVIDE BLANK SECURABLE THERMOSTAT COVERS.

APPLICABLE CODE

BUILDING CODE:

2018 WASHINGTON STATE ENERGY CODE-RESIDENTIAL BY WASHINGTON ADMINSTRATIVE CODE CHAP 51-50 (WSEC)

2018 INTERNATIONAL RESIDENTIAL CODE WITH ADMINISTRATIVE CODE CHAP 51-51 (WSRC)

2018 INTERNATIONAL MECHANICAL CODE WITH ADMINISTRATIVE CODE CHAP 51-52 (WSMC)

DRAWINGS ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE DUCTWORK, CONNECTIONS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY FOR A COMPLETE SYSTEM.

PRE-CON MEETING NOTES

CONTRACTORS SHALL ATTEND A PRE-CONSTRUCTION MEETING WITH THE ENGINEER FOR THE PURPOSE OF REVIEWING THE WORK PRIOR TO ORDERING ANY EQUIPMENT OR PERFORMING ANY WORK. THE MEETING SHALL BE LOCATED AT THE PROJECT SITE ON A DATE AND TIME TO BE MUTUALLY AGREED. THE MEETING WILL BE A WORKING SESSION. THE MEETING WILL BE FACILITATED BY THE ENGINEER AND THE AGENDA WILL INCLUDE A DETAILED REVIEW OF THE PLANS AND SPECIFICATIONS, CROSS CHECK WITH OTHER TRADES FOR COORDINATION ISSUES, REVIEW OF PROPOSED PRODUCTS, REVIEW OF PLANNED MEANS AND METHODS,AND ON-SITE INVESTIGATION OF FIELD CONDITIONS RELATIVE TO EXISTING CONDITIONS THAT COULD AFFECT THE WORK. PERSONS ATTENDING THE MEETING SHALL BE KNOWLEDGEABLE OF THE PROJECT AND SHALL BE THE SPECIFIC PERSONS INTENDED TO CONTINUE WITH THE PROJECT THROUGH TO COMPLETION. IF REQUIRED, REVISED PLANS WILL BE ISSUED THROUGH OFFICIAL CHANNELS. CHANGES IN THE BID PRICE WILL BE DISCUSSED, BUT NO CHANGE ORDERS WILL BE ISSUED UNLESS PROCESSED THOUGH OFFICIAL CHANNELS. IT SHALL BE UNDERSTOOD THAT THE ENGINEER HAS NO AUTHORITY TO ISSUE CHANGE ORDERS.

THE FOLLOWING TRADES SHALL BE REPRESENTED FOR THE MINIMUM TIME INDICATED:

MECHANICAL SHEET METAL	4 HOURS
PLUMBING/PIPING	4 HOURS
ELECTRICAL	4 HOURS
SPRINKLER	2 HOURS
GENERAL CONTRACTOR	ALL SESSIONS

ANNOTATIONS

ACU	AIR CONDITIONING UNIT
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
BDD	BACKDRAFT DAMPER
BHP	BRAKE HORSEPOWER
BTUH	BRITISH THERMAL UNIT PER HOUR
C	COMMON
CAP	CAPACITY
CC	COOLING COIL
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
CLG	CEILING, COOLING
CO	CLEANOUT
COMB	COMBUSTION
CONT	CONTINUE, CONTROL
CONTR	CONTRACTOR
COP	COEFFICIENT OF PERFORMANCE
CWS	CHILLED WATER SUPPLY
CWR	CHILLED WATER RETURN
D	DIAMETER
DB	DRY BULB, DECIBEL
DEG	DEGREE
DIM	DIMENSION
DISCH	DISCHARGE
DN	DOWN
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EFF	EFFICIENCY
EG	EXHAUST GRILLE, ENGINE GENERATOR
ELEC	ELECTRIC
EQUIV	EQUIVALENT
ESP	EXTERNAL STATIC PRESSURE
EXH	EXHAUST
EXT	EXTERIOR, EXTERNAL
F	FAHRENHEIT
FD	FIRE DAMPER
FCU	FAN COIL UNIT
FLR	FLOOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FSD	FIRE/SMOKE DAMPER
G	GAS
GRD	GRILLES, REGISTERS, AND DIFFUSERS
GWB	GYPSUM WALLBOARD
HORIZ	HORIZONTAL
HP	HORSEPOWER, HEAT PUMP
HRU	HEAT RECOVERY UNIT
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
HVU	HEATING AND VENTILATION UNIT
HWR	HIGH WALL RETURN, HOT WATER RETURN
HWS	HIGH WALL SUPPLY, HOT WATER SUPPLY
HX	HEAT EXCHANGER
ID	INDIRECT DRAIN, INSIDE DIAMETER
IN	INCH
KW	KILOWATT
L	LONG, LENGTH
LB	POUND
LWR	LOW WALL RETURN
LWS	LOW WALL SUPPLY
MBH	THOUSAND BTU PER HOUR
MECH	MECHANICAL
MCA	MINIMUM CIRCUIT AMPACITY
MOCP	MAXIMUM OVER CURRENT PROTECTION
MTD	MOUNTED
OSA	OUTDOOR AIR
OBD	OPPOSED BLADE DAMPER
OD	OUTSIDE DIMENSION OR DIAMETER
OPNG	OPENING
P	PUMP
PD	PRESSURE DROP
POC	POINT OF CONNECTION
PRV	PRESSURE REDUCING VALVE
PSIG	POUNDS PER SQUARE INCH GAUGE
RA	RETURN AIR
REF	REFERENCE
RF	RELIEF FAN
RG	RETURN GRILLE
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SCH	SCHEDULE
SF	SUPPLY FAN, SQUARE FOOT
SENS	SENSIBLE
SG	SUPPLY GRILLE
SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
SO	SCREENED OPENING
SP	STATIC PRESSURE
SS	STAINLESS STEEL, SANITARY SEWER
SQ	SQUARE
TG	TRANSFER GRILLE
TYP	TYPICAL
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
V	VENT
VENT	VENTILATION, VENTILATOR
VTR	VENT THRU ROOF
W	WASTE, WATT, WIDE
WB	WET BULB (TEMPERATURE)

SYMBOLS

DUCTWORK

- 18x12 — DUCT (1ST FIGURE = SIDE SHOWN, 2ND FIGURE = SIDE NOT SHOWN)
- UP / DOWN — DUCT SECTION, POSITIVE PRESSURE
- UP / DOWN — DUCT SECTION, NEGATIVE PRESSURE
- UP / DOWN — ROUND DUCT SECTION
- UP / UP / UP — DUCT PENETRATION THRU FLOOR OR ROOF
- VOLUME DAMPER
- FSD — FIRE/SMOKE DAMPER (--◄ = HORIZ DUCT, --◆ = VERT DUCT), 2-HR RATED, UON
- FD — FIRE DAMPER (--◄ = HORIZ DUCT, --◆ = VERT DUCT), 2-HR RATED, UON
- 90° ELBOW, R/D OR R/W=1.5
- SQUARE CORNER ELBOW WITH TURNING VANES
- 90° TAKE-OFF OR TEE
- 90° CONICAL TAKE-OFF
- 45° LATERAL TAKE-OFF
- TRANSITION OR REDUCER (FOT = FLAT ON TOP, FOB = FLAT ON BOTTOM)
- WYE FITTING
- 90° RECTANGULAR TAKE-OFF WITH 45° TAPER
- 90° DIVERGING RECTANGULAR TEE, EITHER RADIUS OR TURNING VANES
- PARALLEL FLOW BRANCH CONNECTION, EITHER RADIUS OR TURNING VANES
- FLEXIBLE DUCT
- Ø — ROUND DUCT INDICATOR

EQUIPMENT

- EF-1 — TYPICAL EQUIPMENT DESIGNATION (EXHAUST FAN SHOWN)
- DSD — DUCT SMOKE DETECTOR
- T — ROOM THERMOSTAT OR TEMPERATURE TRANSMITTER
- H — ROOM HUMIDISTAT OR HUMIDITY TRANSMITTER
- CO — CARBON MONOXIDE SENSOR
- SD — SMOKE DETECTOR

TERMINALS

- CD-12x12 400 OR CD-1 400 — DIFFUSER/GRILLE TYPE, AND NUMBER OR SIZE; DESIGN CFM (WHERE APPLICABLE)
- CEILING DIFFUSER (FLOW ARROWS SHOWN FOR NON SYMMETRICAL AIRFLOW)
- CEILING RETURN/EXHAUST GRILLE
- LINEAR DIFFUSER, CEILING OR WALL MOUNTED (FLOW ARROWS SHOWN FOR NON SYMMETRICAL AIRFLOW)
- WALL SUPPLY GRILLE (SG)
- WALL RETURN/EXHAUST GRILLE (RG, EG)
- 50 — TRANSFER GRILLE (TG), DUCT CONNECTED, WALL MOUNTED W/ OPTIONAL CFM SHOWN
- TRANSFER GRILLE, CEILING MOUNTED WITH FULL-SIZED LINED DUCT CONNECTION

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NO.	DATE	DESCRIPTION
2	5/2/25	PERMIT RESUBMITTAL #2
1	2/4/25	PERMIT RESUBMITTAL #1

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PRCNC20240278

DATE: 05/01/2025

SHEET TITLE: LEGEND, GENERAL NOTE, & DRAWINGS

SHEET NO. M0.0

ENERGY CODE NOTES

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning
Engineering | Public Works
Fire | Traffic

WASHINGTON STATE COMMISSIONING REQUIREMENTS

C408.1.1CONSTRUCTION DOCUMENTS SHALL CLEARLY INDICATE PROVISIONS FOR COMMISSIONING PROCESS. THE CONSTRUCTION DOCUMENTS SHALL MINIMALLY INCLUDE THE FOLLOWING:

1. A NARRATIVE DESCRIPTION OF THE ACTIVITIES THAT WILL BE ACCOMPLISHED DURING THE COMMISSIONING PROCESS. AT A MINIMUM, THE COMMISSIONING PROCESS IS REQUIRED TO INCLUDE:
   - 1.1. DEVELOPMENT AND EXECUTION OF THE COMMISSIONING PLAN, INCLUDING ALL SUBSECTIONS OF SECTION C408.1.2;
   - 1.2. THE CERTIFIED COMMISSIONING PROFESSIONAL'S REVIEW OF THE BUILDING DOCUMENTATION AND CLOSE OUT SUBMITTALS IN ACCORDANCE WITH SECTION C103.6; AND
   - 1.3. THE COMMISSIONING REPORT IN ACCORDANCE WITH SECTION C408.1.3.
2. ROLES, RESPONSIBILITIES AND REQUIRED QUALIFICATIONS OF THE CERTIFIED COMMISSIONING PROFESSIONAL.
3. A LISTING OF THE SPECIFIC EQUIPMENT, APPLIANCES OR SYSTEMS TO BE TESTED.

C408.1.2 A COMMISSIONING PLAN SHALL BE DEVELOPED BY THE PROJECT'S CERTIFIED COMMISSIONING PROFESSIONAL AND SHALL OUTLINE THE ORGANIZATION, SCHEDULE, ALLOCATION OF RESOURCES, AND DOCUMENTATION REQUIREMENTS OF THE COMMISSIONING PROCESS. THE PLAN SHALL ALSO INCLUDE THE FOLLOWING:

1. A NARRATIVE DESCRIPTION OF THE ACTIVITIES THAT WILL BE ACCOMPLISHED DURING EACH PHASE OF COMMISSIONING, INCLUDING THE PERSONNEL INTENDED TO ACCOMPLISH EACH OF THE ACTIVITIES, SYSTEMS TESTING AND BALANCING, FUNCTIONAL PERFORMANCE TESTING, AND VERIFICATION OF THE BUILDING DOCUMENTATION REQUIREMENTS IN SECTION C103.6.
2. ROLES AND RESPONSIBILITIES OF THE COMMISSIONING TEAM, INCLUDING THE NAME AND STATEMENT OF QUALIFICATIONS OF THE CERTIFIED COMMISSIONING PROFESSIONAL.
3. A LISTING OF THE SPECIFIC EQUIPMENT, APPLIANCES OR SYSTEMS TO BE TESTED AND A DESCRIPTION OF THE TESTS TO BE PERFORMED.

C408.1.2.1 WHERE THE CERTIFIED COMMISSIONING PROFESSIONAL'S CONTRACT OR EMPLOYMENT IS OTHER THAN DIRECTLY WITH THE BUILDING OWNER, AN IN-HOUSE COMMISSIONING DISCLOSURE AND CONFLICT MANAGEMENT PLAN SHALL BE A PART OF THE COMMISSIONING PROCESS. A COPY SHALL BE INCLUDED IN THE COMMISSIONING PLAN. THIS PLAN SHALL DISCLOSE THE CERTIFIED COMMISSIONING PROFESSIONAL'S CONTRACTUAL RELATIONSHIP WITH OTHER TEAM MEMBERS AND PROVIDE A CONFLICT MANAGEMENT PLAN DEMONSTRATING THAT THE CERTIFIED COMMISSIONING PROFESSIONAL IS FREE TO IDENTIFY ANY ISSUES DISCOVERED AND REPORT DIRECTLY TO THE OWNER.

C408.1.2.2 FUNCTIONAL PERFORMANCE TESTING SHALL BE CONDUCTED FOR MECHANICAL SYSTEMS IN SECTIONS C403; SERVICE WATER HEATING SYSTEMS IN SECTION C404; CONTROLLED RECEPTACLES AND LIGHTING CONTROL SYSTEMS IN SECTION C405; EQUIPMENT, APPLIANCES AND SYSTEMS INSTALLED TO COMPLY WITH SECTION C406 OR C407; ENERGY METERING IN SECTION C409; AND REFRIGERATION SYSTEMS IN SECTION C410. WRITTEN PROCEDURES WHICH CLEARLY DESCRIBE THE INDIVIDUAL SYSTEMATIC TEST PROCEDURES, THE EXPECTED SYSTEM RESPONSE OR ACCEPTANCE CRITERIA FOR EACH PROCEDURE, THE ACTUAL RESPONSE OR FINDINGS, AND ANY PERTINENT DISCUSSION SHALL BE FOLLOWED. THIS TESTING SHALL INCLUDE CONTROL SYSTEMS WHICH WILL BE TESTED TO DOCUMENT THAT CONTROL DEVICES, COMPONENTS, EQUIPMENT, AND SYSTEMS ARE CALIBRATED AND ADJUSTED TO OPERATE IN ACCORDANCE WITH APPROVED CONSTRUCTION DOCUMENTS. TESTING SHALL AFFIRM THE CONDITIONS REQUIRED WITHIN SECTIONS C408.2 THROUGH C408.7 UNDER SYSTEM TESTING.

C408.1.2.3 FOR PROJECTS WITH SEVEN OR FEWER SIMILAR SYSTEMS, EACH SYSTEM SHALL BE TESTED. FOR PROJECTS WITH MORE THAN SEVEN SYSTEMS, TESTING SHALL BE DONE FOR EACH UNIQUE COMBINATION OF CONTROLS TYPE. WHERE MULTIPLES OF EACH UNIQUE COMBINATION OF CONTROL TYPES EXIST, NO FEWER THAN 20 PERCENT OF EACH COMBINATION SHALL BE TESTED UNLESS THE CODE OFFICIAL OR DESIGN PROFESSIONAL REQUIRES A HIGHER PERCENTAGE TO BE TESTED. WHERE 30 PERCENT OR MORE OF THE TESTED SYSTEM FAIL, ALL REMAINING IDENTICAL COMBINATIONS SHALL BE TESTED.

C408.1.2.4 DEFICIENCIES FOUND DURING TESTING SHALL BE RESOLVED INCLUDING CORRECTIONS AND RETESTING.

C408.1.3 A FINAL COMMISSIONING REPORT SHALL BE COMPLETED AND CERTIFIED BY THE CERTIFIED COMMISSIONING PROFESSIONAL AND DELIVERED TO THE BUILDING OWNER OR OWNER'S AUTHORIZED AGENT. THE REPORT SHALL BE ORGANIZED WITH MECHANICAL, SERVICE WATER HEATING, CONTROLLED RECEPTACLE AND LIGHTING CONTROL SYSTEMS, ENERGY METERING, AND REFRIGERATION FINDINGS IN SEPARATE SECTIONS TO ALLOW INDEPENDENT REVIEW. THE REPORT SHALL RECORD THE ACTIVITIES AND RESULTS OF THE COMMISSIONING PROCESS AND BE DEVELOPED FROM THE FINAL COMMISSIONING PLAN WITH ALL OF ITS ATTACHED APPENDICES. THE REPORT SHALL INCLUDE:

1. RESULTS OF FUNCTIONAL PERFORMANCE TESTS.
2. DISPOSITION OF DEFICIENCIES FOUND DURING TESTING, INCLUDING DETAILS OF CORRECTIVE MEASURES USED OR PROPOSED.
3. FUNCTIONAL PERFORMANCE TEST PROCEDURES USED DURING THE COMMISSIONING PROCESS INCLUDING MEASURABLE CRITERIA FOR TEST ACCEPTANCE, PROVIDED HEREIN FOR REPEATABILITY.
4. COMMISSIONING PLAN.
5. TESTING, ADJUSTING AND BALANCING REPORT. EXCEPTION: DEFERRED TESTS WHICH CANNOT BE PERFORMED AT THE TIME OF REPORT PREPARATION DUE TO CLIMATIC CONDITIONS.

C408.1.4 PRIOR TO THE FINAL MECHANICAL, PLUMBING AND ELECTRICAL INSPECTIONS OR OBTAINING A CERTIFICATE OF OCCUPANCY, THE CERTIFIED COMMISSIONING PROFESSIONAL SHALL PROVIDE EVIDENCE OF BUILDING COMMISSIONING IN ACCORDANCE WITH THE PROVISIONS OF THIS SECTION.

C408.1.4.1 BUILDINGS, OR PORTIONS THEREOF, SHALL NOT BE CONSIDERED ACCEPTABLE FOR A FINAL INSPECTION PURSUANT TO SECTION C104.2.6 UNTIL THE CODE OFFICIAL HAS RECEIVED A LETTER OF TRANSMITTAL FROM THE BUILDING OWNER OR OWNER'S REPRESENTATIVE ACKNOWLEDGING THAT THE BUILDING OWNER OR OWNER'S AUTHORIZED AGENT HAS RECEIVED THE COMMISSIONING REPORT. COMPLETION OF COMMISSIONING COMPLIANCE CHECKLIST (FIGURE C408.1.4.1) IS DEEMED TO SATISFY THIS REQUIREMENT. PHASED ACCEPTANCE OF COMMISSIONING COMPLIANCE CHECKLIST FOR PORTIONS OF THE WORK SPECIFIC TO THE TRADE THAT IS BEING INSPECTED IS PERMISSIBLE WHERE ACCEPTED BY THE CODE OFFICIAL AND WHERE THE CERTIFIED COMMISSIONING PROFESSIONAL REMAINS RESPONSIBLE FOR COMPLETION OF THE COMMISSIONING PROCESS. IF THERE ARE UNRESOLVED DEFICIENCIES WHEN THE FINAL INSPECTION IS SCHEDULED, THE COMMISSIONING REPORT SHALL BE SUBMITTED AND SHALL DESCRIBE THE UNRESOLVED DEFICIENCIES.

C408.1.4.2 THE CODE OFFICIAL SHALL BE PERMITTED TO REQUIRE THAT A COPY OF THE COMMISSIONING REPORT BE MADE AVAILABLE FOR REVIEW BY THE CODE OFFICIAL.

C408.2 MECHANICAL EQUIPMENT AND CONTROLS SUBJECT TO SECTION C403 SHALL BE INCLUDED IN THE COMMISSIONING PROCESS REQUIRED BY SECTION C408.1. THE COMMISSIONING PROCESS SHALL MINIMALLY INCLUDE ALL ENERGY CODE REQUIREMENTS FOR WHICH THE CODE STATES THAT EQUIPMENT OR CONTROLS SHALL"BE CAPABLE OF" OR CONFIGURED TO" PERFORM SPECIFIC FUNCTIONS. EXCEPTION: MECHANICAL SYSTEMS ARE EXEMPT FROM THE COMMISSIONING PROCESS WHERE THE INSTALLED TOTAL MECHANICAL EQUIPMENT CAPACITY IS LESS THAN 240,000 BTU/H COOLING CAPACITY AND LESS THAN 300,000 BTU/H HEATING CAPACITY.

C408.2.2 HVAC SYSTEMS SHALL BE BALANCED IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING STANDARDS. AIR AND WATER FLOW RATES SHALL BE MEASURED AND ADJUSTED TO DELIVER FINAL FLOW RATES WITHIN THE TOLERANCES PROVIDED IN THE PROJECT SPECIFICATIONS. TEST AND BALANCE ACTIVITIES SHALL INCLUDE AIR SYSTEM AND HYDRONIC SYSTEM BALANCING.

C408.2.2.1 EACH SUPPLY AIR OUTLET AND ZONE TERMINAL DEVICE SHALL BE EQUIPPED WITH MEANS FOR AIR BALANCING IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 6 OF THE INTERNATIONAL MECHANICAL CODE. DISCHARGE DAMPERS USED FOR AIR SYSTEM BALANCING ARE PROHIBITED ON CONSTANT VOLUME FANS AND VARIABLE VOLUME FANS WITH MOTORS 10 HP (18.6 KW) AND LARGER. AIR SYSTEMS SHALL BE BALANCED IN A MANNER TO FIRST MINIMIZE THROTTLING LOSSES THEN, FOR FANS WITH SYSTEM POWER OF GREATER THAN 1 HP (0.74 KW), FAN SPEED SHALL BE ADJUSTED TO MEET DESIGN FLOW CONDITIONS. EXCEPTION: FANS WITH FAN MOTORS OF 1 HP (0.74 KW) OR LESS.

C408.2.2.2 INDIVIDUAL HYDRONIC HEATING AND COOLING COILS SHALL BE EQUIPPED WITH MEANS FOR BALANCING AND MEASURING FLOW. HYDRONIC SYSTEMS SHALL BE PROPORTIONATELY BALANCED IN A MANNER TO FIRST MINIMIZE THROTTLING LOSSES, THEN THE PUMP IMPELLER SHALL BE TRIMMED OR PUMP SPEED SHALL BE ADJUSTED TO MEET DESIGN FLOW CONDITIONS. EACH HYDRONIC SYSTEM SHALL HAVE EITHER THE CAPABILITY TO MEASURE PRESSURE ACROSS THE PUMP, OR TEST PORTS AT EACH SIDE OF EACH PUMP. EXCEPTION: THE FOLLOWING EQUIPMENT IS NOT REQUIRED TO BE EQUIPPED WITH MEANS FOR BALANCING OR MEASURING FLOW:

1. PUMPS WITH PUMP MOTORS OF 5 HP (3.7 KW) OR LESS.
2. WHERE THROTTLING RESULTS IN NO GREATER THAN FIVE PERCENT OF THE NAMEPLATE HORSEPOWER DRAW ABOVE THAT REQUIRED IF THE IMPELLER WERE TRIMMED.

C408.2.3 FUNCTIONAL PERFORMANCE TESTING SHALL DEMONSTRATE THE COMPONENTS, SYSTEMS, AND SYSTEM-TO-SYSTEM INTERFACING RELATIONSHIPS ARE INSTALLED AND OPERATE IN ACCORDANCE WITH APPROVED CONSTRUCTION DOCUMENTS. TESTING SHALL INCLUDE THE SEQUENCE OF OPERATION, AND BE CONDUCTED UNDER FULL-LOAD, OART-LOAD AND THE FOLLOWING CONDITIONS:

1. ALL MODES AS DESCRIBED IN THE SEQUENCE OF OPERATION;
2. REDUNDANT OR AUTOMATIC BACK-UP MODE;
3. PERFORMANCE OF ALARMS; AND
4. MODE OF OPERATION UPON LOSS OF POWER AND RESTORATION OF POWER.

C408.3 SERVICE WATER HEATING EQUIPMENT AND CONTROLS SUBJECT TO SECTION C404 SHALL BE INCLUDED IN THE COMMISSIONING PROCESS REQUIRED BY SECTION C408.1. THE COMMISSIONING PROCESS SHALL MINIMALLY INCLUDE EQUIPMENT AND COMPONENTS INSTALLED TO MEET ALL ENERGY CODE REQUIREMENTS FOR DEVICES TO "START," "AUTOMATICALLY TURN OFF," "AUTOMATICALLY ADJUST," "LIMIT OPERATION," AND "LIMIT THE TEMPERATURE" AND "BE CONFIGURED TO."

C408.4 CONTROLLED RECEPTACLES AND LIGHTING CONTROL SYSTEMS SUBJECT TO SECTION C405 SHALL BE INCLUDED IN THE COMMISSIONING PROCESS REQUIRED BY SECTION C408.1. THE CONFIGURATION AND FUNCTION OF CONTROLLED RECEPTACLES AND LIGHTING CONTROL SYSTEMS REQUIRED BY THIS CODE SHALL BE TESTED AND SHALL COMPLY WITH SECTION C408.4.1 EXCEPTION: LIGHTING CONTROL SYSTEMS ARE EXEMPT FROM THE COMMISSIONING PROCESS IN BUILDINGS WHERE:

1. THE TOTAL INSTALLED LIGHTING LOAD IS LESS THAN 20 KW, AND
2. THE LIGHTING LOAD CONTROLLED BY OCCUPANCY SENSORS OR AUTOMATIC DAYLIGHTING CONTROLS IS LESS THAN 10 KW.

C408.5 EQUIPMENT, COMPONENTS, CONTROLS OR CONFIGURATION SETTINGS FOR SYSTEMS WHICH ARE INCLUDED IN THE PROJECT TO COMPLY WITH SECTION C406 OR C407 SHALL BE INCLUDED IN THE COMMISSIONING PROCESS REQUIRED BY SECTION C408.1.

C408.6 ENERGY METERING SYSTEMS REQUIRED BY SECTION C409 SHALL COMPLY WITH SECTION C408.6 AND BE INCLUDED IN THE COMMISSIONING PROCESS REQUIRED BY SECTION C408.1. THE COMMISSIONING PROCESS SHALL INCLUDE ALL ENERGY METERING EQUIPMENT AND CONTROLS REQUIRED BY SECTION C409.

C408.7 ALL INSTALLED REFRIGERATION SYSTEMS SUBJECT TO SECTION C410 SHALL BE INCLUDED IN THE COMMISSIONING PROCESS REQUIRED BY SECTION C408.1. EXCEPTIONS:

1. SELF-CONTAINED REFRIGERATION SYSTEMS ARE EXEMPT FROM THE COMMISSIONING PROCESS.
2. TOTAL INSTALLED CAPACITY FOR REFRIGERATION IS EQUAL TO OR LESS THAN 240,000 BTUH.

WASHINGTON STATE CLOSE OUT DOCUMENTATION

C103.6 THE CONSTRUCTION DOCUMENTS SHALL SPECIFY THAT THE DOCUMENTS DESCRIBED IN THIS SECTION BE PROVIDED TO THE BUILDING OWNER OR OWNER'S AUTHORIZED AGENT WITHIN A MAXIMUM 90 DAYS OF THE DATE OF RECEIPT OF THE CERTIFICATION OF OCCUPANCY. (C103.6.1 RECORD DOCUMENTS, C103.6.2 BUILDING OPERATIONS AND MAINTENANCE INFORMATION, C103.6.2.1 MANUALS, C103.6.3 COMPLIANCE DOCUMENTATION, C103.6.4 SYSTEMS OPERATION TRAINING)

WASHINGTON STATE ENERGY CODE

C403.4.1 THE SUPPLY OF HEATING AND COOLING ENERGY TO EACH ZONE SHALL BE CONTROLLED BY INDIVIDUAL THERMOSTATIC CONTROLS CAPABLE OF RESPONDING TO TEMPERATURE WITHIN THE ZONE.

C403.4.1.1 UNITARY AIR COOLED HEAT PUMPS SHALL INCLUDE MICROPROCESSOR CONTROLS THAT MINIMIZE SUPPLEMENTAL HEAT USAGE DURING START-UP, SET-UP, AND DEFROST CONDITIONS. THESE CONTROLS SHALL ANTICIPATE NEED FOR HEAT AND USE COMPRESSION HEATING AS THE FIRST STAGE OF HEAT. CONTROLS SHALL INDICATE WHEN SUPPLEMENTAL HEATING IS BEING USED THROUGH VISUAL MEANS (E.G., LED INDICATORS). HEAT PUMPS EQUIPPED WITH SUPPLEMENTAL HEATERS SHALL BE INSTALLED WITH CONTROLS THAT PREVENT SUPPLEMENTAL HEATER OPERATION ABOVE 40°F.

C403.4.1.2 WHERE USED TO CONTROL BOTH HEATING AND COOLING, ZONE THERMOSTATIC CONTROLS SHALL BE CONFIGURED TO PROVIDE A TEMPERATURE RANGE OR DEADBAND OF AT LEAST 5°F WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS SHUT OFF OR REDUCED TO A MINIMUM.

C403.7.8.1 OUTDOOR AIR SUPPLY, EXHAUST OPENINGS AND RELIEF OUTLETS AND STAIRWAY AND ELEVATOR HOISTWAY SHAFT VENTS SHALL BE PROVIDED WITH CLASS I MOTORIZED DAMPERS. SEE SECTIONS C403.10.1 AND C403.10.2 FOR DUCTWORK INSULATION REQUIREMENTS UPSTREAM AND DOWNSTREAM OF THE SHUTOFF DAMPER. EXCEPTION:

1. GRAVITY (NONMOTORIZED) DAMPERS SHALL BE PERMITTED IN LIEU OF MOTORIZED DAMPERS AS FOLLOWS:
   - 1.1. RELIEF DAMPERS SERVING SYSTEMS LESS THAN 5,000 CFM TOTAL SUPPLY SHALL BE PERMITTED IN BUILDINGS LESS THAN THREE STORIES IN HEIGHT.
   - 1.2. GRAVITY (NONMOTORIZED) DAMPERS WHERE THE DESIGN OUTDOOR AIR INTAKE OR EXHAUST CAPACITY DOES NOT EXCEED 400 CFM.
   - 1.3. SYSTEMS SERVING AREAS WHICH REQUIRE CONTINUOUS OPERATION FOR 24/7 OCCUPANCY SCHEDULES.

2. SHUTOFF DAMPERS ARE NOT REQUIRED IN:
   - 2.1. COMBUSTION AIR INTAKES.
   - 2.2. SYSTEMS SERVING AREAS WHICH REQUIRE CONTINUOUS OPERATION IN ANIMAL HOSPITALS, KENNELS AND POUNDS, LABORATORIES, GROUP H, I AND R OCCUPANCIES.
   - 2.3. SUBDUCT EXHAUST SYSTEMS OR OTHER SYSTEMS THAT ARE REQUIRED TO OPERATE CONTINUOUSLY BY THE INTERNATIONAL MECHANICAL CODE.
   - 2.4. TYPE I GREASE EXHAUST SYSTEMS OR OTHER SYSTEMS WHERE DAMPERS ARE PROHIBITED BY THE INTERNATIONAL MECHANICAL CODE TO BE IN THE AIRSTREAM.
   - 2.5. UNCONDITIONED STAIRWELLS OR UNCONDITIONED ELEVATOR HOISTWAY SHAFTS THAT ARE ONLY CONNECTED TO UNCONDITIONED SPACES.

C403.7.8.2 RETURN AIR OPENINGS USED FOR AIRSIDE ECONOMIZER OPERATION SHALL BE EQUIPPED WITH CLASS I MOTORIZED DAMPERS.

C403.7.8.3 CLASS I DAMPERS SHALL HAVE A MAXIMUM LEAKAGE RATE OF 4 CFM/SF WHEN TESTED IN ACCORDANCE WITH AMCA 500D AND SHALL BE LABELED BY AN APPROVED AGENCY FOR SUCH PURPOSE. GRAVITY (NONMOTORIZED) DAMPERS SHALL HAVE AN AIR LEAKAGE RATE NOT GREATER THAN 20 CFM/SF WHERE NOT LESS THAN 24 INCHES IN EITHER DIMENSION AND 40 CFM/SF WHERE LESS THAN 24 INCHES IN EITHER DIMENSION. THE RATE OF AIR LEAKAGE SHALL BE DETERMINED AT 1.0 INCH W.G. WHEN TESTED IN ACCORDANCE WITH AMCA500D FOR SUCH PURPOSE. THE DAMPERS SHALL BE LABELED BY AN APPROVED AGENCY. GRAVITY DAMPERS FOR VENTILATION AIR INTAKES SHALL BE PROTECTED FROM DIRECT EXPOSURE TO WIND. EXCEPTIONS:

1. GRAVITY (NONMOTORIZED) DAMPERS ARE NOT REQUIRED TO BE TESTED TO VERIFY THE AIR LEAKAGE RATING WHEN INSTALLED IN EXHAUST SYSTEMS WHERE THE EXHAUST CAPACITY DOES NOT EXCEED 400 CFM AND THE GRAVITY DAMPER IS PROVIDED WITH A GASKETED SEAL.
2. MOTORIZED DAMPERS ON RETURN AIR OPENINGS IN UNITARY PACKAGED EQUIPMENT THAT HAVE THE MINIMUM LEAKAGE RATE AVAILABLE FROM THE MANUFACTURER.

C403.7.8.4 OUTDOOR AIR INTAKE, RELIEF AND EXHAUST SHUTOFF DAMPERS SHALL BE INSTALLED WITH AUTOMATIC CONTROLS CONFIGURED TO CLOSE WHEN THE SYSTEMS OR SPACES SERVED ARE NOT IN USE OR DURING UNOCCUPIED PERIOD WARM-UP AND SETBACK OPERATION, UNLESS THE SYSTEMS SERVED REQUIRE OUTDOOR OR EXHAUST AIR IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL CODE OR THE DAMPERS ARE OPENED TO PROVIDE INTENTIONAL ECONOMIZER COOLING. STAIRWAY AND ELEVATOR HOISTWAY SHAFT VENT DAMPERS SHALL BE INSTALLED WITH AUTOMATIC CONTROLS CONFIGURED TO OPEN UPON THE ACTIVATION OF ANY FIRE ALARM INITIATING DEVICE OF THE BUILDING'S FIRE ALARM SYSTEM OF THE INTERRUPTION OF POWER TO THE DAMPER.

C403.10.1.1 DUCTS, SHAFTS AND PLENUMS CONVEYING OUTSIDE AIR FROM THE EXTERIOR OF THE BUILDING TO THE MECHANICAL SYSTEM SHALL MEET ALL AIR LEAKAGE AND BUILDING ENVELOPE INSULATION REQUIREMENTS OF SECTION C402, PLUS BUILDING ENVELOPE VAPOR CONTROL REQUIREMENTS FROM THE INTERNATIONAL BUILDING CODE, EXTENDING CONTINUOUSLY FROM THE BUILDING EXTERIOR TO THE AUTOMATIC SHUTOFF DAMPER OR HEATING OR COOLING EQUIPMENT. FOR THE PURPOSES OF BUILDING ENVELOPE INSULATION REQUIREMENTS, DUCT SURFACES SHALL BE INSULATED WITH THE MINIMUM INSULATION VALUES IN TABLE C403.10.1.1. DUCT SURFACES INCLUDED AS PART OF THE BUILDING ENVELOPE SHALL NOT BE USED IN THE CALCULATION OF MAXIMUM GLAZING AREA AS DESCRIBED IN SECTION C402.4.1. EXCEPTIONS:

1. OUTDOOR AIR DUCTS SERVING INDIVIDUAL SUPPLY AIR UNITS WITH LESS THAN 2,800 CFM OF TOTAL SUPPLY AIR CAPACITY, PROVIDED THESE ARE INSULATED TO THE MINIMUM INSULATION VALUES IN TABLE C403.10.1.1.
2. UNHEATED EQUIPMENT ROOMS WITH COMBUSTION AIR LOUVERS, PROVIDED THEY ARE ISOLATED FROM CONDITIONED SPACE AT SIDES, TOP AND BOTTOM OF THE ROOM WITH R-11 NOMINAL INSULATION.

C403.10.1.2 ALL OTHER SUPPLY AND RETURN AIR DUCTS AND PLENUMS SHALL BE INSULATED WITH A MINIMUM OF R-6 INSULATION WHERE LOCATED IN UNCONDITIONED SPACES, AND WHERE LOCATED OUTSIDE THE BUILDING WITH A MINIMUM OF R-8 INSULATION IN CLIMATE ZONE 4 AND R-12 INSULATION IN CLIMATE ZONE 5. WHERE LOCATED WITHIN A BUILDING ENVELOPE ASSEMBLY, THE DUCT OR PLENUM SHALL BE SEPARATED FROM THE BUILDING EXTERIOR OR UNCONDITIONED OR EXEMPT SPACES BY A MINIMUM INSULATION VALUE AS REQUIRED FOR EXTERIOR WALLS BY SECTION C402.1.3. EXCEPTIONS:

1. WHERE LOCATED WITHIN EQUIPMENT.
2. SUPPLY AND RETURN DUCTWORK LOCATED IN UNCONDITIONED SPACES WHERE THE DESIGN TEMPERATURE DIFFERENCE BETWEEN THE INTERIOR AND EXTERIOR OF THE DUCT OR PLENUM DOES NOT EXCEED 15°F AND INSULATED IN ACCORDANCE WITH TABLE C403.10.1.2.

WHERE LOCATED WITHIN CONDITIONED SPACE, SUPPLY DUCTS WHICH CONVEY SUPPLY AIR AT TEMPERATURES LESS THAN 55°F OR GREATER THAN 105°F SHALL BE INSULATED WITH A MINIMUM INSULATION R-VALUE IN ACCORDANCE WITH TABLE C403.10.1.2. EXCEPTION: DUCTWORK EXPOSED TO VIEW WITHIN A ZONE THAT SERVES THAT ZONE IS NOT REQUIRED TO BE INSULATED.

WHERE LOCATED WITHIN CONDITIONED SPACE, RETURN OR EXHAUST AIR DUCTS THAT CONVEY RETURN OR EXHAUST AIR DOWNSTREAM OF AN ENERGY RECOVERY MEDIA SHALL BE INSULATED WITH A MINIMUM R-VALUE IN ACCORDANCE WITH TABLE C403.10.1.2.

ALL DUCTS, AIR HANDLERS, AND FILTER BOXES SHALL BE SEALED. JOINTS AND SEAMS SHALL COMPLY WITH SECTION 603.9 OF THE INTERNATIONAL MECHANICAL CODE.

C403.10.2 DUCTWORK SHALL BE CONSTRUCTED AND ERECTED IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL CODE.

C403.10.3 ALL PIPING SERVING AS PART OF A HEATING OR COOLING SYSTEM SHALL BE THERMALLY INSULATED IN ACCORDANCE WITH TABLE C403.10.3. EXCEPTIONS:

1. FACTORY-INSTALLED PIPING WITHIN HVAC EQUIPMENT TESTED AND RATED IN ACCORDANCE WITH A TEST PROCEDURE REFERENCED BY THIS CODE.
2. FACTORY-INSTALLED PIPING WITHIN ROOM FAN-COILS AND UNIT VENTILATORS TESTED AND RATED ACCORDING TO AHRI 440 (EXCEPT THAT THE SAMPLING AND VARIATION PROVISIONS OF SECTION 6.5 SHALL NOT APPLY) AND 840, RESPECTIVELY.
3. PIPING THAT CONVEYS FLUIDS THAT HAVE A DESIGN OPERATING TEMPERATURE RANGE BETWEEN 60°F AND 105°F.
4. PIPING THAT CONVEYS FLUIDS THAT HAVE NOT BEEN HEATED OR COOLED THROUGH THE USE OF FOSSIL FUELS OR ELECTRIC POWER.
5. STRAINERS, CONTROL VALVES, AND BALANCING VALVES ASSOCIATED WITH PIPING 1 INCH OR LESS IN DIAMETER.
6. DIRECT BURIED PIPING THAT CONVEYS FLUIDS AT OR BELOW 60°F.

C403.5 AIR ECONOMIZERS SHALL BE PROVIDED ON ALL NEW COOLING SYSTEMS INCLUDING THOSE SERVING COMPUTER SERVER ROOMS, ELECTRONIC EQUIPMENT, RADIO EQUIPMENT, AND TELEPHONE SWITCHGEAR. ECONOMIZERS SHALL COMPLY WITH SECTIONS C403.5.1 THROUGH C403.5.5. NOTE: ECONOMIZERS ARE NOT REQUIRED FOR SYSTEMS THAT MEET THE REQUIREMENTS OF SECTION C403.5, EXCEPTIONS 1 THROUGH 11.

C403.5.1 ECONOMIZER SYSTEMS SHALL BE INTEGRATED WITH THE MECHANICAL COOLING SYSTEM AND BE CONFIGURED TO PROVIDE PARTIAL COOLING EVEN WHERE ADDITIONAL MECHANICAL COOLING IS REQUIRED TO PROVIDE THE REMAINDER OF THE COOLING LOAD. CONTROLS SHALL NOT BE CAPABLE OF CREATING A FALSE LOAD IN THE MECHANICAL COOLING SYSTEM BY LIMITING OR DISABLING THE ECONOMIZER OR ANY OTHER MEANS, SUCH AS HOT GAS BYPASS, EXCEPT AT THE LOWEST STAGE OF MECHANICAL COOLING. UNITS THAT INCLUDE AN AIR ECONOMIZER SHALL COMPLY WITH THE FOLLOWING:

1. UNIT CONTROLS SHALL HAVE THE MECHANICAL COOLING CAPACITY CONTROL INTERLOCKED WITH THE AIR ECONOMIZER CONTROLS SUCH THAT THE OUTDOOR AIR DAMPER IS AT THE 100 PERCENT OPEN POSITION WHEN MECHANICAL COOLING IS ON AND THE OUTDOOR AIR DAMPER DOES NOT BEGIN TO CLOSE TO PREVENT COIL FREEZING DUE TO MINIMUM COMPRESSOR RUN TIME UNTIL THE LEAVING AIR TEMPERATURE IS LESS THAN 45°F.
2. DIRECT EXPANSION (DX) UNITS WITH COOLING CAPACITY 65,000 BTUH OR GREATER OF RATED CAPACITY SHALL COMPLY WITH THE FOLLOWING:
3. 2.1 DX UNITS THAT CONTROL THE CAPACITY OF THE MECHANICAL COOLING DIRECTLY BASED ON OCCUPIED SPACE TEMPERATURE SHALL HAVE NOT FEWER THAN TWO STAGES OF MECHANICAL COOLING CAPACITY.
4. 2.2 OTHER DX UNITS, INCLUDING THOSE THAT CONTROL SPACE TEMPERATURE BY MODULATING THE AIRFLOW TO THE SPACE, SHALL BE IN ACCORDANCE WITH TABLE C403.5.1.

C403.5.2 HVAC SYSTEM DESIGN AND ECONOMIZER CONTROLS SHALL BE SUCH THAT ECONOMIZER OPERATION DOES NOT INCREASE BUILDING HEATING ENERGY USE DURING NORMAL OPERATION. EXCEPTION: ECONOMIZERS ON VAV SYSTEMS THAT CAUSE ZONE LEVEL HEATING TO INCREASE DUE TO A REDUCTION IN SUPPLY AIR TEMPERATURE. C403.5.3.1 AIR ECONOMIZER SYSTEMS SHALL BE CONFIGURED TO MODULATE OUTDOOR AIR AND RETURN AIR DAMPERS TO PROVIDE UP TO 100 PERCENT OF THE DESIGN SUPPLY AIR QUANTITY AS OUTDOOR AIR FOR COOLING.

C403.5.3.2 ECONOMIZER CONTROLS AND DAMPERS SHALL BE CONFIGURED TO SEQUENCE THE DAMPERS WITH MECHANICAL COOLING EQUIPMENT AND SHALL NOT BE CONTROLLED BY ONLY MIXED AIR TEMPERATURE. AIR ECONOMIZERS ON SYSTEMS WITH COOLING CAPACITY GREATER THAT 65,000 BTUH SHALL BE CONFIGURED TO PROVIDE PARTIAL COOLING EVEN WHEN ADDITIONAL MECHANICAL COOLING IS REQUIRED TO MEET THE REMAINDER OF THE COOLING LOAD. EXCEPTION: THE USE OF MIXED AIR TEMPERATURE LIMIT CONTROL SHALL BE PERMITTED FOR SYSTEMS THAT ARE BOTH CONTROLLED FROM SPACE TEMPERATURE (SUCH AS SINGLE ZONE SYSTEMS) AND HAVING COOLING CAPACITY LESS THAN 65,000 BTUH.

C403.5.3.3 AIR ECONOMIZERS SHALL BE CONFIGURED TO AUTOMATICALLY REDUCE OUTDOOR AIR INTAKE TO THE DESIGN MINIMUM OUTDOOR AIR QUANTITY WHEN OUTDOOR AIR INTAKE WILL NO LONGER REDUCE COOLING ENERGY USAGE. HIGH-LIMIT SHUTOFF CONTROL TYPES SHALL BE CHOSEN FROM TABLE C403.5.3.3. HIGH-LIMIT SHUTOFF CONTROL SETTINGS FOR THESE CONTROL TYPES SHALL BE THOSE SPECIFIED TO TABLE C403.5.3.3.

C403.5.3.4 SYSTEMS SHALL BE CAPABLE OF RELIEVING EXCESS OUTDOOR AIR DURING AIR ECONOMIZER OPERATION TO PREVENT OVER-PRESSURIZING THE BUILDING. THE RELIEF AIR OUTLET SHALL BE LOCATED TO AVOID RECIRCULATION INTO THE BUILDING.

C403.5.3.5 RETURN, EXHAUST/RELIEF AND OUTDOOR AIR DAMPERS USED IN ECONOMIZERS SHALL COMPLY WITH SECTION C403.7.8.

C409.1 ALL NEW BUILDINGS AND ADDITIONS SHALL HAVE THE CAPABILITY OF METERING SOURCE ENERGY FOR ON-SITE RENEWABLE ENERGY PRODUCTION IN ACCORDANCE WITH SECTION C409.2.4 AND THE END-USE ENERGY USAGE FOR ELECTRIC VEHICLE CHARGING IN ACCORDANCE WITH SECTION C409.3.4. NEW BUILDINGS AND ADDITIONS WITH A GROSS CONDITIONED FLOOR AREA OVER 50,000 SQUARE FEET SHALL COMPLY SECTION C409. BUILDINGS SHALL BE EQUIPPED TO MEASURE, MONITOR, RECORD AND DISPLAY ENERGY CONSUMPTION DATA FOR EACH ENERGY SOURCE AND END USE CATEGORY PER THE PROVISIONS OF THIS SECTION, TO ENABLE EFFECTIVE ENERGY MANAGEMENT. EXCEPTIONS:

1. TENANT SPACES SMALLER THAN 50,000 SQUARE FEET WITHIN BUILDINGS IF TENANT SPACE HAS ITS OWN UTILITY SERVICE AND UTILITY METERS.
2. BUILDINGS IN WHICH THERE IS NO GROSS CONDITIONED FLOOR AREA OVER 25,000 SQUARE FEET, INCLUDING BUILDING COMMON AREA, THAT IS SERVED BY ITS OWN UTILITY SERVICES AND METERS.

DUCT INSULATION SCHEDULE

	SERVICE (1)(3)(4)(5)	MATERIAL (6)	R-VALUE (MIN. INSTALLED)
WSEC	SUPPLY & RETURN AIR DUCTS IN UNCONDITIONED SPACE	MINERAL-WOOL BLANKET	6.0
	SUPPLY & RETURN AIR DUCTS LOCATED OUTSIDE THE BUILDING	MINERAL-WOOL BLANKET	8.0
	SUPPLY WITH SA TEMP <55°F OR >105°F WITHIN CONDITIONED SPACE	MINERAL-WOOL BLANKET	3.3
	SUPPLY DUCTS EXPOSED WITHIN CONDITIONED SPACE	MINERAL-WOOL BLANKET	0.0
	OUTSIDE AIR FROM EXTERIOR OF BUILDING TO AUTOMATIC SHUT-OFF DAMPER OR HEATING OR COOLING EQUIPMENT AND GREATER THAN 2,800 CFM	MINERAL-WOOL BLANKET	NOTE 2
	OUTSIDE AIR FROM EXTERIOR OF BUILDING TO AUTOMATIC SHUT-OFF DAMPER OR HEATING OR COOLING EQUIPMENT AND LESS THAN 2,800 CFM	MINERAL-WOOL BLANKET	7.0
	OUTSIDE AIR DUCT IN UNHEATED EQUIPMENT ROOMS WITH COMBUSTION AIR LOUVERS, ISOLATED FROM CONDITIONED SPACE AT SIDES, TOP AND BOTTOM WITH R-11 INSULATION	MINERAL-WOOL BLANKET	0.0
WSMC	OUTSIDE AIR DUCT IN CONDITION SPACE	MINERAL-WOOL BLANKET	4.0
	FOR HEAT OR ENERGY RECOVERY VENTILATION SYSTEM, DUCT UPSTREAM OF HEAT EXCHANGER	MINERAL-WOOL BLANKET	4.0
	EXHAUST DUCTS IN UNCONDITIONED SPACE	MINERAL-WOOL BLANKET	4.0

NOTES
(1) DUCT INSULATION SHALL COMPLY WITH WSMC AND WSEC
(2) DUCT SHALL MEET THE REQUIREMENTS OF METAL FRAMED WALLS PER WSEC TABLE C402.1.4
(3) VAPOR RETARDER IS INSTALLED ON SUPPLY DUCT THAT DOES COOLING AND OUTSIDE AIR DUCT PER WSMC 604.11
(4) EXTERAL DUCT INSULATION IS IDENTIFIABLE PER WSMC 604.7
(5) ALL DUCTWORK IS CONSTRUCTED AND SEALED PER WSMC
(6) INSULATION SHALL HAVE A MAXIMUM FLAME SPREAD INDEX OF 25 AND MAXIMUM SMOKE DEVELOPED INDEX OF 50 PER WSMC 604.3

TABLE C403.10.3: MINIMUM PIPE INSULATION THICKNESS

FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		ELECTRICAL				
	CONDUCTIVITY BTU*IN/(H*FT²*°F)	MEAN RATING TEMPERATURE, °F	< 1	1 TO < 1-1/2	1-1/2 TO < 4	4 TO < 8	≥ 8
> 350	0.32 - 0.34	250	4.5	5.0	5.0	5.0	5.0
251 - 350	0.29 - 0.32	200	3.0	4.0	4.5	4.5	4.5
201 - 250	0.27 - 0.30	150	2.5	2.5	2.5	3.0	3.0
141 - 200	0.25 - 0.29	125	1.5	1.5	2.0	2.0	2.0
105 - 140	0.21 - 0.28	100	1.0	1.0	1.5	1.5	1.5
40 - 60	0.21 - 0.27	75	0.5	0.5	1.0	1.0	1.0
< 40	0.20 - 0.26	75	0.5	1.0	1.0	1.0	1.5

NO.	DATE	DESCRIPTION
2	5/2/25	PERMIT RESUBMITTAL #2
1	2/4/25	PERMIT RESUBMITTAL #1

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05/01/2025

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PRCNC20240278

DATE: 05/01/2025

SHEET TITLE:
PROJECT NOTES

SHEET NO.
M0.1

WSEC C406 EFFICIENCY PACKAGES

2018 WSEC SECTION C406: ADDITIONAL ENERGY EFFICIENCY CREDIT REQUIREMENTS

NEW BUILDINGS AND CHANGES IN SPACE CONDITIONING, CHANGE OF OCCUPANCY AND BUILDING ADDITIONS IN ACCORDANCE WITH CHAPTER 5 SHALL COMPLY WITH SUFFICIENT PACKAGES FROM TABLE C406.1 SO AS TO ACHIEVE A MINIMUM NUMBER OF SIX CREDITS. EACH AREA SHALL BE PERMITTED TO APPLY FOR DIFFERENT PACKAGES PROVIDED ALL AREAS IN THE BUILDING COMPLY WITH THE REQUIREMENT FOR SIX CREDITS. AREAS INCLUDED IN THE SAME PERMIT WITHIN MIXED USE BUILDINGS SHALL BE PERMITTED TO DEMONSTRATE COMPLIANCE BY AN AREA WEIGHTED AVERAGE NUMBER OF CREDITS BY BUILDING OCCUPANCY ACHIEVING A MINIMUM NUMBER OF SIX CREDITS.

EXCEPTIONS:

1. LOW ENERGY SPACES IN ACCORDANCE WITH SECTION C402.1.1.1 AND EQUIPMENT BUILDINGS IN ACCORDANCE WITH SECTION C402.1.2 SHALL COMPLY WITH SUFFICIENT PACKAGES FROM TABLE C406.1 TO ACHIEVE A MINIMUM NUMBER OF THREE CREDITS.
2. BUILDING ADDITIONS THAT HAVE LESS THAN 1,000 SQUARE FEET OF CONDITIONED FLOOR AREA SHALL COMPLY WITH SUFFICIENT PACKAGES FROM TABLE C406.1 TO ACHIEVE A MINIMUM NUMBER OF THREE CREDITS.

TABLE C406.1

CODE SECTION	DESCRIPTION	GROUP R-2 CREDITS	CREDIT TAKEN
1	MORE EFFICIENT HVAC PERFORMANCE IN ACCORDANCE WITH SECTION C406.2	3.0	–
2	REDUCED LIGHTING POWER: OPTION 1 IN ACCORDANCE WITH SECTION C406.3.1	1.0	1.0
3	REDUCED LIGHTING POWER: OPTION 2 IN ACCORDANCE WITH SECTION C406.3.2 (A)	3.0	–
4	ENHANCED LIGHTING CONTROLS IN ACCORDANCE WITH SECTION C406.4	N/A	–
5	ON-SITE SUPPLY OF RENEWABLE ENERGY IN ACCORDANCE WITH C406.5	3.0	–
6	DEDICATED OUTDOOR AIR SYSTEM IN ACCORDANCE WITH SECTION C406.6 (B)	4.0	4.0
7	HIGH PERFORMANCE DEDICATED OUTDOOR AIR SYSTEM IN ACCORDANCE WITH SECTION C406.7	4.0	–
8	HIGH-EFFICIENCY SERVICE WATER HEATING IN ACCORDANCE WITH SECTIONS C406.8.1 AND C406.8.2	5.0	–
9	HIGH PERFORMANCE SERVICE WATER HEATING IN MULTI-FAMILY BUILDINGS IN ACCORDANCE WITH SECTION C406.9	8.0	–
10	ENHANCED ENVELOPE PERFORMANCE IN ACCORDANCE WITH SECTION C406.10 (C)	6.0	–
11	REDUCED AIR INFILTRATION IN ACCORDANCE WITH SECTION C406.11 (C)	2.0	2.0
12	ENHANCED COMMERCIAL KITCHEN EQUIPMENT IN ACCORDANCE WITH SECTION C406.12	N/A	–
		TOTAL CREDITS	7.0

NOTES:
(A) PROJECTS USING THIS OPTION MAY NOT USE ITEM 2.
(B) THIS OPTION IS NOT AVAILABLE TO BUILDINGS SUBJECT TO THE PRESCRIPTIVE REQUIREMENTS OF SECTION C403.3.5.
(C) BUILDINGS OR BUILDING AREAS THAT ARE EXEMPT FROM THERMAL ENVELOPE REQUIREMENTS IN ACCORDANCE WITH SECTIONS C402.1.1 AND C402.1.2 DO NOT QUALIFY FOR THIS PACKAGE.

CALCULATIONS

PUBLIC SPACES OUTSIDE AIR VENTILATION CALCULATIONS (1)

ROOM	ROOM SQUARE FOOTAGE	ROOM OCCUPANTS	MINIMUM CFM PER SQUARE FOOT	MINIMUM CFM PER PERSON	MINIMUM REQUIRED CFM BY AREA	MINIMUM REQUIRED CFM BY PERSON	TOTAL REQUIRED OSA CFM (AREA + PEOPLE)	TOTAL OSA CFM PROVIDED
OFFICE	155	3	0.06	5	9	15	24	25
OFFICE	156	3	0.06	5	9	15	24	25
LEASING OFFICE	464	7	0.06	5	28	35	63	75
MAINT. OFFICE	30	1	0.06	5	2	5	7	25
GREAT ROOM	1090	14	0.06	5	65	70	135	150
YOGA ROOM	203	6	0.06	20	12	120	132	150
FITNESS	742	19	0.06	20	45	380	425	425
ZOOM ROOM	88	2	0.06	5	5	10	15	25

NOTES: (1) VENTILATION RATES ARE PER THE 2018 IMC, TABLE 403.4.2.

COMBUSTION AIR CALCULATIONS

POOL ROOM

EQUIPMENT	INPUT RATING (BTUH)
(1) POOL HEATER	400,000
TOTAL INPUT RATING	400,000

IFGC 304.6.2: ONE PERMANENT OPENING METHOD.
PROVIDE 1 OPENING WITHIN 12" OF THE TOP OF THE ENCLOSURE. OPENING SHALL BE SIZED FOR 1 SQ.IN. FREE AREA PER 3,000 BTUH INPUT RATING:

400,000 BTUH X 1 SQ. IN. PER 3,000 BTUH = 133 SQ. IN. FREE AREA OPENING.

SELECTION: (1) 20"x20" LOUVER PROVIDED (144 SQ. IN. PER LOUVER) BOD GREENHECK EDJ-401.

NO.	DATE	DESCRIPTION
2	5/2/25	PERMIT RESUBMITTAL #2
1	2/4/25	PERMIT RESUBMITTAL #1

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03/01/2025

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DATE: 05/01/2025

SHEET TITLE: TABLES & CALCULATIONS

SHEET NO. M0.2

MECHANICAL SCHEDULES

City of Puyallup Development & Permitting Services ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

SPLIT SYSTEM HEAT PUMP SCHEDULE - INDOOR UNIT

EQUIP NO.	SERVICE	MOUNTING/ DISCHARGE	FAN		ELECTRICAL			WEIGHT, LBS	BASIS OF DESIGN (1)	CONNECTED OUTDOOR UNIT
			AIRFLOW, CFM	ESP. IN WG	VOLTAGE	MCA	MOCP			
FCU-1-1	LEASING	DUCTED CONCEALED	1400	0.8	208V/1P	3.4	15	102	DAIKIN FBQ48PVJU	HP-1-1
FCU-1-2	YOGA ROOM	WALL CASSETTE	431	-	208V/1P	0.3	15	20	DAIKIN FTX09AXVJU	HP-1-2
FCU-1-3	FITNESS	DUCTED CONCEALED	1400	0.8	208V/1P	3.4	15	102	DAIKIN FBQ48PVJU	HP-1-3

3

SPLIT SYSTEM HEAT PUMP SCHEDULE - OUTDOOR UNIT

EQUIP NO.	SERVICE	CAPACITY, TONS	TOTAL COOLING CAPACITY, BTUH	SEER	TOTAL HEATING CAPACITY, BTUH	HSPF	ELECTRICAL			DIMENSIONS, INCHES			WEIGHT, LBS	BASIS OF DESIGN (1)(2)(3)(4)(5)	CONNECTED FAN COIL UNIT
							VOLTAGE	MCA	MOCP	H	W	D			
HP-1-1	LEASING	4.0	48,000	14.0	54,000	8.4	208V/1P	29.1	35	53	35	13	225	DAIKIN RZQ48TAVJUA	FCU-1-1
HP-1-2	YOGA ROOM	0.75	8,900	19	10,000	10.0	208V/1P	8.7	15	22	26	11	57	DAIKIN RX09AXVJU	FCU-1-2
HP-1-3	FITNESS	4.0	48,000	14.0	54,000	8.4	208V/1P	29.1	35	53	35	13	225	DAIKIN RZQ48TAVJUA	FCU-1-3

ENERGY RECOVERY VENTILATOR

EQUIP NO.	SERVICE	MOUNTING/ DISCHARGE	FAN		ELECTRICAL			SENSIBLE HEAT RECOVERY EFFICIENCY	WEIGHT, LBS	BASIS OF DESIGN (1)(2)(3)
			AIRFLOW, CFM	ESP. IN WG	VOLTAGE	AMPS	MOCP			
ERV-1	LEASING OFFICE & COWORKING SPACE	HORIZONTAL	300	0.64	208V/1P	1.6	15	0.60	71	DAIKIN VAM300GVJU
ERV-2	FITNESS & STUDIO	HORIZONTAL	600	0.76	208V/1P	4.2	15	0.60	148	DAIKIN VAM600GVJU

3

DIFFUSER SCHEDULE

CALLOUT	DESCRIPTION	AIRFLOW RANGE, CFM	FACE SIZE, IN	BASIS OF DESIGN
CD-1	CEILING DIFFUSER	0-349	12X12	TITUS MCD
SG-1	SUPPLY GRILLE	0-456	12X8	TITUS 300RL
RG-1	RETURN GRILLE	0-700	12X12	TITUS 350ZRL
RG-2	RETURN GRILLE	0-2250	24X24	TITUS 350ZRL
RG-3	RETURN GRILLE	0-1043	24X10	TITUS 350ZRL
RG-4	RETURN GRILLE	0-413	10X10	TITUS 350ZRL
EG-1	EXHAUST GRILLE	0-100	10x10	TITUS 350ZRL
EG-2	EXHAUST GRILLE	0-2250	24x24	TITUS 350ZRL

FAN SCHEDULE

EQUIP NO.	SERVICE	TYPE	AIRFLOW, CFM	ESP, IN WG	ELECTRICAL		OPERATION	WEIGHT, LBS	BASIS OF DESIGN (1)
					VOLTAGE	HP			
EF-1	RESTROOM	CEILING MOUNTED	150	0.5	115V/1P	FHP	CONTINUOUS	10	GREENHECK SP-B150
EF-2	RESTROOM	CEILING MOUNTED	150	0.5	115V/1P	FHP	CONTINUOUS	10	GREENHECK SP-B150
EF-3	SHOWER ROOM	CEILING MOUNTED	50	0.3	115V/1P	FHP	CONTINUOUS	10	GREENHECK SP-AP0511W

NOTES:
(1) PROVIDE BACKDRAFT DAMPERS ON EXHAUST FANS.
(2) FAN SHALL BE ACTIVATED VIA WALL SWITCH.
(3) 1.0 SONES MAXIMUM.

ELECTRIC HEATERS

2

EQUIP NO.	SERVICE	MOUNTING/ DISCHARGE	HEATING	ELECTRICAL	BASIS OF DESIGN (3)
			KW	VOLTAGE	
EWH-1	PER PLANS	WALL	1.0	208V/1P	(1)(2)

NOTES: (1) BROAN, KING, CADET OR EQUIVALENT.
(2) PROVIDE INTEGRAL THERMOSTAT.
(3) ALL ELECTRIC HEATERS TO BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.

NO.	DATE	DESCRIPTION
3	5/28/25	PERMIT RESUBMITTAL #3
2	5/2/25	PERMIT RESUBMITTAL #2
1	2/4/25	PERMIT RESUBMITTAL #1

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DATE: 05/28/2025

SHEET TITLE: MECHANICAL SCHEDULES

SHEET NO. M0.3

WSEC FORMS

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

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	Bradley Heights Apartments Clubhouse - 2018 WSEC	For Building Department Use: **Date: Feb 13, 2024**
	Project Address	202 27th Ave SE Puyallup, WA 98374	
	Applicant Name	Arik Espineli	
	Applicant Phone	206-364-3343	
	Applicant Email	aespineli@robisonengineering.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 Commercial	General Building Use Type(s)	Entmt/Assembly, Other	Building Cond. Floor Area	5,286
Project Scope	New Building	Space Conditioning Categories	Fully Conditioned	Project Cond. Floor Area	5,286
				Floors Above Grade	1
				Compliance Method	Compliance Method 1 - General
Envelope Project Description					

Envelope Compliance Scope and Method	Scope	Space Conditioning Category	Compliance Method	WWR/SRR per Category	UA Calculation Adjustment	Fenestration Alternates	Compliance Verification
	New Building	Fully Conditioned	Prescriptive	18.81% / 0%	None selected	No alternates selected	COMPLIES

Air Barrier Testing	Air barrier testing included in project scope	Air Barrier Comments	

Project Title	Bradley Heights Apartments Clubhouse - 2018 WSEC	Date	Feb 13, 2024
Scope & Space Conditioning	NEW BUILDING - FULLY CONDITIONED	Compliance Verification	COMPLIES
Window-to-wall Ratio 18.81%	Skylight-to-roof-ratio 0%	Vertical Fenestration Alternate	No alternates selected

Opaque Envelope Assemblies

				Insulation R-Values				
Roof/Ceiling	**Location in Documents**	**Assembly ID**	**Assembly Location**	**Cavity**	**Continuous (% penetration)**	**2nd Layer (MB Roof)**	**U-Factor**	**Net Area (SF)**
Attic and other	D1	5	Exterior	R-49	(< 0.04%)			5,494
	U-Factor Source:			U-Factor Source Description:				
	Roof Framing Type (Standard, Advanced): Standard			Roof Framing Material: Wood-framed				
	Ceiling/Attic Venting:			Is this assembly exterior or interior?: Exterior				
Walls	**Location in Documents**	**Assembly ID**	**Assembly Location**	**Cavity**	**Continuous (% penetration)**	**Insulated Wall Furring**	**U-Factor**	**Net Area (SF)**
Wood-framed and other - Commercial	D1	1	Exterior	R-21	R-0 (< 0.04%)			4,403
	Which insulation code target does wall comply with?: R-21 Cavity + Intermediate Framing			U-Factor Source:				
	U-Factor Source Description:			Wall Framing Type (Standard, Inter., Advanced): Intermediate				
	Framing Depth:			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	D2	1	At grade level	R-15				445
	Slab Insulation Method: 2 ft vertical (from top of slab downward)			F-Factor Source:				
	F-Factor Source Description:							

Fenestration & Opaque Door Assemblies

	Insulation R-Values	

Vertical Fenestration	**Location in Documents**	**Assembly ID**	**Assembly Location**	**Shading (PF)**	**Fenestration SHGC**	**Fenestration U-Factor**	**Rough Opening (SF)**	
Fixed - Class AW or site built	D3	STOREFRONT	Exterior		PF < 0.2	SHGC-0.38	U-0.30	373
	U-Factor & SHGC Source:			U-Factor Source Description:				
	Is this assembly exterior or interior?: Exterior							
Fixed - Class AW or site built	D6	STOREFRONT	Exterior		PF < 0.2	SHGC-0.38	U-0.30	452
	U-Factor & SHGC Source:			U-Factor Source Description:				
	Is this assembly exterior or interior?: Exterior							
Glazed Doors	**Location in Documents**	**Assembly ID**	**Assembly Location**	**Shading (PF)**	**Fenestration SHGC**	**Fenestration U-Factor**	**Rough Opening (SF)**	
Swinging entrance door	D3	STOREFRONT	Exterior		PF < 0.2	SHGC-0.38	U-0.30	25
	U-Factor & SHGC Source:			U-Factor Source Description:				
	Is this assembly exterior or interior?: Exterior			Is this a public entrance door?: Yes				
	Door enclosed within a vestibule?: No vestibule							
Swinging entrance door	D3	STOREFRONT	Exterior		PF < 0.2	SHGC-0.38	U-0.30	170
	U-Factor & SHGC Source:			U-Factor Source Description:				
	Is this assembly exterior or interior?: Exterior			Is this a public entrance door?: Yes				
	Door enclosed within a vestibule?: No vestibule							

MECHANICAL 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	Bradley Heights Apartments Clubhouse - 2018 WSEC	For Building Department Use: **Date: Jun 30, 2023**
	Project Address	202 27th Ave SE Puyallup, WA 98374	
	Applicant Name	Arik Espineli	
	Applicant Phone	206-364-3343	
	Applicant Email	aespineli@robisonengineering.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 Commercial	General Building Use Type		Entmt/Assembly, Other	Building Cond. Floor Area	4,439
General Project Types	New Building	New Building or Addition Mechanical Scope	Single Zone Systems & Equipment	Alteration Mechanical Scope	Project Cond. Floor Area	4,439
					Floors Above Grade	1
					Compliance Method	Compliance Method 1 - General
Mechanical Project Description						

Mechanical Compliance Scope and Method	Project Type	Mechanical Scope	Economizer Exception(s) Applied?	DOAS Ventilation Provided?	Higher Equipment Efficiency Option Applied?	Equipment Efficiency Compliance Verification
	New Building	Single Zone Systems & Equipment	Yes	Yes	NA	COMPLIES
Additional Efficiency Credits Included (AEC)		Dedicated outside air system (DOAS) option				
Does building include occupancy classifications requiring DOAS?	No	Does project include DOAS equipment?				Yes
Based on project scope do TSPR requirements apply?	No	Do all systems comply with Appendix D standard reference design or qualify for an exception to TSPR?				No

Scope & Space Conditioning	NEW BUILDING - SINGLE ZONE SYSTEMS & EQUIPMENT	Compliance Verification	COMPLIES

Single Zone Air Systems Category - Heat pump, unitary, thru-wall, SDHV

Air Systems Summary Information

System/Equip ID	Quantity of Items	Supply Airflow Control	Ventilation Standard	Ventilation CFM (Total if Multiple Items)	Ventilation Air Source	Paired with DOAS	Ventilation energy recovery	Energy Recovery Efficiency (%)
HP-1-1		Constant volume	IMC Ventilation	125	Other System		Provided but not required	60
HP-1-2		Constant volume	IMC Ventilation	25	Other System		Provided but not required	60
HP-1-3		Constant volume	IMC Ventilation	150	Other System		Provided but not required	63
HP-1-4, HP-1-5	2	Constant volume	IMC Ventilation	450	Other System		Provided but not required	60
HP-1-6, HP-1-7	2	Constant volume	IMC Ventilation	400	Other System		Provided but not required	63

Air Systems & Equipment - Cooling

System/ Equip ID	Cooling System/Equip Type	Specific Type	Cooling Capacity per item (Btu/h)	AEC Efficiency Multiplier	Econo Exception Multiplier (FL & PL)	Combined Efficiency Multiplier (AEC & Econo)	Proposed Cooling Efficiency	CE Units	Proposed Part Load Efficiency	PL Units	Efficiency Compliance Verification
HP-1-1	Heat pump, air cooled	Split system	30,000	1	1.0	1	16.0	SEER		IEER	COMPLIES
HP-1-2	Heat pump, air cooled	Split system	8,900	1	1.0	1	19.0	SEER		IEER	COMPLIES
HP-1-3	Heat pump, air cooled	Split system	18,000	1	1.0	1	16.7	SEER		IEER	COMPLIES
HP-1-4, HP-1-5	Heat pump, air cooled	Split system	30,000	1	1.0	1	16.0	SEER		IEER	COMPLIES
HP-1-6, HP-1-7	Heat pump, air cooled	Split system	30,000	1	1.0	1	16.0	SEER		IEER	COMPLIES

Air Systems & Equipment - Heating

System /Equip ID	Heating System/Equip Type	Specific Type	Heat Pump Heating Capacity (Btu/h)	Cooling Capacity (Btu/h)	AEC Efficiency Multiplier	Proposed Heat Pump Heating Efficiency	HPH Units	Proposed Low OSA Temp Efficiency	LTH Units	Efficiency Compliance Verification
HP-1-1	Heat pump, air cooled, heating	Split system	34,000	30,000	1	9.2	HSPF		COP	COMPLIES
HP-1-2	Heat pump, air cooled, heating	Split system	10,000	8,900	1	10.0	HSPF		COP	COMPLIES
HP-1-3	Heat pump, air cooled, heating	Split system	20,000	18,000	1	9.5	HSPF		COP	COMPLIES
HP-1-4, HP-1-5	Heat pump, air cooled, heating	Split system	34,000	30,000	1	9.2	HSPF		COP	COMPLIES
HP-1-6, HP-1-7	Heat pump, air cooled, heating	Single package	34,000	30,000	1	9.2	HSPF		COP	COMPLIES

Air Systems & Equipment Details

System/Equip ID	Area(s) Served	Location In Project Documents - Plan/Detail #	
HP-1-1	LEASING	M0.3	
	System/Equip ID for a single or multiple items?: Single item		
	Heating Section/Auxiliary Heating Type: Electric resistance (or None)		Economizer Compliance Method: Applying air-side economizer exception
	Air-side economizer exception applied: Exp 1 - DOAS paired with cooling system (Note equip location limitations)		WSEC Equip Efficiency Reference Table - Cooling: Table C403.3.2(2) - Unitary and Applied Heat Pumps
	Proposed Low OSA Temp Efficiency:		LTH Units: COP
	WSEC Equip Efficiency Reference Table - Heating: Table C403.3.2(2) - Unitary and Applied Heat Pumps		
HP-1-2	MAINTENANCE OFFICE	M0.3	
	System/Equip ID for a single or multiple items?: Single item		
	Heating Section/Auxiliary Heating Type: Electric resistance (or None)		Economizer Compliance Method: Applying air-side economizer exception
	Air-side economizer exception applied: Exp 1 - DOAS paired with cooling system (Note equip location limitations)		WSEC Equip Efficiency Reference Table - Cooling: Table C403.3.2(2) - Unitary and Applied Heat Pumps
	Proposed Low OSA Temp Efficiency:		LTH Units: COP
	WSEC Equip Efficiency Reference Table - Heating: Table C403.3.2(2) - Unitary and Applied Heat Pumps		
HP-1-3	YOGA ROOM	M0.3	
	System/Equip ID for a single or multiple items?: Single item		
	Heating Section/Auxiliary Heating Type: Electric resistance (or None)		Economizer Compliance Method: Applying air-side economizer exception
	Air-side economizer exception applied: Exp 1 - DOAS paired with cooling system (Note equip location limitations)		WSEC Equip Efficiency Reference Table - Cooling: Table C403.3.2(2) - Unitary and Applied Heat Pumps
	Proposed Low OSA Temp Efficiency:		LTH Units: COP
	WSEC Equip Efficiency Reference Table - Heating: Table C403.3.2(2) - Unitary and Applied Heat Pumps		
HP-1-4, HP-1-5	FITNESS	M0.3	
	System/Equip ID for a single or multiple items?: Multiple items w/ identical heating & cooling capacity		
	Heating Section/Auxiliary Heating Type: Electric resistance (or None)		Economizer Compliance Method: Applying air-side economizer exception
	Air-side economizer exception applied: Exp 1 - DOAS paired with cooling system (Note equip location limitations)		WSEC Equip Efficiency Reference Table - Cooling: Table C403.3.2(2) - Unitary and Applied Heat Pumps
	Proposed Low OSA Temp Efficiency:		LTH Units: COP
	WSEC Equip Efficiency Reference Table - Heating: Table C403.3.2(2) - Unitary and Applied Heat Pumps		
HP-1-6, HP-1-7	GREAT ROOM	M0.3	
	System/Equip ID for a single or multiple items?: Multiple items w/ identical heating & cooling capacity		
	Heating Section/Auxiliary Heating Type: Electric resistance (or None)		Economizer Compliance Method: Applying air-side economizer exception
	Air-side economizer exception applied: Exp 1 - DOAS paired with cooling system (Note equip location limitations)		WSEC Equip Efficiency Reference Table - Cooling: Table C403.3.2(2) - Unitary and Applied Heat Pumps
	Proposed Low OSA Temp Efficiency:		LTH Units: COP
	WSEC Equip Efficiency Reference Table - Heating: Table C403.3.2(2) - Unitary and Applied Heat Pumps		

REVISIONS

NO.	DATE	DESCRIPTION
2	5/2/25	PERMIT RESUBMITTAL #2
1	2/4/25	PERMIT RESUBMITTAL #1

JACOB J. O'BRIEN
STATE OF WASHINGTON
23001780
REGISTERED PROFESSIONAL ENGINEER
05/01/2025

ROBISON ENGINEERING, INC
19401 40TH AVE W., SUITE 302
LYNNWOOD, WA 98036
206-364-3343 TEL
REI PROJECT NO.: 777-006
CONTACT: ARIK ESPINELI

DRAWN: OP
DESIGNED: ABE
CHECKED: ABE
APPROVED: JOB

PROJECT: BRADLEY HEIGHTS APARTMENTS - CLUBHOUSE
202 27TH AVE SE
PUYALLUP, WA 98374

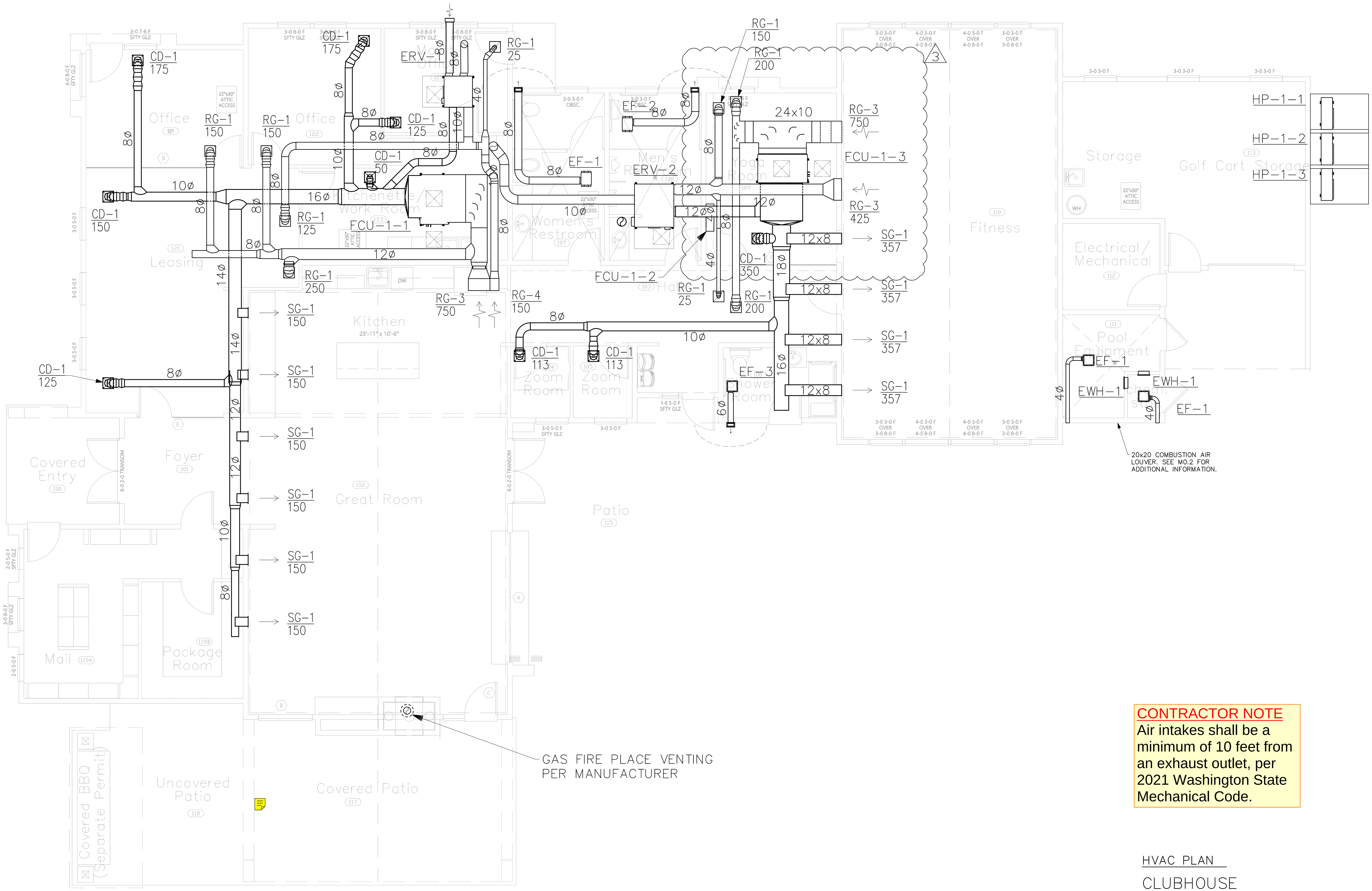
PRCNC20240278

ROBISON ENGINEERING, INC
19401 40TH AVE W, SUITE 302
LYNNWOOD, WA 98036
PHONE:(206)364-3343

DATE: 05/01/2025

SHEET TITLE: WSEC FORMS

SHEET NO. **M0.4**



CONTRACTOR NOTE
Air intakes shall be a minimum of 10 feet from an exhaust outlet, per 2021 Washington State Mechanical Code.

HVAC PLAN
CLUBHOUSE
SCALE: 1/4" = 1'-0"

NO.	DATE	DESCRIPTION
1	2/4/25	PERMIT RESUBMITTAL #1
2	5/2/25	PERMIT RESUBMITTAL #2
3	5/28/25	PERMIT RESUBMITTAL #3

REVISIONS

JACOB J. O'BRIEN, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER, 05/28/2025

ROBISON ENGINEERING, INC
19401 40TH AVE W, SUITE 302
LYNNWOOD, WA 98036
206.364.3343

DRAWN: OP
DESIGNED: ABE
CHECKED: ABE
APPROVED: JOB

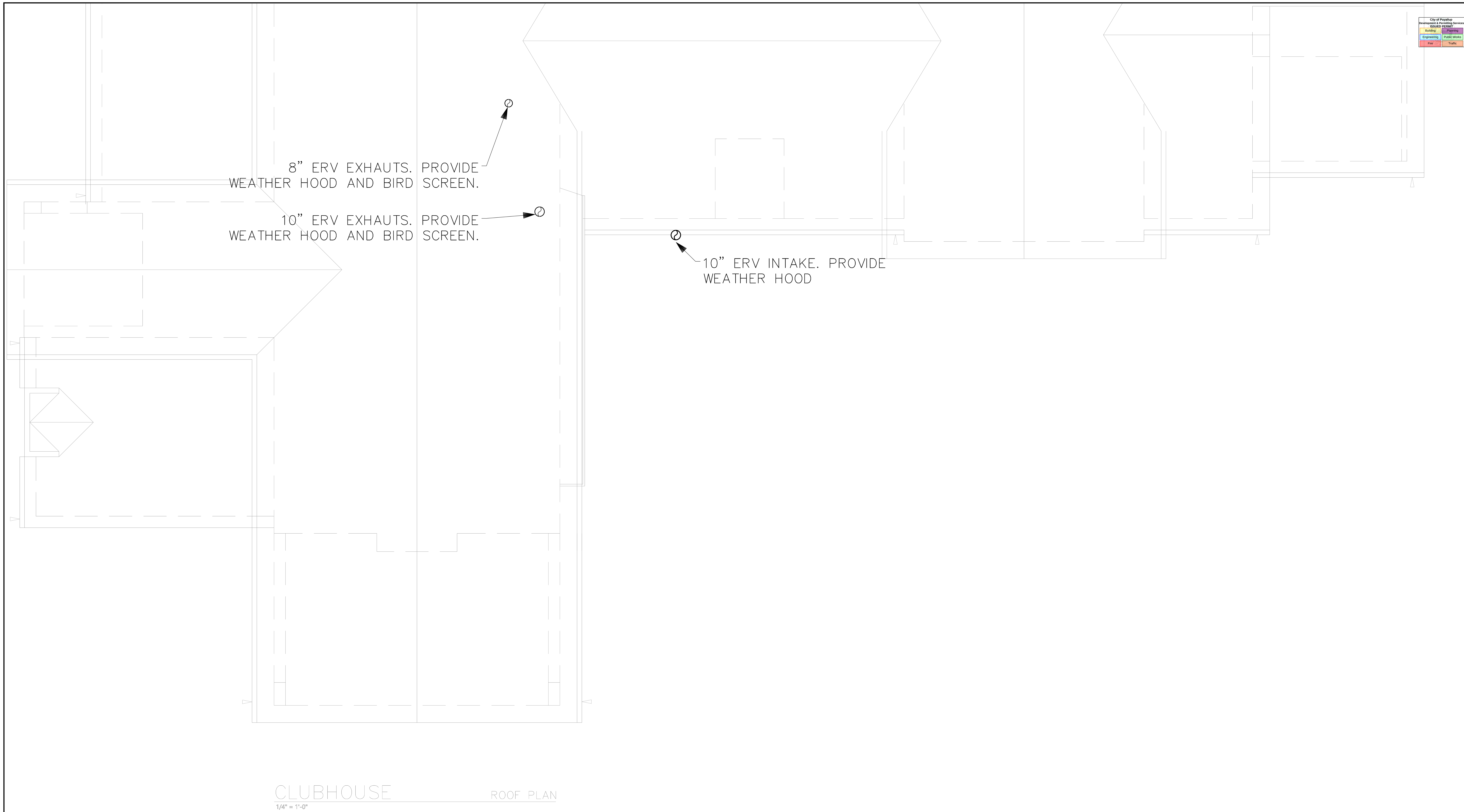
PROJECT: BRADLEY HEIGHTS APARTMENTS - CLUBHOUSE
202 27TH AVE SE
PUYALLUP, WA 98374

PRCNC20240278

DATE: 05/28/2025

SHEET TITLE: HVAC PLAN - CLUBHOUSE

SHEET NO. M2.0



CONTRACTOR NOTE
Air intakes shall be a minimum of 10 feet from an exhaust outlet, per 2021 Washington State Mechanical Code.

HVAC PLAN

CLUBHOUSE – ROOF

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

NO.	DATE	DESCRIPTION
2	5/2/25	PERMIT RESUBMITTAL #2
1	2/4/25	PERMIT RESUBMITTAL #1

REVISIONS

JACOB J. O'BRIEN — STATE OF WASHINGTON — 23001780 — REGISTERED PROFESSIONAL ENGINEER — 05/01/2025

ROBISON ENGINEERING, INC
19401 40TH AVE W., SUITE 302
LYNNWOOD, WA 98036
206-364-3343 TEL
REI PROJECT NO.: 777-006
CONTACT: ARIK ESPINELI

DRAWN: OP
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CHECKED: ABE
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PROJECT: BRADLEY HEIGHTS APARTMENTS - CLUBHOUSE
202 27TH AVE SE
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LYNNWOOD, WA 98036
PHONE:(206)364-3343

PRCNC20240278

DATE: 05/01/2025

SHEET TITLE: HVAC PLAN - CLUBHOUSE - ROOF

SHEET NO. **M2.1**

SYMBOLS

GENERAL

- LIGHT LINE INDICATES NON-ELECTRICAL OR BACKGROUND (THIS IS NOT CONTRACTUAL DEFINITION OF WORK)
- HEAVY LINE INDICATES NEW WORK (THIS IS NOT CONTRACTUAL DEFINITION OF WORK)

DETAIL IDENTIFICATION

SYMBOL	NAME
1 (flag)	FLAG NOTE
(triangle)	REVISION NOTE
(cloud)	REVISION DEFINITION, AREA ENCIRCLED CONTAINS DRAWING CHANGES MADE SUBSEQUENT TO PREVIOUS ISSUE

SWITCHES

$ₐ	SWITCH, SINGLE POLE; WITH SWITCHING SUBSCRIPT
$OS	OCCUPANCY SENSOR SWITCH
D	SWITCH, SINGLE POLE; WITH SWITCHING SUBSCRIPT "D" INDICATES WALLBOX DIMMER
OS	CEILING MOUNTED OCCUPANCY SENSOR
$T	SWITCH, TIMER.
$3	SWITCH, THREE WAY.

RECEPTACLES

	SINGLE RECEPTACLE
	DUPLEX RECEPTACLE: WALL MOUNTED, +18" AFF
a	CONTROLLED AND NON CONTROLLED DUPLEX RECEPTACLE (SPLIT WIRED RECEPTACLE)
	DUPLEX RECEPTACLE – ABOVE COUNTER
GFCI	DUPLEX GFCI ABOVE COUNTER
GFCI	DUPLEX GFCI
+42"	DUPLEX RECEPTACLE, WITH HEIGHT ABOVE FINISHED FLOOR INDICATED
	CEILING MOUNTED DUPLEX RECEPTACLE
	DOUBLE DUPLEX RECEPTACLE: WALL MOUNTED, +18" AFF
	FLOOR BOX ONE DUPLEX RECEPTACLE
	FLOOR BOX ONE DUPLEX RECEPTACLE + ONE DATA
	FLOOR BOX ONE DUPLEX RECEPTACLE + ONE DATA + ONE VOICE
	SPECIAL PURPOSE RECEPTACLE, AS NOTED

MISCELLANEOUS

J	JUNCTION BOX: 4SQ MOUNTED JUNCTION BOX: 4SQ WALL MOUNTED JUNCTION BOX: 4SQ TRACK
L	CONNECTION FOR LIGHTED MIRROR COORDINATE LOCATION AND ELEVATION WITH ARCHITECT PRIOR TO ROUGH-IN
T	THERMOSTAT

SIGNAL/COMMUNICATION

	DATA OUTLET: WALL MOUNTED @ +18" AFF U.O.N.
	TELEPHONE/DATA OUTLET: WALL MOUNTED @ +18" AFF U.O.N.
TV	TELEVISION OUTLET: WALL MOUNTED @ +18" AFF U.O.N.

POWER

	PANELBOARD
WP	NON-FUSED DISCONNECT SWITCH (WP = NEMA 3R WHERE APPROPRIATE)
	FUSED DISCONNECT SWITCH
MAU-1,5HP,480,3	MOTOR CONNECTION (EQUIPMENT NAME, HORSEPOWER, VOLTAGE, AND PHASE INDICATED)
EF-1,12KVA,208,1	EQUIPMENT CONNECTION (EQUIPMENT NAME, LOAD, VOLTAGE, AND PHASE INDICATED)
T	TRANSFORMER, DRY TYPE, SHOWN TO SCALE
M	KW METER AND BASE

PART OF THE DESIGN/BUILD FIRE ALARM SYSTEM

FACP	FIRE ALARM SYSTEM CONTROL PANEL
P	FIRE ALARM SYSTEM PULL STATION
	FIRE ALARM SYSTEM STROBE/SPEAKER
SD	FIRE ALARM PHOTOELECTRIC SMOKE DETECTOR AND SPEAKER.
	FIRE ALARM COMBINATION PHOTOELECTRIC SMOKE DETECTOR, CARBON MONOXIDE DETECTOR, AND SPEAKER, GUESTROOM.
CO	CARBON MONOXIDE DETECTOR.
	ELECTRO-MAGNETIC DOOR HOLDER
DSD	DUCT SMOKE DETECTOR

ABBREVIATIONS

A	AMPERE
AC	ALTERNATING CURRENT, ABOVE COUNTER
AFF	ABOVE FINISHED FLOOR
AIC	AMPS INTERRUPTING CAPACITY
AL	ALUMINUM
AMP	AMPERE
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
BLDG	BUILDING
C	COIL or CONDUIT
CKT	CIRCUIT
CO	CONDUIT/RACEWAY ONLY
CT	CURRENT TRANSFORMER
Cu	COPPER
CW	COOL WHITE
D	DIMMER
DED	DEDICATED
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
ELEC	ELECTRICAL
EMT	ELECTRICAL METALLIC TUBING
EQUIP	EQUIPMENT
EXIST	EXISTING
FAA	FIRE ALARM ANNUNCIATOR
FACP	FIRE ALARM CONTROL PANEL
FLUOR	FLUORESCENT
GC	GENERAL CONRACTOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
GRS	GALVANIZED RIGID STEEL
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
IG	ISOLATED GROUND
KCMIL	THOUSAND CIRCULAR MILLS
KVA	KILOVOLT AMPERES
KW	KILOWATT
LTG	LIGHTING
LV	LOW VOLTAGE
MFR	MANUFACTURER
MIN	MINIMUM
MLO	MAIN LUGS ONLY
N	NEUTRAL
NEC	NATIONAL ELECTRICAL CODE (NFPA-70)
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NTS	NOT TO SCALE
PNL	PANEL
POC	POINT OF CONNECTION
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CLORIDE
PWR	POWER
QTY	QUANTITY
RECEPT	RECEPTACLE
REF	REFERENCE
RI	ROUGH-IN
RM	ROOM
RO	RACEWAY ONLY
SHT	SHEET
SPEC	SPECIFICATIONS
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TYP	TYPICAL
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
V	VOLTS
W	WATTS
WW	WARM WHITE
WP	WEATHERPROOF
W/	WITH
W/O	WITHOUT
XFMR	TRANSFORMER
XFR	TRANSFER
Z	IMPEDANCE OR ZONE

GENERAL NOTES

City of Puyallup Development & Permitting Services ISSUED PERMIT — Building, Planning, Engineering, Public Works, Fire, Traffic

GENERAL

1. PROVIDE ELECTRICAL INSTALLATION IN ACCORDANCE WITH THE GOVERNING ELECTRICAL CODE, LOCAL CODES, ORDINANCES AND REQUIREMENTS OF UTILITY COMPANIES FURNISHING SERVICES TO INSTALLATION.
2. PROVIDE ALL WORK AND ITEMS NECESSARY FOR COMPLETE AND FUNCTIONAL ELECTRICAL SYSTEMS. THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND DO NOT NECESSARILY SHOW EVERY CONDUIT, BOX, CONDUCTOR OR SIMILAR ITEMS FOR A COMPLETE INSTALLATION.
3. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID AND DETERMINE CONDITIONS WHICH MAY AFFECT BID. ANY ITEMS NOT FULLY UNDERSTOOD SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO BIDDING.
4. "REF" INDICATIONS DENOTE WORK COVERED ELSEWHERE (ARCHITECTURAL, STRUCTURAL, OR MECHANICAL).
5. REFERENCE ARCHITECTURAL DRAWING FOR EXACT LOCATION OF DEVICES. QUESTIONS CONCERNING THE LOCATION OF DEVICES AND EQUIPMENT SHALL BE DIRECTED TO THE ARCHITECT. FAILURE TO COORDINATE REQUIREMENTS SHALL IN NO WAY RESULT IN ADDITIONAL COMPENSATION BEING PROVIDED TO THE CONTRACTOR.
6. WHEREVER THE WORD "PROVIDE" IS USED, IT MEANS, "FURNISH AND INSTALL COMPLETE AND READY FOR USE."
7. COORDINATE LOCATION OF ELECTRICAL WITH OTHER TRADES.
8. REFER TO EQUIPMENT DRAWINGS FOR MECHANICAL CHARACTERISTICS (SIZE, LOCATION, ETC.) OF MECHANICAL EQUIPMENT, UNLESS OTHERWISE INDICATED. COORDINATE INSTALLATION AND LOCATION OF ALL EQUIPMENT WITH MECHANICAL CONTRACTOR. VERIFY ALL FUSE RATINGS, WIRE SIZES AND DISCONNECT SIZES PRIOR TO INSTALLATION.

MATERIALS AND METHODS

1. PROVIDE RACEWAY AND WIRING ROUTED CONCEALED WITHIN BUILDING STRUCTURE WHERE POSSIBLE. WHERE RACEWAY CANNOT BE CONCEALED, IT SHALL BE INSTALLED PER PROJECT MANAGER'S DIRECTION. ALL CONDUIT SHALL BE INSTALLED IN NEAT SYMMETRICAL LINES HORIZONTAL OR PERPENDICULAR TO BUILDING COLUMNS AND ROOF LINES. CONDUITS SHALL BE GROUPED ON COMMON SUPPORTS WHEREVER POSSIBLE.
2. EXPOSED CONDUIT ROUTING: CONDUITS MAY BE ROUTED EXPOSED IN MECHANICAL AND ELECTRICAL ROOMS ONLY. EXPOSED CONDUITS SHALL BE SECURED A MINIMUM OF 6" ABOVE FLOOR.
3. OUTDOOR EXPOSED CONDUIT ROUTING: CONDUITS ROUTED ON ROOF OR EXPOSED TO WEATHER SHALL BE GRC, PVC OR LIQUID-TIGHT FLEX. PROVIDE WATER-TIGHT CONNECTIONS AND FITTINGS.
4. CLEARANCES: VERIFY PHYSICAL DIMENSIONS OF EQUIPMENT TO ENSURE THAT ACCESS CLEARANCES CAN BE MET.
5. CONNECTIONS: PROVIDE GRS, METALLIC FLEX, OR LIQUIDTITE FLEX CONDUITS FOR CONNECTIONS TO MOTORS OR MOTORIZED EQUIPMENT.
6. WIRING: PROVIDE MINIMUM #12 AWG WIRE SIZE. IF CONDUIT IS TO BE USED MINIMUM IS TO BE 1/2". FLEXIBLE CONDUIT AND FLEXIBLE CABLE IS PERMISSIBLE THROUGHOUT THE BUILDING.
7. WIRING: PROVIDE MINIMUM #10 AWG COPPER CONDUCTOR SIZE IN 120V BRANCH CIRCUIT RUNS OVER 75' IN LENGTH.

SITE ELECTRICAL

1. TRENCHING: COORDINATE ALL TRENCHING WORK WITH OTHER UTILITY LOCATIONS AND DRAINAGE TRENCHES.
2. UNDERGROUND CONDUITS: PROVIDE PVC, SCHEDULE 40, 3/4" MINIMUM. PROVIDE GRC CONDUIT TRANSITION ELBOW WHEN TURNING UP TO ABOVE GRADE.
3. DIRECT-BURIED CONDUITS: CONDUIT FOR BRANCH CIRCUITS OUTSIDE BUILDINGS NOT BENEATH DRIVEWAYS OR PARKING AREAS SHALL BE DIRECTLY BURIED WITHOUT CONCRETE ENCASEMENT. THE DEPTH TO THE TOP OF BURIED CONDUITS SHALL BE 36". PROVIDE MARKER TAPE 12" BELOW GRADE.
4. BELOW SLAB: CONDUIT ROUTED BELOW ON-GRADE FLOOR SLABS SHALL BE INSTALLED PRIOR TO FLOOR SLAB POUR. ROUTE CONDUITS BELOW SLAB AS STRAIGHT AS POSSIBLE TO MINIMIZE BENDS.
5. ALL CONDUITS PENETRATING THE BUILDING ENVELOPE BELOW GRADE SHALL FOLLOW WATERPROOFING REQUIREMENTS IN THE ARCHITECTURAL DRAWINGS.

NEUTRALS

1. AT CONTRACTORS OPTION, NEUTRALS MAY BE SHARED ON COMBINED HOMERUNS UNLESS THE CIRCUIT HAS A GFCI BREAKER, AN ISOLATED GROUND, OR IS FROM A PANEL WITH TVSS PROTECTION. ANY NEUTRAL DOWNSTREAM FROM A DIMMER SHALL BE DEDICATED TO THE DIMMED LOAD.
2. NEUTRAL WIRES SHOWN FOR TWO AND THREE POLE MECHANICAL AND KITCHEN EQUIPMENT MAY BE OMITTED UPON VERIFICATION THAT THEY ARE NOT REQUIRED EITHER FOR OPERATION OR CONTROL CIRCUITS PER MANUFACTURER'S SPECIFICATIONS.

LIGHTING

1. PROVIDE LIGHT FIXTURES WITH PROPER FITTING FLANGES, MOUNTING SUPPORTS, AND ACCESSORY ITEMS, UL LISTED FOR CONDITIONS OF USE.

LOW VOLTAGE LIGHTING

1. PROVIDE LOW VOLTAGE TRANSFORMERS IN NEARBY ACCESSIBLE CEILING SPACE.
2. PROVIDE LOW VOLTAGE CONDUCTORS SIZED PER MANUFACTURER'S GUIDELINES TO MINIMIZE VOLTAGE DROP.

LIGHTING CONTROL

1. THE MAXIMUM LIGHTING POWER THAT MAY BE CONTROLLED FROM A SINGLE SWITCH OR AUTOMATIC CONTROL SHALL NOT EXCEED THAT WHICH IS PROVIDED BY A TWENTY AMPERE CIRCUIT LOADED TO NOT MORE THAN EIGHTY PERCENT. A MASTER CONTROL MAY BE INSTALLED PROVIDED THE INDIVIDUAL SWITCHES RETAIN THEIR CAPABILITY TO FUNCTION INDEPENDENTLY.
2. EMERGENCY FIXTURES: EMERGENCY BATTERY/CHARGER SHALL BE CONNECTED TO AN UNSWITCHED LEG OF THE DESIGNATED CIRCUIT.

GENERAL REQUIREMENTS

1. DRAWINGS ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED.
2. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT.
3. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS.
4. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS.
5. PROVIDE CONNECTIONS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY FOR A COMPLETE SYSTEM.

CONTRACTOR SUBSTITUTIONS & REVISIONS

1. PLEASE SUBMIT PROPOSALS FOR SUBSTITUTIONS OR REVISIONS FOR REVIEW AND APPROVAL PRIOR TO ORDERING MATERIAL OR DOING WORK.
2. FOR EQUIPMENT THAT IS SCHEDULED BY MANUFACTURER'S NAME AND CATALOG DESIGNATIONS, THE MANUFACTURER'S PUBLISHED DATA AND/OR SPECIFICATION FOR THAT ITEM ARE CONSIDERED PART OF SPECIFICATION.
3. ENGINEERING COSTS FOR REVISING MEP PLANS SHALL BE ADDRESSED IN THE COST ANALYSIS OF THE SUBSTITUTION PROPOSAL.
4. CONTRACTOR TO COORDINATE WITH ENGINEER AND DETERMINE ASSOCIATED DESIGN AND PERMITTING COSTS. CONTRACTOR SHALL BE RESPONSIBLE FOR OTHER COSTS ASSOCIATED WITH UNFORESEEN ISSUES RESULTING FROM SUBSTITUTIONS OR REVISIONS.

PRE-CON MEETING NOTES

CONTRACTORS SHALL ATTEND A PRE-CONSTRUCTION MEETING WITH THE ENGINEER FOR THE PURPOSE OF REVIEWING THE WORK PRIOR TO ORDERING ANY EQUIPMENT OR PERFORMING ANY WORK. THE MEETING SHALL BE LOCATED AT THE PROJECT SITE ON A DATE AND TIME TO BE MUTUALLY AGREED. THE MEETING WILL BE A WORKING SESSION. THE MEETING WILL BE FACILITATED BY THE ENGINEER AND THE AGENDA WILL INCLUDE A DETAILED REVIEW OF THE PLANS AND SPECIFICATIONS, CROSS CHECK WITH OTHER TRADES FOR COORDINATION ISSUES, REVIEW OF PROPOSED PRODUCTS, REVIEW OF PLANNED MEANS AND METHODS,AND ON-SITE INVESTIGATION OF FIELD CONDITIONS RELATIVE TO EXISTING CONDITIONS THAT COULD AFFECT THE WORK. PERSONS ATTENDING THE MEETING SHALL BE KNOWLEDGEABLE OF THE PROJECT AND SHALL BE THE SPECIFIC PERSONS INTENDED TO CONTINUE WITH THE PROJECT THROUGH TO COMPLETION. IF REQUIRED, REVISED PLANS WILL BE ISSUED THROUGH OFFICIAL CHANNELS. CHANGES IN THE BID PRICE WILL BE DISCUSSED, BUT NO CHANGE ORDERS WILL BE ISSUED UNLESS PROCESSED THOUGH OFFICIAL CHANNELS. IT SHALL BE UNDERSTOOD THAT THE ENGINEER HAS NO AUTHORITY TO ISSUE CHANGE ORDERS.

THE FOLLOWING TRADES SHALL BE REPRESENTED FOR THE MINIMUM TIME INDICATED:

MECHANICAL SHEET METAL	4 HOURS
PLUMBING/PIPING	4 HOURS
ELECTRICAL	4 HOURS
SPRINKLER	2 HOURS
GENERAL CONTRACTOR	ALL SESSIONS

DRAWING INDEX

DWG	DESCRIPTION	INCLUDED IN SET: PERMIT REVIEW SET 10/06/23	PERMIT SET 02/15/24	PROGRESS SET 08/16/2024	OWNER CHANGES/PERMIT CORRECTIONS 08/30/24	CHANGES/PERMIT CORRECTIONS 05/01/25				
E0.00	LEGEND, GENERAL NOTES, DRAWING INDEX	X	X	X	X	X				
E0.01	PROJECT NOTES	X	X	X	X	X				
E0.10	SITE POWER PLAN – EAST	X	X	X	X	X				
E0.11	SITE POWER PLAN – WEST					X				
E0.12	SITE LIGHTING PLAN – EAST	X	X	X	X	X				
E0.13	SITE LIGHTING PLAN – WEST					X				
E1.00	PHOTOMETRIC PLAN – AMENITY 1ST FLOOR	X	X	X	X	X				
E1.01	LIGHTING PLAN – AMENITY 1ST FLOOR	X	X	X	X	X				
E1.50	LIGHTING NOTES & LUMINAIRE SCHEDULES	X	X	X	X	X				
E3.00	POWER PLAN – AMENITY BUILDING	X	X	X	X	X				
E6.00	ONE-LINE DIAGRAM & NOTES	X	X	X	X	X				
E6.01	PANELS SCHEDULES	X	X	X	X	X				
E7.00	LIGHTING COMPLIANCE FORMS	X	X	X	X	X				

REVISIONS

NO.	DATE	DESCRIPTION
2	5/2/25	CHANGES/PERMIT CORRECTION SET

MARK STEINKE — STATE OF WASHINGTON — 43010315 — REGISTERED PROFESSIONAL ENGINEER — 05/02/2025

ROBISON ENGINEERING, INC
19401 40TH AVE W., SUITE 302
LYNNWOOD, WA 98036
206-364-3343 TEL
REI PROJECT NO.: 1219-001
CONTACT: ARIK ESPINELI

DRAWN: KL
DESIGNED: MHS
CHECKED: PSR
APPROVED: JAY

PROJECT: BRADLEY HEIGHTS APARTMENTS CLUBHOUSE
27TH AVE SE AND 5TH ST SE PUYALLUP, WA

PRCNC20240278

ROBISON ENGINEERING, INC
19401 40TH AVE W. SUITE 302
LYNNWOOD, WA 98036
PHONE:(206)364-3343

DATE: 05/02/2025

SHEET TITLE: LEGEND, GENERAL NOTES, DRAWING INDEX

SHEET NO. E0.00

APPLICABLE CODES

THE FOLLOWING PROJECT DESIGN IS BASED ON THE FOLLOWING CODES:

–2020 NATIONAL ELECTRICAL CODE (NEC)
–2018 WASHINGTON STATE ENERGY CODE (WSEC)
–2018 INTERNATIONAL BUILDING CODE (IBC) & WASHINGTON STATE AMENDMENTS
–2018 INTERNATIONAL FIRE CODE (IFC) & WASHINGTON STATE AMENDMENTS
–2018 INTERNATIONAL MECHANICAL CODE (IMC) & WASHINGTON STATE AMENDMENTS
–2018 UNIFORM PLUMBING CODE (UPC) & WASHINGTON STATE AMENDMENTS

VIBRATION AND ACOUSTICAL ISOLATION

THE FOLLOWING MEASURES SHALL BE TAKEN TO MINIMIZE VIBRATION AND NOISE TRANSMISSION FROM MECHANICAL AND ELECTRICAL EQUIPMENT TO THE INTERIOR SPACES:

TRANSFORMERS:

A) PROVIDE FLEXIBLE CONDUIT OR MC CABLE AT EQUIPMENT CONNECTION.
B) MOUNT TRANSFORMERS ON NEOPRENE GROMMET ISOLATORS.

SUBDUCT EXHAUST FANS:

A) PROVIDE FLEXIBLE CONDUIT OR MC CABLE AT EQUIPMENT CONNECTION.

ENCLOSED GARAGE EXHAUST FANS:

A) PROVIDE FLEXIBLE CONDUIT OR MC CABLE AT EQUIPMENT CONNECTION.

ROOFTOP AIR HANDLERS:

A) PROVIDE FLEXIBLE CONDUIT OR MC CABLE AT EQUIPMENT CONNECTION.

FAN COIL UNITS:

A) PROVIDE FLEXIBLE CONDUIT OR MC CABLE AT EQUIPMENT CONNECTION.

ROOF MOUNTED CONDENSERS:

A) PROVIDE FLEXIBLE CONDUIT OR MC CABLE AT EQUIPMENT CONNECTION.

FLEXIBLE CONDUIT OR MC CABLE CONNECTIONS FOR VIBRATION ISOLATION SHALL BE A MINIMUM OF TWO FEET LONG.

TEMPERATURE LIMITATION OF CONDUCTORS

ADDITIONAL ADJUSTMENTS FOR CONDUITS EXPOSED TO SUNLIGHT ON OR ABOVE ROOFTOPS SHALL BE FACTORED PER NEC TABLE 310.15(B)(2)(C)

CONDUIT & CONDUCTOR FIRE RATING

1. CONDUIT FOR ELECTRICAL CONDUCTORS BY THE FACP OR FIRE ALARM SYSTEM SHALL BE IN 2 HOUR RATED ENCLOSURES OR ENCASED IN 2–INCH OF CONCRETE AND RATED CABLE ASSEMBLIES, OR BE CONDUCTORS IN 2 HOUR–RATED RACEWAYS PER NFPA 72.
2. THE EQUIPMENT AND CONTROL WIRING SHALL BE ENCLOSED BY FIRE BARRIERS CONSTRUCTED IN ACCORDANCE WITH IBC SECTION 707 OR HORIZONTAL ASSEMBLIES CONSTRUCTED IN ACCORDANCE WITH IBC SECTION 711, OR USING A 2 HR RATED CABLE SYSTEM OR ENCLOSED WITHIN 2" OF CONCRETE.
3. FIRE ALARM WIRING SHALL COMPLY WITH IBC 907.6.1. WIRING SHALL COMPLY WITH THE REQUIREMENTS OF NFPA 70.
4. RACEWAYS FOR THE DEDICATED BRANCH CIRCUIT(S) REQUIRED FOR PRIMARY POWER TO THE FIRE ALARM CONTROL PANEL (FACP) SHALL BE IN 2 HOUR RATED ENCLOSURES OR ENCASED IN 2–INCH OF CONCRETE AND RATED CABLE ASSEMBLIES, OR BE CONDUCTORS IN 2 HOUR–RATED RACEWAYS PER IBC 907 AND NFPA 72 SECTION 10.6.11.3.1.3

NO.	DATE	DESCRIPTION
2	5/2/25	CHANGES/PERMIT CORRECTION SET

REVISIONS

MARK STEINKE
STATE OF WASHINGTON
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05/02/2025

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APPROVED: JAY

PROJECT:
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PRCNC20240278

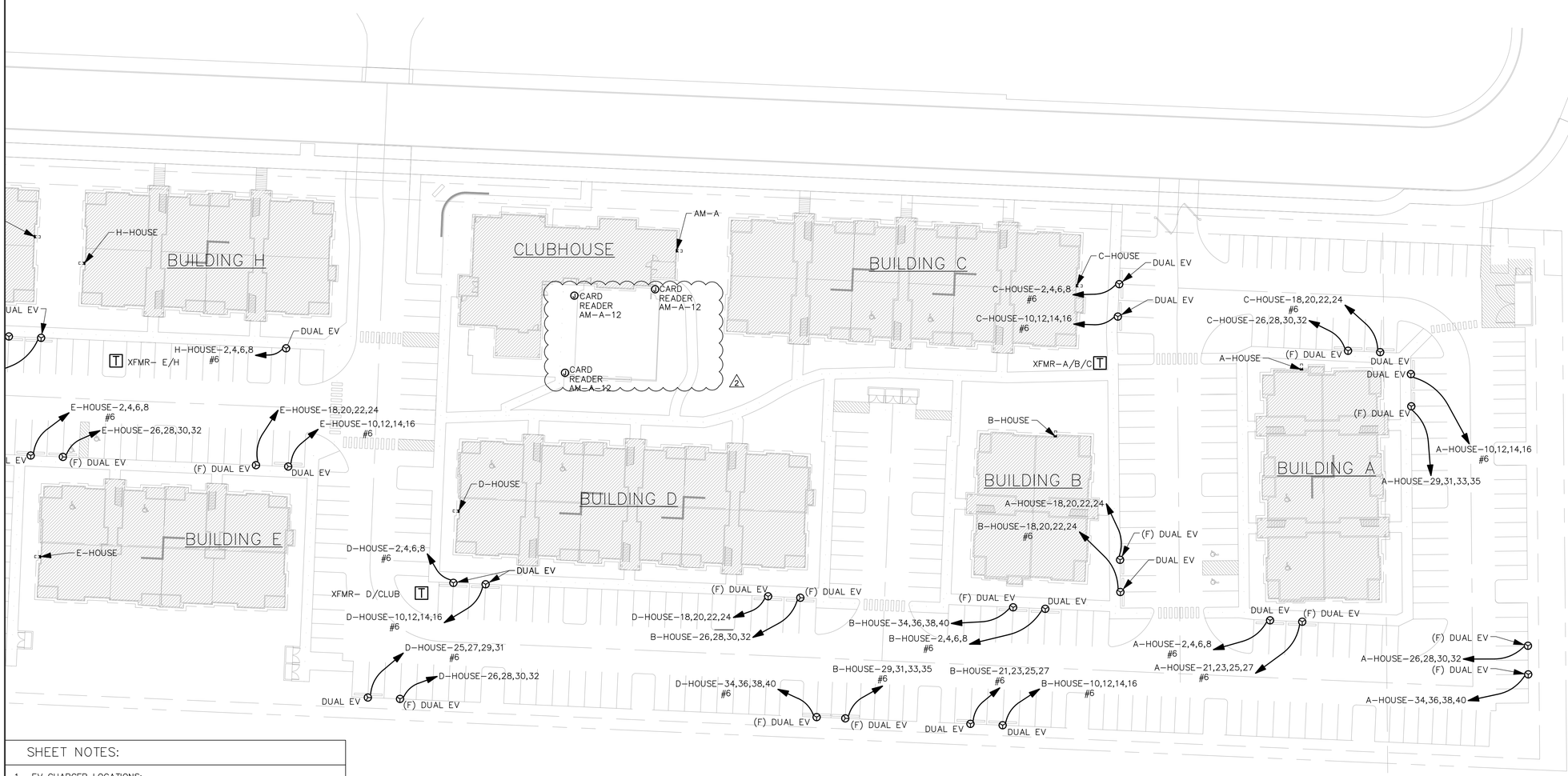
DATE: 05/02/2025

SHEET TITLE:
LEGEND, GENERAL NOTES, DRAWING INDEX

SHEET NO.
E0.01

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic



SHEET NOTES:

1. EV CHARGER LOCATIONS:
   - 1.1. PROVIDE PRE-FABRICATED EV CHARGING STATION. BOD: PULSAR 40A DUAL EV CHARGERS. PROVIDE (2) 50A CIRCUITS TO EACH DUAL CHARGER.
   - 1.2. FOUNDATION TO INCLUDE ACCESSIBLE UNDERGROUND PULLBOX, CONDUIT ENTRY PORTS AND COVERPLATE DESIGNED FOR DIRECT-MOUNTING EV CHARGER PEDESTAL.
   - 1.3. PROVIDE FOUNDATION PRODUCTS BY BREEZE-EV, EV-BLOCKS OR EQUIVALENT.
   - 1.4. IF FOUNDATION IS INSTALLED LASS THAN 2'-0" FROM THE EDGE OF THE CURB, THEN PROIDE A BOLLARD AT EACH CORNER OF THE FOUNDATION THAT COMPLIES WITH 2018 IBC 1607.9
2. (F) DUAL EV CHARGING STATIONS: PROVIDE 1-1/4" CONDUIT WITH PULL WIRE FROM EV PANEL(S) IN ELECTRICAL ROOM AS INDICATED.
3. DUAL EV CHARGING STATIONS: PROVIDE AND INSTALL 1-1/4" CONDUIT, CONDUCTORS, AND REQUIRED BREAKERS FOR DUAL EV CHARGING STATIONS.

SITE POWER PLAN - EAST

SCALE: 1/32" = 1'-0"

NO.	DATE	REVISIONS
2	5/2/25	CHANGES/PERMIT CORRECTION SET

MARK STEINKE
STATE OF WASHINGTON
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PROFESSIONAL ENGINEER
05/02/2025

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CONTACT: MIKE STEINELL

DRAWN: KL
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CHECKED: PSR
APPROVED: JAY

PROJECT: BRADLEY HEIGHTS APARTMENTS CLUBHOUSE
27TH AVE SE AND 5TH ST SE PUYALLUP, WA

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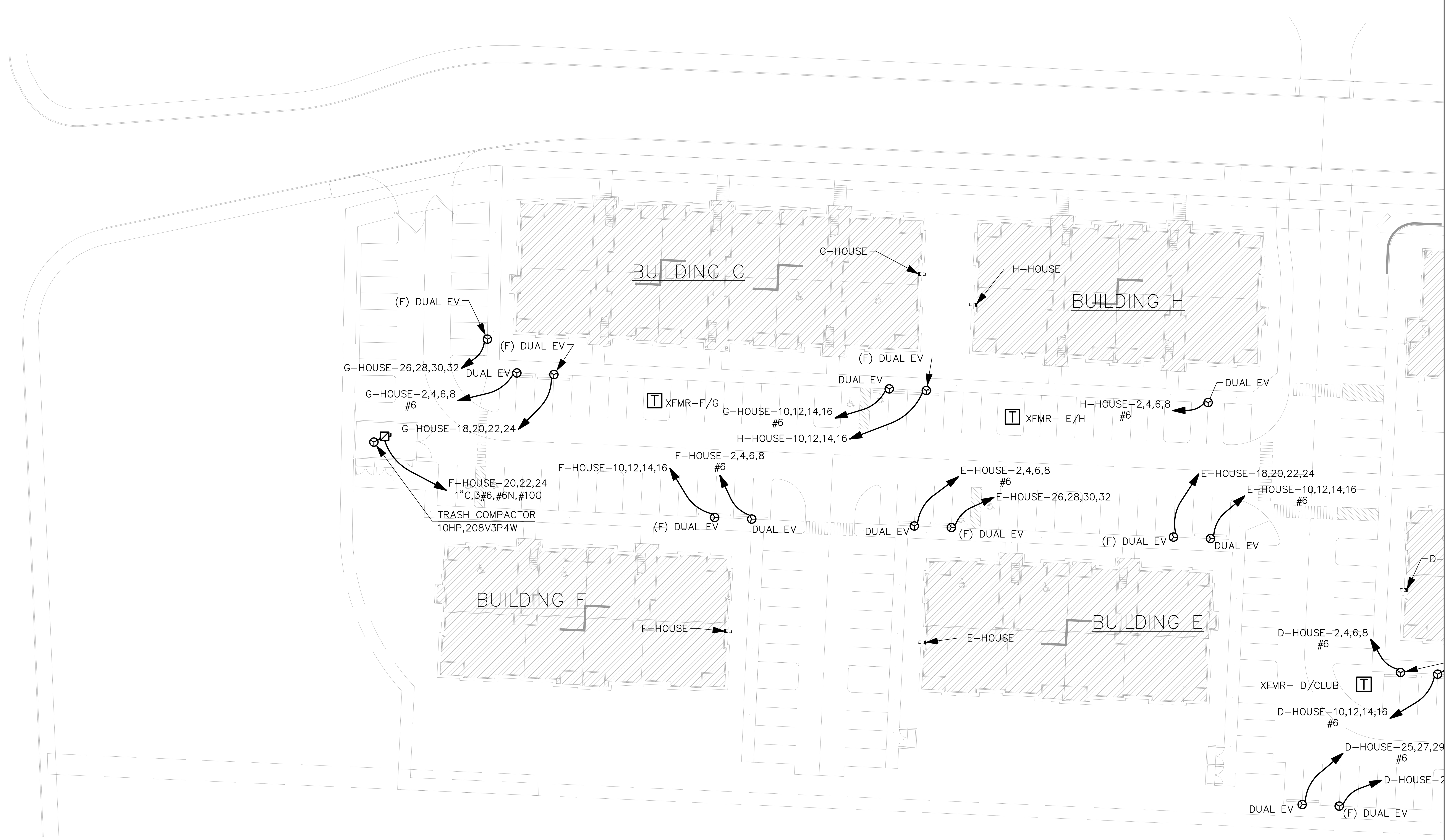
PHONE:(206)3643343

PRCNC20240278

DATE: 05/02/2025

SHEET TITLE: SITE POWER - EAST SITE PLAN

SHEET NO. E0.10



SITE POWER PLAN – WEST

SCALE: 1/32" = 1'-0"

SHEET NOTES:

1. EV CHARGER LOCATIONS:
   - 1.1. PROVIDE PRE-FABRICATED EV CHARGING STATION. BOD: PULSAR 40A DUAL EV CHARGERS. PROVIDE (2) 50A CIRCUITS TO EACH DUAL CHARGER.
   - 1.2. FOUNDATION TO INCLUDE ACCESSIBLE UNDERGROUND PULLBOX, CONDUIT ENTRY PORTS AND COVERPLATE DESIGNED FOR DIRECT-MOUNTING EV CHARGER PEDESTAL.
   - 1.3. PROVIDE FOUNDATION PRODUCTS BY BREEZE-EV, EV-BLOCKS OR EQUIVALENT.
   - 1.4. IF FOUNDATION IS INSTALLED LASS THAN 2'-0" FROM THE EDGE OF THE CURB, THEN PROIDE A BOLLARD AT EACH CORNER OF THE FOUNDATION THAT COMPLIES WITH 2018 IBC 1607.9
2. (F) DUAL EV CHARGING STATIONS: PROVIDE 1-1/4" CONDUIT WITH PULL WIRE FROM EV PANEL(S) IN ELECTRICAL ROOM AS INDICATED.
3. DUAL EV CHARGING STATIONS: PROVIDE AND INSTALL 1-1/4" CONDUIT, CONDUCTORS, AND REQUIRED BREAKERS FOR DUAL EV CHARGING STATIONS.

NO.	DATE	DESCRIPTION
2	5/2/25	CHANGES/PERMIT CORRECTION SET

REVISIONS

MARK STEINKE, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER
05/02/2025

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PHONE (206) 364-3343

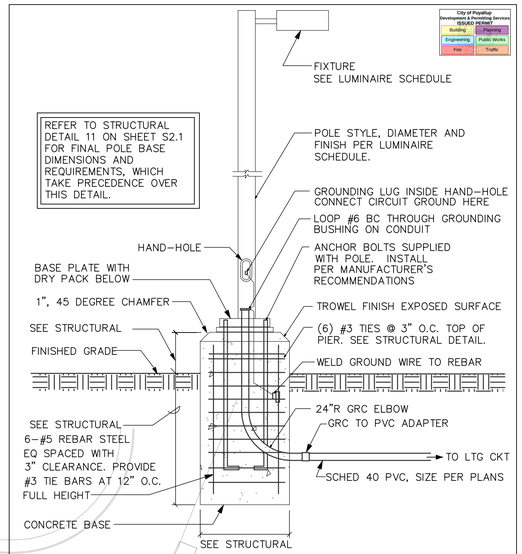
DATE: 05/02/2025

SHEET TITLE: SITE POWER - WEST SITE PLAN

SHEET NO. E0.11

SITE LIGHTING PLAN – EAST

SCALE: 1/32" = 1'-0"



SEE FIXTURE SCHEDULE FOR POLE HEIGHT

SITE LIGHTING POLE BASE

SCALE: NONE

NO.	DATE	DESCRIPTION
2	5/2/25	CHANGES/PERMIT CORRECTION SET
		REVISIONS

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CONTACT: MIKE KENNELLY

DRAWN:	DESIGNED:	CHECKED:	APPROVED:
KL	MHS	PSR	JAY

PROJECT: BRADLEY HEIGHTS APARTMENTS CLUBHOUSE
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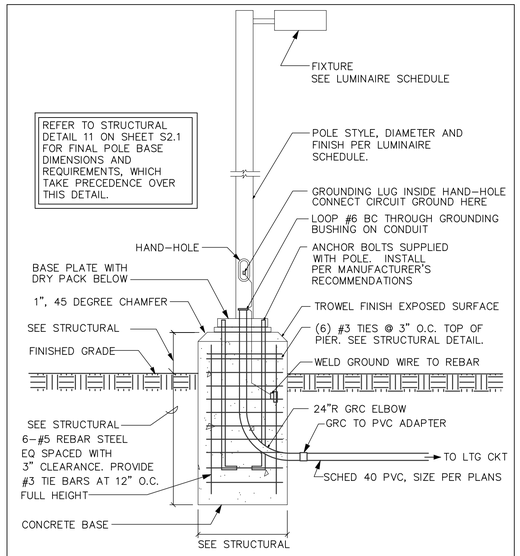
PRCNC202402778

DATE: 05/02/2025

SHEET TITLE: SITE LIGHTING - EAST SITE PLAN

SHEET NO. E0.12



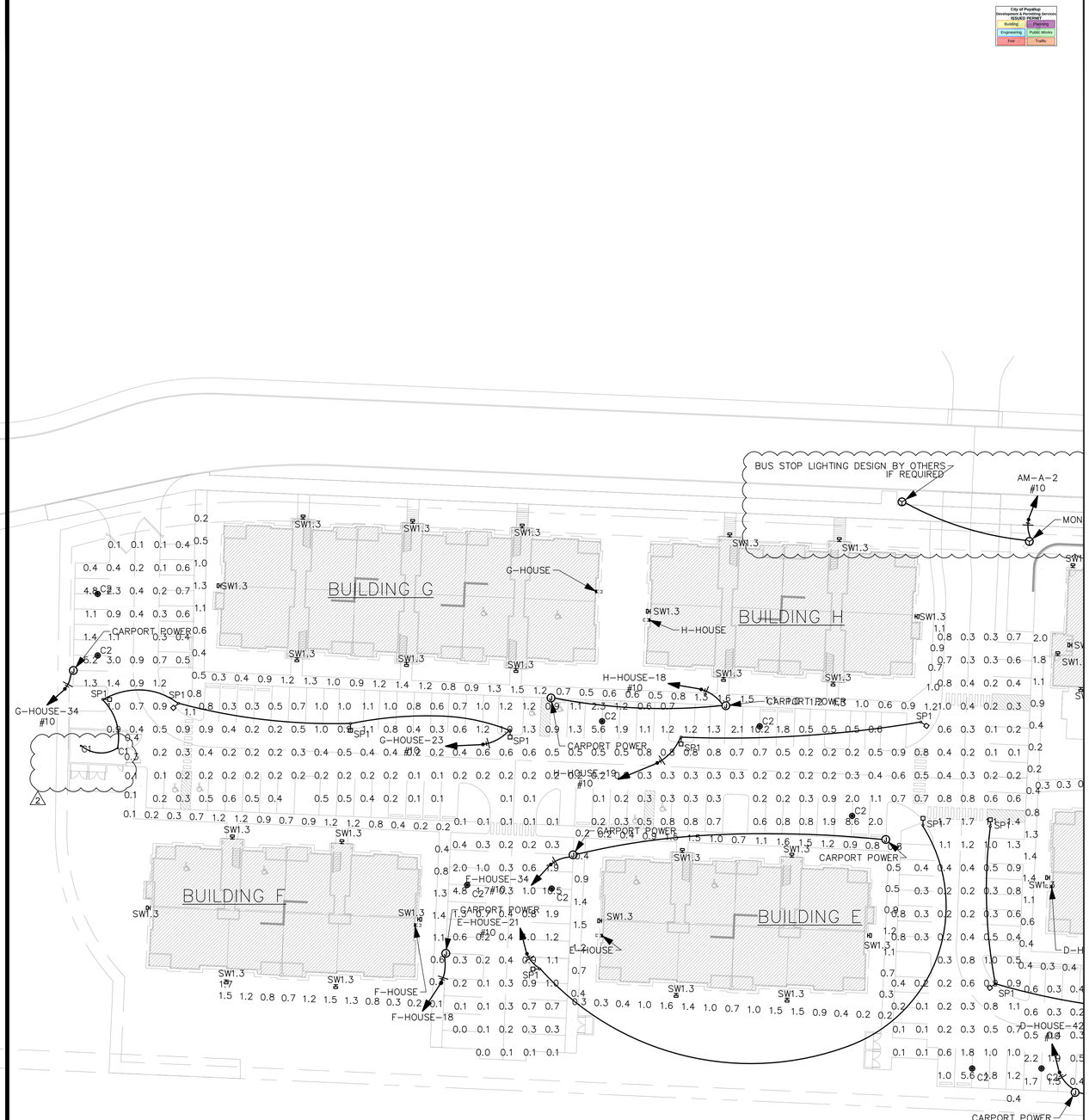
SEE FIXTURE SCHEDULE FOR POLE HEIGHT

SITE LIGHTING POLE BASE

SCALE: NONE

Drive Aisle Photometric Schedule	
AVERAGE FOOT-CANDLES	0.74
MAXIMUM FOOT-CANDLES	10.5
MINIMUM FOOT-CANDLES	0.0
MAXIMUM TO MINIMUM FC RATIO	912.07
AVERAGE TO MINIMUM FC RATIO	64.31

Walkway Photometric Schedule	
AVERAGE FOOT-CANDLES	0.82
MAXIMUM FOOT-CANDLES	3.1
MINIMUM FOOT-CANDLES	0.1
MAXIMUM TO MINIMUM FC RATIO	41.68
AVERAGE TO MINIMUM FC RATIO	11.02



SITE LIGHTING PLAN – WEST

SCALE: 1/32" = 1'-0"

City of Puyallup Development & Permitting Services ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

NO.	DATE	DESCRIPTION
2	5/2/25	CHANGES/PERMIT CORRECTION SET

REVISIONS

MARK STEINKE — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER
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CHECKED: PSR
APPROVED: JAY

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27TH AVE SE AND 5TH ST SE PUYALLUP, WA

PRCNC202402778

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PHONE:(206)364-3343

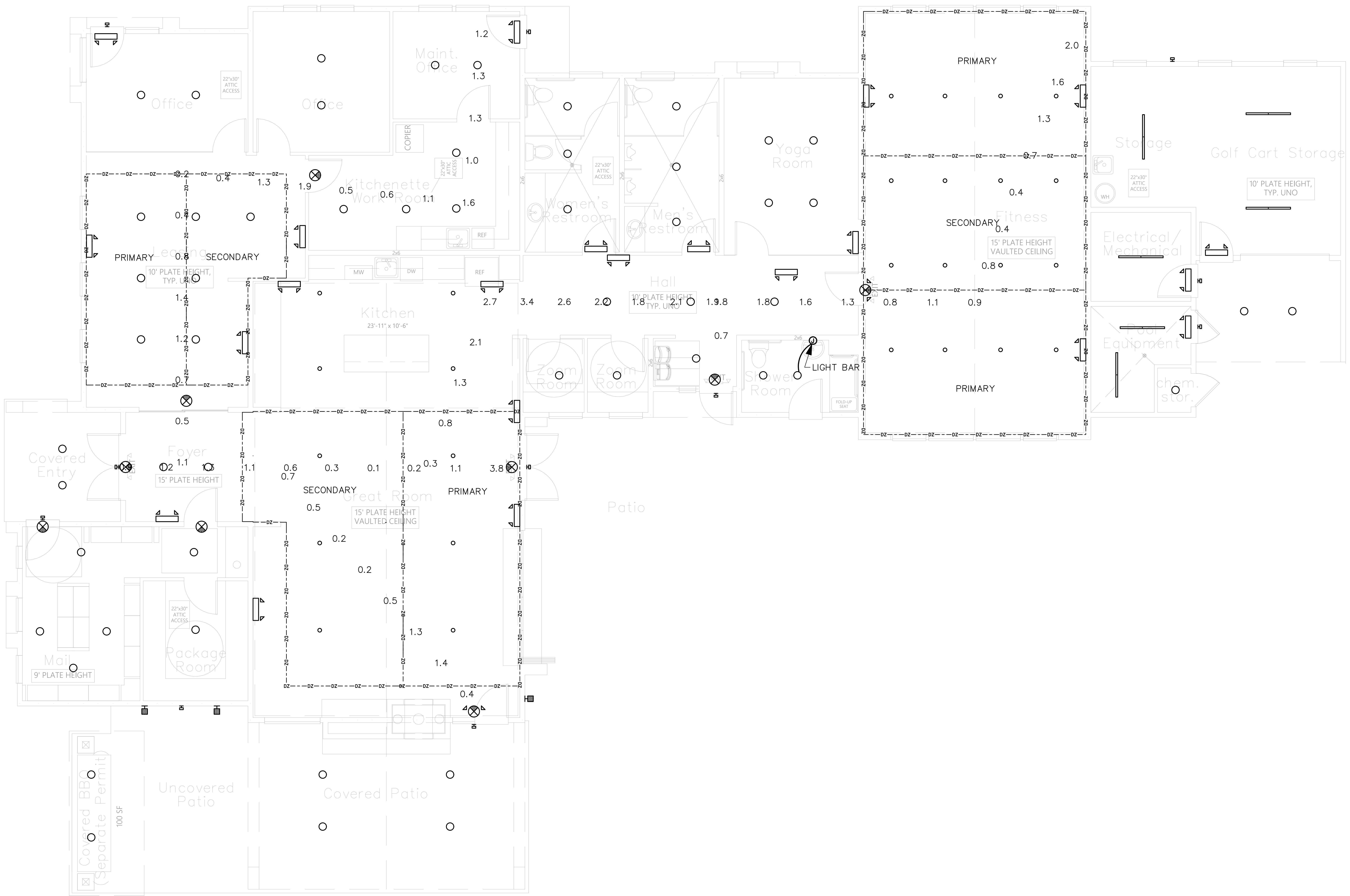
DATE: 05/02/2025

SHEET TITLE: SITE LIGHTING - WEST SITE PLAN

SHEET NO. E0.13

GENERAL PHOTOMETRIC NOTES

1. PHOTOMETRIC CALCULATIONS BASED ON AVAILABLE IES FILES FROM FIXTURE MANUFACTURER (OR EQUIVALENT). FIXTURE SUBSTITUTIONS MAY COMPROMISE FOOT CANDLE (FC) LEVELS.
2. PHOTOMETRIC CALCULATION ELEVATION FROM CEILING HEIGHT UON IN LUMINAIRE SCHEDULE ON SHEET E150 OR ARCH/ID PLANS.
3. EMERGENCY EGRESS PHOTOMETRIC CALCULATIONS BASED ON EMERGENCY LIGHTING ONLY. CALCULATION ELEVATION AFF.



Egress Photometric Schedule

AVERAGE FOOT-CANDLES	1.16
MAXIMUM FOOT-CANDLES	3.8
MINIMUM FOOT-CANDLES	0.1
MINIMUM TO MAXIMUM FC RATIO	0.03
MAXIMUM TO MINIMUM FC RATIO	30.77
AVERAGE TO MINIMUM FC RATIO	9.28

PHOTOMETRIC PLAN – AMENITY 1ST FLOOR

SCALE: 3/16" = 1'-0"

N

NO.	DATE	DESCRIPTION
2	5/2/25	CHANGES/PERMIT CORRECTION SET

REVISIONS

05/02/2025

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19401 40TH AVE W, SUITE 302
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27TH AVE SE AND 5TH ST SE PUYALLUP, WA

PRCNC20240278

DATE: 05/02/2025

SHEET TITLE: PHOTOMETRIC PLAN - AMENITY 1ST FLOOR

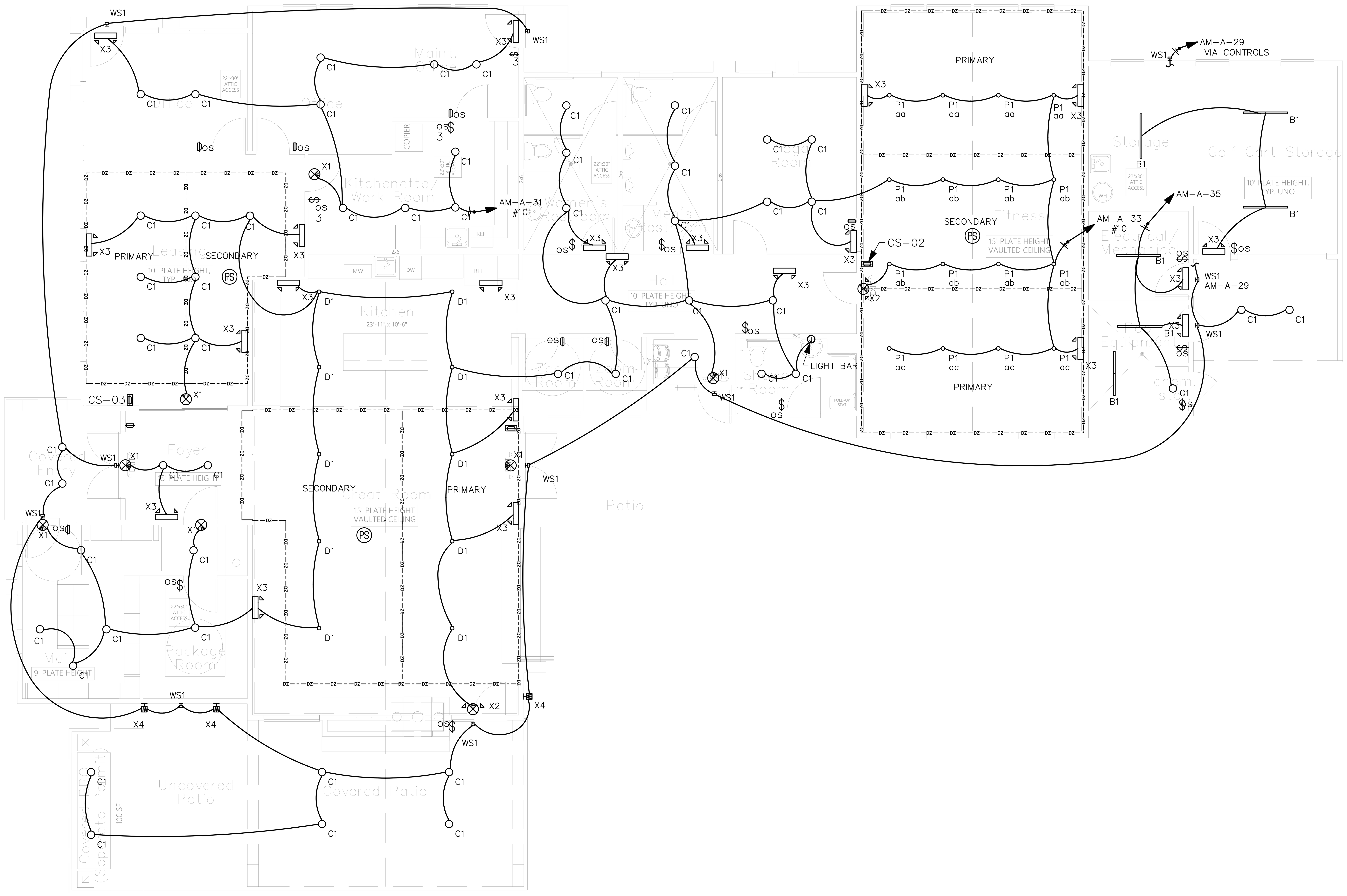
SHEET NO. E1.00

GENERAL NOTES

1. EMERGENCY EGRESS LIGHTING: EMERGENCY LUMINAIRES WITH 90 MINUTE BATTERY BACKUP.
2. REFER TO SERIES E500 DRAWINGS FOR TYPICAL UNIT PLANS SHOWING ELECTRICAL AND LIGHTING LAYOUT.
3. SEE SHEET E1.50 FOR LUMINAIRE SCHEDULE AND LIGHTING NOTES.

FLAG NOTES

1. CIRCUIT STAIRS VERTICALLY. LUMINAIRE(S) IN STAIRWELL SHALL HAVE INTEGRAL OCCUPANCY SENSOR WHICH REDUCES LIGHTING POWER OF FIXTURE(S) BY 50% WHEN SPACE IS VACANT. (TYP)
2. EXIT SIGNS: PROVIDE UNSWITCHED HOT.



Egress Photometric Schedule

AVERAGE FOOT-CANDLES	1.16
MAXIMUM FOOT-CANDLES	3.8
MINIMUM FOOT-CANDLES	0.1
MINIMUM TO MAXIMUM FC RATIO	0.03
MAXIMUM TO MINIMUM FC RATIO	30.77
AVERAGE TO MINIMUM FC RATIO	9.28

LIGHTING PLAN – AMENITY 1ST FLOOR

SCALE: 3/16" = 1'-0"

NO.	DATE	DESCRIPTION
1	5/2/25	CHANGES/PERMIT CORRECTION SET

REVISIONS

MARK STEINKE, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER 05/02/2025

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DRAWN: KL
DESIGNED: MHS
CHECKED: PSR
APPROVED: JAY

PROJECT: BRADLEY HEIGHTS APARTMENTS CLUBHOUSE
27TH AVE SE AND 5TH ST SE PUYALLUP, WA

PRCNC20240278

DATE: 05/02/2025

SHEET TITLE: LIGHTING PLAN - AMENITY 1ST FLOOR

SHEET NO. E1.01

GENERAL LIGHTING NOTES

1. LIGHTING CONTROLS SHALL BE INSTALLED WHICH MEET ALL REQUIREMENTS OF LOCAL ENERGY CODES.
2. EMERGENCY LIGHT FIXTURES: IN ADDITION TO SWITCH–LEG, PROVIDE UNSWITCHED HOT TO SERVE INTERNAL BATTERY AND CHARGER.
3. LOCATIONS OF OCCUPANCY SENSORS, PHOTO SENSORS, DIMMERS, AND SWITCHES ARE DIAGRAMMATIC. CONTRACTOR TO COORDINATE QUANTITIES AND OPTIMAL LOCATIONS WITH LIGHTING CONTROL MANUFACTURER AND ARCH/OWNER.
4. AUTOMATIC LIGHTING SHUT–OFF CONTROLS SHALL BE PROVIDED BY LOCAL OCCUPANCY SENSORS UNLESS OTHERWISE NOTED. PUBLIC SPACES ARE ACTIVE 24/7 AND THEREFORE EXEMPT FROM AUTOMATIC LIGHTING SHUT–OFF REQUIREMENTS FOR SECURITY. (WSEC C405.2)
5. DAYLIGHT ZONES ARE SHOWN ON PLANS AS DEFINED BY WASHINGTON STATE ENERGY CODE (WSEC) C405.2.4.2. SIDELIGHT DAYLIGHT ZONES ARE REFERRED TO AS 'PRIMARY' AND 'SECONDARY' ON PLANS AND DENOTED BY DASHED LINES.
6. FOR CUSTOM FF&E FIXTURES, IT IS THE MANUFACTURER'S RESPONSIBILITY TO FURNISH PRODUCTS WHICH ARE COMPLIANT WITH ALL REQUIREMENTS OF LOCAL ENERGY CODES, AS WELL AS MATCH THE ELECTRICAL SPECIFICATIONS PROVIDED IN THE LUMINAIRE SCHEDULES. PROVIDE SUBMITTAL SHOP DRAWINGS WITHIN 30 DAYS OF RECEIVING FIXTURE ORDER. SUBMITTALS SHALL CLEARLY INDICATE LAMPING AND MAXIMUM WATTAGE RATING OF LAMP SOCKETS. NON–COMPLIANT FIXTURES REJECTED BY ELECTRICAL INSPECTOR SHALL BE RETURNED TO THE MANUFACTURER FOR REWORKING AND/OR RE–LABELING.
7. ALL FIXTURES SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
8. CONTRACTOR SHALL BE RESPONSIBLE TO ORDER ALL NECESSARY HARDWARE, ELECTRICAL CABLE, TIMERS, TRANSFORMERS, ETC., AS REQUIRED FOR COMPLETION OF INSTALLATION OF A FULLY FUNCTIONING SYSTEM.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR EQUIPPING ALL FIXTURES WITH THE EXACT LAMPS SPECIFIED IN THE FIXTURE SCHEDULE.
10. WHERE FIXTURES REQUIRE REMOTE TRANSFORMERS OR BALLASTS, THE CONTRACTOR SHALL DETERMINE LOCATIONS AS REQUIRED FOR EVEN LOAD DISTRIBUTION, SERVICE ACCESS, AND VENTILATION.
11. THE CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL ENGINEER FOR EXACT LOCATIONS OF TIMERS AND/OR PHOTO CELLS, IF ANY.
12. WHERE APPLICABLE, THE CONTRACTOR SHALL AIM AND ADJUST LIGHTING FIXTURES AS DIRECTED BY THE LIGHTING DESIGNER UPON COMPLETION OF THE INSTALLATION.

SPECIAL NOTE TO THE CONTRACTOR:

1. FIXTURE SUBMITTALS THAT DO NOT INCLUDE LAMP SPECIFICATIONS WILL BE CONSIDERED INCOMPLETE AND WILL NOT BE REVIEWED.

EXIT SIGN NOTES

DURING CONSTRUCTION UPON COMPLETION OF A TYPICAL FLOOR FRAMING AND BEFORE WALL COVER, ELECTRICAL CONTRACTOR SHALL WALK THE EGRESS PATHS WITH THE LOCAL INSPECTOR (AHJ) TO CONFIRM THAT ALL THE EXIT SIGNS ARE LOCATED PER THE AHJ'S SATISFACTION AND IDENTIFY ANY ADDITIONAL EXIT SIGNS THAT THE AHJ WISHES TO BE INSTALLED (IBC 1013.1). CONTRACTOR SHALL PROVIDE UP TO 10% ADDITIONAL EXIT SIGNS AT NO ADDITIONAL COST.

LIGHTING CONTROL SYSTEM REQUIREMENTS

1. CONTRACTOR TO PROVIDE A FULLY OPERATIONAL LIGHTING CONTROL SYSTEM.
2. CONTRACTOR SHALL VERIFY THE COMPATIBILITY OF DIMMING AND CONTROL MODULES WITH FIXTURE TYPES PRIOR TO INSTALLATION.
3. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH A LIGHTING CONTROLS VENDOR TO OBTAIN LIGHTING CONTROL SYSTEM PACKAGE COMPLETE WITH DEVICES, WIRING DIAGRAMS, ANNOTATED PLANS INDICATING WHICH DEVICE TO BE USED IN EACH LOCATION, CONNECTION REQUIREMENTS, SET UP INSTRUCTIONS, COMMISSIONING AND CHECK–OUT FOLLOWING COMPLETION. PROVIDE ALL LOW VOLTAGE WIRING AS REQUIRED FOR CONTROL DEVICE INTERCONNECTIONS.
4. AUTOMATIC LIGHTING CONTROLS:
   - 4.1.1. UNLESS OTHERWISE NOTED ON PLANS, OCCUPANCY SENSORS SHALL AUTOMATICALLY TURN OFF ALL CONNECTED LIGHTING WITHIN 20 MINUTES OF SPACE BEING UNOCCUPIED. OCCUPANCY SENSORS SHALL EITHER BE MANUAL ON OR SHALL BE CONTROLLED TO AUTOMATICALLY TURN THE LIGHTING ON TO NOT MORE THAN 50 PERCENT POWER EXCEPT WHERE MANUAL ON WOULD ENDANGER THE SAFETY OR SECURITY OF THE ROOM OR BUILDING OCCUPANTS. (C405.2.1.1)
   - 4.1.2. MULTI–ZONE PHOTO–SENSORS SHALL PROVIDE SEPARATE CONTROL FOR LUMINAIRES IN EACH TYPE OF DAYLIGHT ZONE. (C405.2.4.1)
   - 4.1.3. EXTERIOR LIGHTING CONTROLS SHALL AUTOMATICALLY TURN OFF ALL EXTERIOR LIGHTING AS A FUNCTION OF AVAILABLE DAYLIGHT. BUILDING FACADE AND LANDSCAPE LIGHTING SHALL HAVE CONTROLS THAT AUTOMATICALLY SHUT OFF THE LIGHTING FOR A MINIMUM OF 6 HOURS PER NIGHT OR NOT LATER THAN ONE HOUR AFTER BUSINESS CLOSING TO NOT EARLIER THAN ONE HOUR BEFORE BUSINESS OPENING, WHICHEVER IS LESS. OTHER LIGHTING SHALL HAVE CONTROLS CONFIGURED TO AUTOMATICALLY REDUCE THE CONNECTED LIGHTING POWER BY AT LEAST 30 PERCENT FROM NO LATER THAN 12 MIDNIGHT TO 6 AM OR FROM ON HOUR AFTER BUSINESS CLOSING TO ONE HOUR BEFORE BUSINESS OPENING OR DURING ANY PERIOD WHEN NO ACTIVITY HAS BEEN DETECTED FOR A TIME OF NO LONGER THAN 15 MINUTES. (C405.2.6)
5. MEANS OF EGRESS ILLUMINATION: AT ANY TIME THE BUILDING IS OCCUPIED, THE MEANS OF EGRESS SHALL BE ILLUMINATED AT AN INTENSITY OF NOT LESS THAN 1 FOOTCANDLE AT FLOOR LEVEL. (IBC 1008.2.1)
6. DURING EMERGENCY CONDITIONS EMERGENCY LIGHTING CIRCUITS SHALL BYPASS ALL LIGHTING CONTROLS IN ORDER TO ENERGIZE ALL CONNECTED LUMINAIRES AT FULL CAPACITY. PROVIDE UL924 RELAYS AS REQUIRED TO BYPASS AREA CONTROLS.
   - 6.1. EMERGENCY PATHWAY EGRESS LIGHTING: ILLUMINATION PROVIDED ALONG THE EGRESS PATH AT FLOOR LEVEL SHALL AVERAGE AT LEAST 1 FOOT CANDLE. (IBC 1008.3.5)
   - 6.2. EMERGENCY EGRESS LIGHTING SHALL BE SUPPLIED BY ELECTRICAL CONTRACTOR: EMERGENCY LUMINAIRES WITH 90 MINUTE BATTERY BACKUP.

LIGHTING CONTROLS LEGEND

$ $a $k	TOGGLE SWITCH FOR MANUAL ON/OFF LIGHTING CONTROL (WSEC C405.2.3). SUBSCRIPT INDICATES WHICH FIXTURES ARE TO BE CONTROLLED BY WHICH SWITCH. SUBSCRIPT 'k' INDICATES TAMPER RESISTANT KEYED SWITCH FOR USE BY AUTHORIZED PERSONNEL ONLY.
D Da	DIMMER SWITCH FOR MANUAL MULTI–LEVEL LIGHTING CONTROL. SWITCH SHALL ALSO HAVE MANUAL ON/OFF FUNCTIONALITY. SUBSCRIPT INDICATES WHICH FIXTURES ARE TO BE CONTROLLED BY WHICH DIMMER. (C405.2.3)
vs os / vs os	SWITCHES LABELED 'os' OR 'vs' SHALL TURN OFF ALL CONNECTED LUMINAIRES WITHIN 20 MINUTES OF SPACE BEING VACANT. (C405.2.1.1)
TR ax	WALLBOX DIMMER OR SWITCH FOR MANUAL LOCAL LIGHTING CONTROL (C405.2.3). WALLBOXES SHALL ALSO HAVE MANUAL ON/OFF FUNCTIONALITY OF ALL CONNECTED LUMINAIRES. SUBSCRIPT INDICATES WHICH FIXTURES ARE TO BE CONTROLLED BY ZONE ACCORDING TO LIGHTING CONTROL SCHEDULE; 'x' INDICATES MULTIPLE ZONE CONTROL. SUBSCRIPT 'TR' INDICATES TAMPER RESISTANT CONTROLS TO BE ACCESSED BY AUTHORIZED PERSONNEL ONLY.
CS–01	CONTROL STATION FOR MANUAL LOCAL LIGHTING CONTROL (C405.2.3). WALLBOXES SHALL HAVE MANUAL ON/OFF AND DIMMING FUNCTIONALITY OF ALL CONNECTED LUMINAIRES. SUBSCRIPT CORRESPONDS TO 'LIGHTING CONTROLS' TABLE.
OS	OCCUPANCY SENSOR SHALL AUTOMATICALLY TURN OFF ALL CONNECTED LUMINAIRES WITHIN 20 MINUTES OF SPACE BEING VACANT. (C404.2.1.1)
ax PS	MUTLIZONE PHOTOSENSOR FOR DAYLIGHT ZONE CONTROL SHALL AUTOMATICALLY ADJUST THE LIGHT OUTPUT OF ALL CONNECTED LUMINAIRES BASED ON THE DAYLIGHT LEVEL IN THE PRIMARY AND SECONDARY ZONES (C405.2.4). SUBSCRIPT INDICATES WHICH FIXTURES ARE TO BE CONTROLLED BY ZONE ACCORDING TO LIGHTING CONTROL SCHEDULE; 'x' INDICATES MULTIPLE ZONE CONTROL.

GENERAL LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	LAMP	DESCRIPTION	BALLAST	MOUNTING	MODEL	NOTE 1
B1		(1) 31.4W LED	4' NARROW WRAP – BOH	0–10V DIMMING	SURFACE	DAY–BRITE CFI: FSW440L835 UNV DIM	80 / 3000K
C1		(1) 13.5W LED	8" SURFACE DOWNLIGHT	0–10V DIMMING	SURFACE	MAXIM 57613WTWT	3000K/1200LM
C1E		(1) 12W DMF DRD5S MODULE, 4R–10–9–30–EM	DMF_DRD5S4R–10–9–30–EM	EM	SURFACE	DMF Lighting, DMF_DRD5S4R–10–9–30–EM	EM / EM
D1		(1) 12W LED	RECESSED DOWNLIGHT – SLOPED CEILING	0–10V DIMMING	PENDANT	DMF LIGHTING – DRD4M 10 9 30 FL X 0 / DRDH N JS 1004	93 / 3000K
P1		(1) 40W LED	STEM MOUNT DOWNLIGHT – SLOPED CEILING – 4' STEM	0–10V DIMMING	PENDANT	DMF – DCR T4 S X A 30 FL 0 00 30 XX 0 00 [FINISH] DMF LIGHTING – DRD4M 10 9 30 FL X 0 / DRDH N JS 1004	93 / 3000K
WS1		(1)	WALL SCONCE – EM BATTERY BACKUP	ELECTRONIC	WALL	TBD	
X1		(1) 5W EM	EXIT SIGN – EMERGENCY BATTERY BACKUP – HATCH INDICATES LIT FACE	EM	SURFACE	LSI: EMS WB SERIES (OR EQUAL)	EM / EM
X2		(1) 5W EM	COMBO EXIT SIGN	EM	SURFACE	LSI: CEC (OR EQUAL)	EM / EM
X3		(1) 5W EM	EMERGENCY LIGHT – EMERGENCY BATTERY BACKUP	EM	SURFACE	LITHONIA: ELM2LF (OR EQUAL)	35' MAX SPACING
X4		(1) 5W NE	Nora Lighting	EM	WALL	Nora Lighting NE–902LED	35' MAX SPACING
Z1E		(1) 12W DMF DRD5S MODULE, 4R–10–9–30–EM	WPX1 LED wallpack 1500lm 3000K color temperature 120–277 Volts	EM	WALL	Lithonia Lighting, WPX1 LED P1 30K Mvolt	EM / EM

NOTES:
1. CONTRACTOR TO FURNISH AND INSTALL ALL FIXTURES.
2. LUMINAIRE SCHEDULE IS BOD ONLY. CONTRACTOR TO SUBMIT FIXTURE MODEL OR EQUIVALENT. CONTRACTOR TO COORDINATE FIXTURE FINISHES WITH ARCHITECT/OWNER.
3. FIXTURE CATALOG NUMBERS DO NOT NECESSARILY DENOTE SPECIFIC MOUNTING ACCESSORIES. CONTRACTOR TO PROVIDE ALL NECESSARY ACCESSORIES TO SUCCESSFULLY COMPLETE THE INSTALLATION.

GENERAL LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	MOUNTING	DESCRIPTION	MODEL	VOLTAGE	TYPE	CRI / CCT	LAMPING	WATTAGE
B1		SURFACE	4' NARROW WRAP – BOH	DAY–BRITE CFI: FSW440L835 UNV DIM	120	0–10V DIMMING	80 / 3000K	(1) 31.4W LED	31.4
C1E		SURFACE	4" SURFACE DOWNLIGHT	DMF: DRDH N JO 70S EM / DRD5S 4 R 07 9 30 EM	120	0–10V DIMMING	90 / 3000K	(1) 9W LED	9
D1		RECESSED	RECESSED DOWNLIGHT – SLOPED CEILING	DMF: DRD4M 10 9 30 FL X 0 / DRDH N JS 1004	120	0–10V DIMMING	90 / 3000K	(1) 12W LED	12
P1		PENDANT	STEM MOUNT DOWNLIGHT – SLOPED CEILING – 4' STEM	DMF: DCR T4 S X A 30 FL 0 00 30 XX 0 00 [FINISH]	120	0–10V DIMMING	90 / 3000K	(1) 40W LED	40
WS1		SURFACE	WALL SCONCE – EM BATTERY BACKUP	TBD	120	TBD DIMMING	TBD / TBD	(1) 5W LED	5
X1		SURFACE	EXIT SIGN – EMERGENCY BATTERY BACKUP – HATCH INDICATES LIT FACE	LSI: EMS WB SERIES (OR EQUAL)	MULTIPLE	EM	EM / EM	(1) 5W EM	5
X2		SURFACE	COMBO EXIT SIGN	LSI: CEC (OR EQUAL)	MULTIPLE	EM	EM / EM	(1) 5W EM	5
X3		SURFACE	EMERGENCY LIGHT – EMERGENCY BATTERY BACKUP DAMP LOCATION RATED – MAX 35' SPACING	LITHONIA: ELM2LF (OR EQUAL)	120	EM	EM / EM	(1) 5W EM	5
X4		WALL	EXTERIOR EMERGENCY LIGHT – EMERGENCY ON ONLY – MAX SPACING 35'	NORA LIGHTING: NE–902LED	120	EM	35' MAX SPACING	(1) 5W LED	5
Z1E		WALL	WALL PACK	LITHONIA: WPX1 LED P1 30K MVOLT	120	EM	70 / 3000K	(1) 11W LED	11

NOTES:
1. CONTRACTOR TO FURNISH AND INSTALL ALL FIXTURES.
2. LUMINAIRE SCHEDULE IS BOD ONLY. CONTRACTOR TO SUBMIT FIXTURE MODEL OR EQUIVALENT. CONTRACTOR TO COORDINATE FIXTURE FINISHES WITH ARCHITECT/OWNER.
3. FIXTURE CATALOG NUMBERS DO NOT NECESSARILY DENOTE SPECIFIC MOUNTING ACCESSORIES. CONTRACTOR TO PROVIDE ALL NECESSARY ACCESSORIES TO SUCCESSFULLY COMPLETE THE INSTALLATION.

NO.	DATE	DESCRIPTION
2	5/2/25	CHANGES/PERMIT CORRECTION SET

REVISIONS

05/02/2025

ROBISON ENGINEERING, INC
19401 40TH AVE W, SUITE 302
LYNNWOOD, WA 98036
PHONE:(206)364-3343

DRAWN: KL
DESIGNED: MHS
CHECKED: PSR
APPROVED: JAY

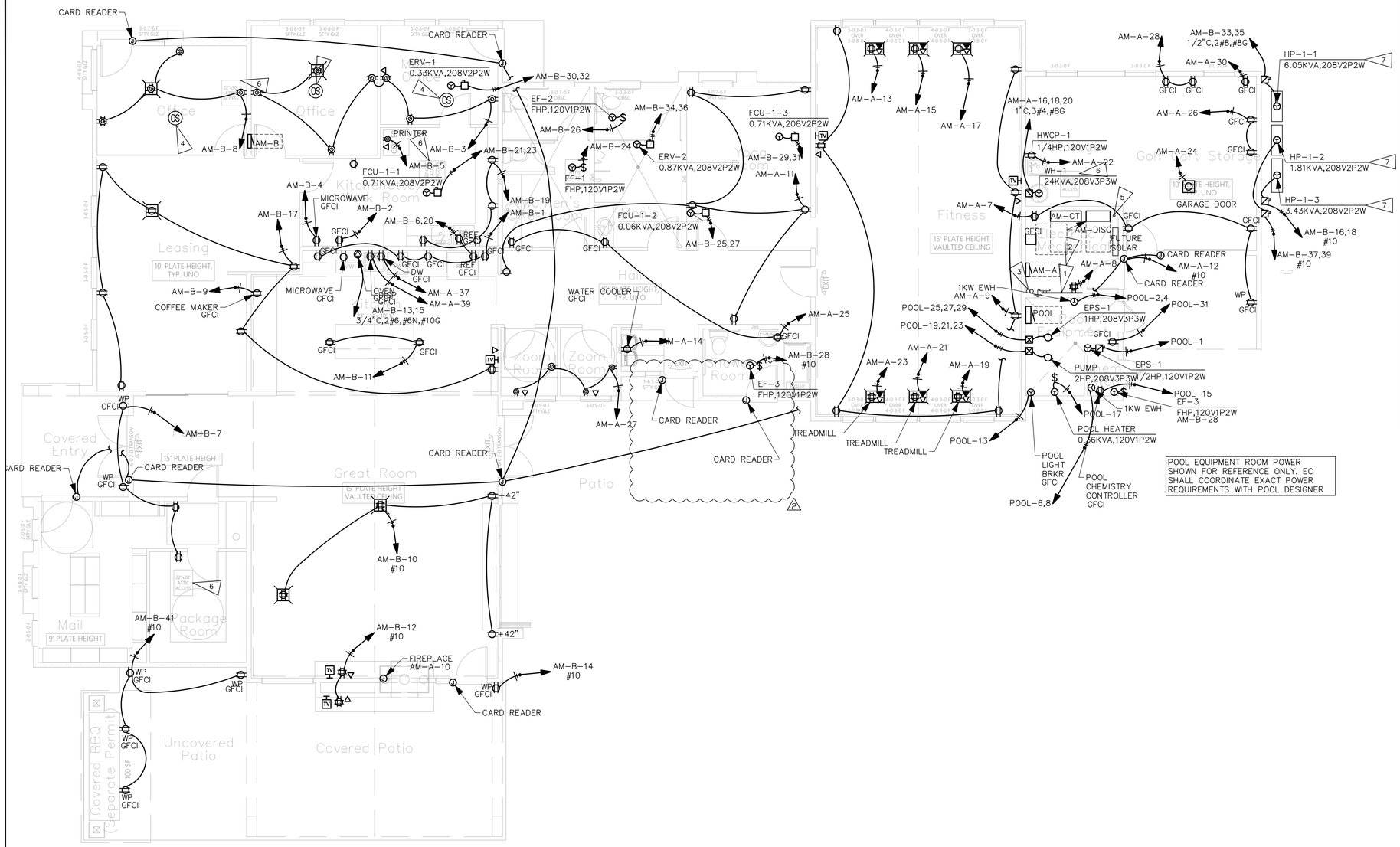
PROJECT: BRADLEY HEIGHTS APARTMENTS CLUBHOUSE
27TH AVE SE AND 5TH ST SE PUYALLUP, WA

PRCNC20240278

DATE: 05/02/2025

SHEET TITLE: LIGHTING NOTES & LUMINAIRE SCHEDULE

SHEET NO. E1.50



GENERAL NOTES

1. EC TO REFER TO ARCHITECTURAL AND INTERIOR DESIGNER ELEVATIONS FOR EXACT LOCATION OF RECEPTACLES. DATA AND PHONE, BEFORE ROUGH-IN.
2. PROVIDE GFCI CIRCUIT BREAKERS FOR ALL 120V, 15A AND 20A RECEPTACLES LOCATED IN THE GARAGE, KITCHEN AND SERVICE AREAS.
3. FLOOR RECEPTACLES: COORDINATE FINAL LOCATION OF ALL FLOOR RECEPTACLES WITH ARCHITECT AND ID PRIOR TO ROUGH-IN AND INSTALLATION.

FLAG NOTES

1. PROVIDE 4'X8'X3/4" FIRE RETARDANT PLYWOOD. BOTTOM 6"AFF TOP OF PLYWOOD 102" AFF.
2. PROVIDE COPPER GROUND BAR 2"X24"X1/4" AND #6 COPPER GROUND WIRE TO MAIN SERVICE GROUND.
3. PROVIDE (2) 4" SLEEVES FOR LV CABLE TO COMM/DATA UNILITIES. COORDINATE RISER LOCATION WITH ARCHITECT.
4. PLUG CONTROL: PROVIDE OCCUPANCY SENSOR AND RELAYS TO TURN OFF 50% OF OUTLETS WHEN SPACE IS UNOCCUPIED PER WA ENERGY CODE
5. 2-1/2" CONDUIT TO ROOF FOR FUTURE SOLAR
6. PROVIDE RECEPTACLE, LIGHT, AND LIGHT SWITCH AT ENTRANCE TO ATTIC ACCESS.
7. AMENITY HEAT-PUMPS: POWER FOR HEAT PUMP SHALL BE RUN FROM AMENITY ELECTRICAL PANEL. COORDINATE EXACT LOCATION WITH MECHANICAL CONTRACTOR PRIOR TO INSTALLATION. FUSED DISCONNECT SHALL BE INSTALLED NEAR MECHANICAL EQUIPMENT WITH NEC CODE MINIMUM CLEARANCES IN FRONT OF IT.

City of Puyallup Development & Permitting Services
SSMMD PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

POWER PLAN – AMENITY BUILDING

SCALE: 3/16" = 1'-0"

NO.	DATE	DESCRIPTION
2	5/2/25	CHANGES/PERMIT CORRECTION SET

REVISIONS

MARK STEINKE
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER
05/02/2025

ROBISON ENGINEERING, INC
19401 40TH AVE W, SUITE 302
LYNNWOOD, WA 98036
206.364.3343
REI PROJECT NO.: 1219001
CONTACT: ANN KISPERT

DRAWN: KL
DESIGNED: MHS
CHECKED: PSR
APPROVED: JAY

PROJECT: BRADLEY HEIGHTS APARTMENTS CLUBHOUSE
27TH AVE SE AND 5TH ST SE PUYALLUP, WA

ROBISON ENGINEERING, INC
19401 40TH AVE W, SUITE 302
LYNNWOOD, WA 98036
PHONE:(206)364-3343

PRCNC20240278

DATE: 05/02/2025

SHEET TITLE: POWER PLAN - AMENITY BUILDING

SHEET NO. E3.00

M:\TEKNIK \\WESVR07\JOBS\1219-001 BRADLEY HEIGHT APARTMENTS\DWG\AMENITY E3.00 POWER.DWG 10-02-2023 15:42

GROUNDING NOTES AND REQUIREMENTS:

THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR, POWER COMPANY, PHONE COMPANY, INTERNET COMPANY, CABLE TV COMPANY, AND THE SATELLITE TV COMPANY TO ENSURE REQUIRED GROUNDING IS INSTALLED FOR EACH SYSTEM.

THIS SHALL BE DONE PRIOR TO AND DURING INSTALLATION OF FOUNDATION RE–BAR AND CONTINUE DURING THE CONSTRUCTION PHASES, TO ENSURE EACH SYSTEM HAS IT'S REQUIRED GROUNDING INSTALLED FOR PROPER OPERATION OF THE SYSTEM.

1. THE ELECTRICAL CONTRACTOR SHALL COORDINATE AND PROVIDE WHAT IS REQUIRED TO DO THE FOLLOWING:
2. FOOTING GROUND RE–BAR COMES UP IN THE ELECTRICAL ROOM AND THE RE–BAR IS SNUGLY SECURED TO THE FOOTING RE–BAR PER OWNER DETAIL.
3. THE MSB GROUNDING TIES TO THE FOOTING RE–BAR, COUNTERPOISE, BUILDING STEEL, AND WATER PIPING.
4. THE GROUND WIRE FOR THE COUNTERPOISE SHALL BE STRANDED, INSULATED WIRE IN CONDUIT UNTIL IT REACHES THE FIRST BAR OF THE COUNTERPOISE. BETWEEN THE COUNTERPOISE BARS IT SHALL BE A STRANDED BARE COPPER WIRE.

FAULT CURRENT VALUE IS ESTIMATED, CONTRACTOR TO CONFIRM AVAILABLE FAULT CURRENT PRIOR TO ORDERING ELECTRICAL SWITCHGEAR, SWITCHBOARDS AND PANELBOARDS.

ELECTRICAL UTILITY APPROVAL REQUIRED FOR METERING, TERMINATION CABINET, AND SERVICE EQUIPMENT PRIOR TO ORDERING.

FLAG NOTES: (FOR E5.00 & E5.01)

1. GROUNDING ELECTRODE CONDUCTOR AND SYSTEM GROUNDING SIZED PER N.E.C. 250
2. PROVIDE 2 1/2" CONDUITS FOR SOLAR READY PATHWAY AND RESERVE SPACE IN THE MAIN ELECTRIC ROOM FOR FUTURE SOLAR EQUIPMENT. RESERVE SPACE FOR INSTALLATION OF FUTURE SOLAR CIRCUIT BREAKER AND PERMANENTLY MARK THIS LOCATION AS "FOR FUTURE SOLAR ELECTRIC".

SHEET NOTES: (FOR E6.00 & E6.01)

A. CONTRACTOR TO OBTAIN UTILITY APPROVAL OF ALL SERVICE AND METERING EQUIPMENT PRIOR TO ORDERING.

B. PROVIDE PERMANENT WARNING LABELS FOR ARC FLASH AND PPE REQUIREMENTS FOR THE SERVICE EQUIPMENT AND PANELS.

COORDINATION AND ARC FLASH STUDIES:

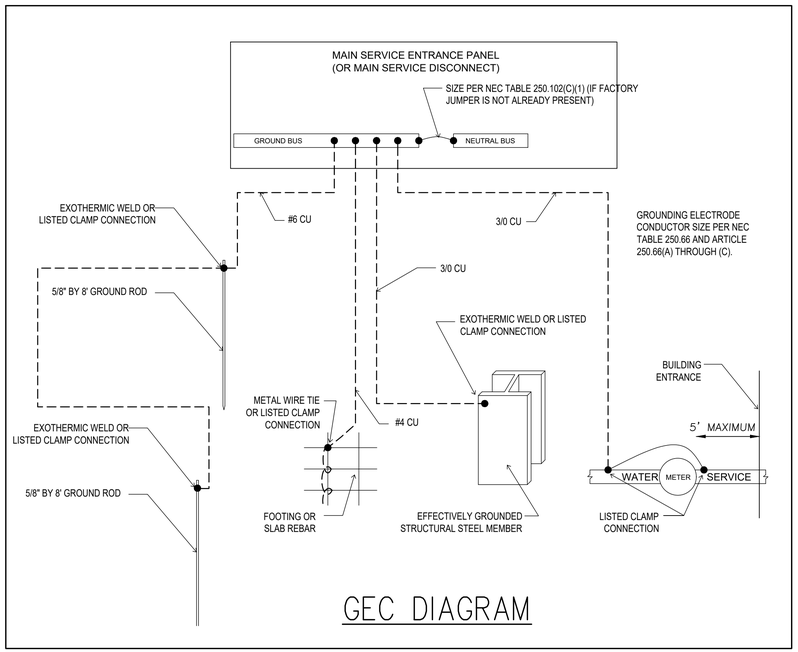
IMMEDIATELY UPON SELECTION OF ACTUAL EQUIPMENT BEING PROVIDED FOR THE PROJECT, THE ELECTRICAL CONTRACTOR SHALL PERFORM AN ARC FLASH ANALYSIS AND COORDINATION STUDY ON THE STANDBY DISTRIBUTION BASED ON ACTUAL EQUIPMENT TO BE PROVIDED, CONDUCTOR TYPES/SIZES/LENGTHS, ETC. COORDINATION SHALL BE CONFIRMED BASED ON FAULT NUMBERS SHOWN ON THIS DRAWING.

STUDIES SUBMITTED SHALL BE STAMPED BY A PROFESSIONAL ELECTRICAL ENGINEER HOLDING A CURRENT LICENSE FROM THE STATE OF WA.

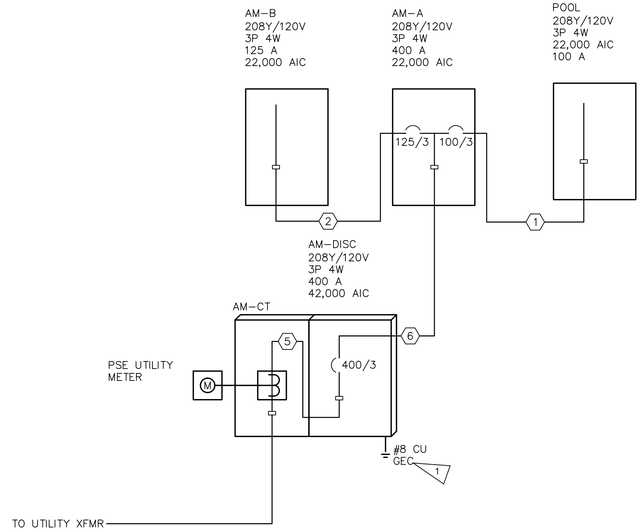
PRELIMINARY ARC FLASH AND COORDINATION STUDIES ARE TO BE SUBMITTED WITH THE SUBMITTALS FOR THE PROTECTIVE DEVICES, PANELBOARDS, SWITCHBOARDS, AND OTHER ELECTRICAL EQPT.

THE ELECTRICAL CONTRACTOR SHALL SUBMIT THE STAMPED AND SIGNED ARC FLASH AND COORDINATION STUDY TO THE AHJ AS REQUIRED.

THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL PERMANENT LABELS INDICATING ARC FLASH HAZARD RISK CATEGORIES ON ALL DISTRIBUTION POINTS (SWITCHBOARDS, PANELBOARDS, VFDS, DISCONNECT SWITCHES, ETC). LABELS SHALL COMPLY WITH NFPA 70E.



GEC DIAGRAM



ONE–LINE DIAGRAM

ROBISON ENGINEERING, INC
19401 40TH AVE W, SUITE 302
LYNNWOOD, WA 98036
206.364.3343 TEL
REI PROJECT NO.: 1219001
CONTACT: ARIK STEINKE

NO.	DATE	DESCRIPTION
2	5/2/25	CHANGES/PERMIT CORRECTION SET

REVISIONS

ARIK STEINKE
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER
05/02/2025

DRAWN: KL
DESIGNED: MHS
CHECKED: PSR
APPROVED: JAY

PROJECT: BRADLEY HEIGHTS APARTMENTS CLUBHOUSE
27TH AVE SE AND 5TH ST SE PUYALLUP, WA

ROBISON ENGINEERING, INC
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LYNNWOOD, WA 98036
PHONE:(206)364.3343

PRCNC20240278

DATE: 05/02/2025

SHEET TITLE: ONE-LINE DIAGRAM & NOTES

SHEET NO. E6.00

M:\STEINKE G:_RESOURCE FOLDER\STEINKE LEAVENS TEMPLATES\APARTMENT 30X42\E5.00 ONE LINE.DWG 10-03-2022 10:41

VOLTAGE DROP SCHEDULE

DEVICE	FEEDER		BRANCH CIRCUIT		TOTAL VOLTAGE DROP
	VOLTAGE DROP	WIRE SIZE	MAX VOLTAGE DROP	WIRE SIZE	
XFMR A/B/C	0%		–	–	0%
A–MC	1.61%	(4)#500kcmil AL	–	–	1.61%
A–HOUSE	1.93%	#3/0	1.06% (CKT 19)	#10	2.99%
B–MC	0.51%	(3)#400kcmil AL	–	–	0.51%
B–HOUSE	0.79%	#3/0	1.4% (CKT 3)	#10	2.18%
C–MC	0.74%	(4)#500kcmil AL	–	–	0.74%
C–HOUSE	0.91%	#3/0	1.56% (CKT 7)	#10	2.48%
XFMR D/CLUB	0%		–	–	0%
AM–CT	0.35%	(2)#250kcmil AL	–	–	0.35%
AM–DISC	0.57%	(2)#250kcmil AL	–	–	0.57%
AM–A	0.85%	#500kcmil	1.95% (CKT 41)	#12	2.79%
AM–B	2.33%	#2/0 AL	2.18% (CKT 33,35)	#8	4.51%
POOL	0.89%	#1/0 AL–1	0.28% (CKT 1)	#12	1.18%
D–MC	2.76%	(5)#600kcmil AL	–	–	2.76%
D–HOUSE	***3.01%***	#3/0	1.52% (CKT 21)	#10	4.53%
XFMR E/H	0%		–	–	0%
E–MC	0.64%	(4)#500kcmil AL	–	–	0.64%
E–HOUSE	0.82%	#3/0	1.1% (CKT 19)	#10	1.92%
H–MC	0.97%	(4)#350kcmil AL	–	–	0.97%
H–HOUSE	1.11%	#3/0	1.1% (CKT 17)	#10	2.21%
XFMR F/G	0%		–	–	0%
F–MC	1.6%	(4)#500kcmil AL	–	–	1.6%
F–HOUSE	1.85%	#3/0	1.1% (CKT 19)	#10	2.95%
G–MC	0.54%	(4)#500kcmil AL	–	–	0.54%
G–HOUSE	0.71%	#3/0	1.52% (CKT 21)	#10	2.23%

FAULT CURRENT SCHEDULE

DEVICE	FAULT	AIC RATING	UTILITY	FED FROM		FEEDER		TOTAL MOTOR
			FAULT	DEVICE	FAULT	SIZE	LENGTH	FAULT
XFMR A/B/C	64,515	N/A	60,300					4,215
A–MC	35,355	65,000	33,084	XFMR A/B/C	60,300	(4)#500kcmil AL	126'	2,271
A–HOUSE	23,930	42,000	22,899	A–MC	33,084	#3/0	21'	1,031
B–MC	38,026	65,000	36,129	XFMR A/B/C	60,300	(3)#400kcmil AL	70'	1,897
B–HOUSE	26,195	42,000	25,329	B–MC	36,129	#3/0	18'	866
C–MC	45,210	65,000	42,184	XFMR A/B/C	60,300	(4)#500kcmil AL	168'	3,026
C–HOUSE	29,061	42,000	27,827	C–MC	42,184	#3/0	19'	1,234
XFMR D/CLUB	42,183	N/A	39,700					2,483
AM–CT	10,600	42,000	10,279	XFMR D/CLUB	39,700	(2)#250kcmil AL	180'	321
AM–DISC	9,613	42,000	9,311	AM–CT	10,279	(2)#250kcmil AL	23'	302
AM–A	8,641	22,000	8,350	AM–DISC	9,311	#500kcmil	33'	291
AM–B	3,955	22,000	3,774	AM–A	8,350	#2/0 AL	108'	181
POOL	7,226	22,000	7,025	AM–A	8,350	#1/0 AL–1	14'	201
D–MC	33,991	65,000	31,558	XFMR D/CLUB	39,700	(5)#600kcmil AL	183'	2,433
D–HOUSE	24,675	42,000	23,388	D–MC	31,558	#3/0	19'	1,287
XFMR E/H	42,497	N/A	39,700					2,797
E–MC	25,915	65,000	23,937	XFMR E/H	39,700	(4)#500kcmil AL	155'	1,978
E–HOUSE	19,299	42,000	18,197	E–MC	23,937	#3/0	21'	1,102
H–MC	29,457	65,000	27,480	XFMR E/H	39,700	(4)#350kcmil AL	192'	1,977
H–HOUSE	18,568	42,000	17,791	H–MC	27,480	#3/0	30'	777
F–MC	31,879	65,000	29,797	XFMR F/G	60,300	(4)#500kcmil AL	155'	2,082
F–HOUSE	19,185	42,000	18,353	F–MC	29,797	#3/0	31'	832
G–MC	27,460	65,000	25,243	XFMR F/G	60,300	(4)#500kcmil AL	207'	2,217
G–HOUSE	20,163	42,000	18,965	G–MC	25,243	#3/0	20'	1,198

AM–A

ROOM
MOUNTING **SURFACE**
FED FROM **AM–DISC**
NOTE

VOLTS **208Y/120V 3P 4W**
BUS AMPS **400**
NEUTRAL **100%**

AIC **22,000**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	**125/3**	**37.2**	**PANEL AM–B**	a	2	**100/3**	**6.65**	**PANEL POOL**
3	|			b	4	|		
5	|			c	6	|		
7	**20/1**	**0.72**	**RECEPTACLE**	a	8	**20/1**	**0.36**	**RECEPTACLE**
9	**20/1**	**1.26**	**RECEPTACLE**	b	10	**20/1**	**0.5**	**FIREPLACE**
11	**20/1**	**1.08**	**RECEPTACLE**	c	12	**20/1**	**0.35**	**CARD READER**
13	**20/1**	**0.5**	**CARDIO**	a	14	**20/1**	**1**	**WATER COOLER**
15	**20/1**	**0.5**	**CARDIO**	b	16	**90/3**	**24**	**WH–1**
17	**20/1**	**0.5**	**CARDIO**	c	18	|		
19	**20/1**	**1**	**TREADMILL**	a	20	|		
21	**20/1**	**1**	**TREADMILL**	b	22	**20/1**	**0.696**	**HWCP–1**
23	**20/1**	**1**	**TREADMILL**	c	24	**20/1**	**0.18**	**RECEPTACLE**
25	**20/1**	**0.54**	**RECEPTACLE**	a	26	**20/1**	**0.36**	**RECEPTACLE**
27	**20/1**	**0.72**	**RECEPTACLE**	b	28	**20/1**	**0.36**	**RECEPTACLE**
29	**20/1**	**0.196**	**LIGHTING**	c	30	**20/1**	**0.18**	**RECEPTACLE**
31	**20/1**	**0.126**	**LIGHTING**	a	32	**–/1**	**0**	**SPACE**
33	**20/1**	**1.18**	**LIGHTING**	b	34	**–/1**	**0**	**SPACE**
35	**20/1**	**0.157**	**LIGHTING**	c	36	**–/1**	**0**	**SPACE**
37	**20/1**	**1.2**	**DISHWASHER**	a	38	**–/3**	**0**	**SOLAR BREAKER**
39	**20/1**	**1**	**DISPOSAL**	b	40	|		
41	**20/1**	**1.2**	**MICROWAVE**	c	42	|		

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	**1.66**	**2.07**	(125%)	LARGEST MOTOR	**6.05**	**1.51**	(25%)
DWELLING UNIT COOKING		**6.4**		MOTORS	**5.75**	**5.75**	(100%)
PHASE A–B	**8**	**1 RANGE**		RECEPTACLES	**17.3**	**13.6**	(50%>10)
PHASE B–C	**0**	**0 RANGES**		CONTINUOUS	**1.3**	**1.63**	(125%)
PHASE C–A	**0**	**0 RANGES**		NONCONTINUOUS	**12.6**	**12.6**	(100%)
				HEATING	**37.9**	**37.9**	(100%)
				COOLING	**14.6**	**0**	(0%)
				TOTAL LOAD		**81.4**	
				BALANCED 3–PHASE LOAD		**226 A**	
				PHASE A		**94.8%**	
				PHASE B		**110%**	
				PHASE C		**94.9%**	

AM–B

ROOM
MOUNTING **SURFACE**
FED FROM **AM–A**
NOTE

VOLTS **208Y/120V 3P 4W**
BUS AMPS **125**
NEUTRAL **100%**

AIC **22,000**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	**20/1**	**0.72**	**RECEPTACLE**	a	2	**20/1**	**0.18**	**RECEPTACLE**
3	**20/1**	**1.08**	**RECEPTACLE**	b	4	**20/1**	**1.2**	**MICROWAVE**
5	**20/1**	**1**	**RECEPTACLE**	c	6	**20/1**	**1.8**	**REFRIG**
7	**20/1**	**0.72**	**RECEPTACLE**	a	8	**20/1**	**0.36**	**RECEPTACLE**
9	**20/1**	**0.8**	**COFFEE MAKER**	b	10	**20/1**	**1.08**	**RECEPTACLE**
11	**20/1**	**0.36**	**RECEPTACLE**	c	12	**20/1**	**0.72**	**RECEPTACLE**
13	**50/2**	**8**	**OVEN**	a	14	**20/1**	**0.18**	**RECEPTACLE**
15	|			b	16	**20/2**	**3.43**	**HP–1–3**
17	**20/1**	**1.44**	**RECEPTACLE**	c	18	|		
19	**20/1**	**0.72**	**RECEPTACLE**	a	20	**20/1**	**1.8**	**REFRIG**
21	**15/2**	**0.707**	**FCU–1–1**	b	22	**–/1**	**0**	**SPACE**
23	|			c	24	**20/1**	**0.1**	**EF–1**
25	**15/2**	**0.062**	**FCU–1–2**	a	26	**15/1**	**0.1**	**EF–2**
27	|			b	28	**15/1**	**0.2**	**EF–3**
29	**15/2**	**0.707**	**FCU–1–3**	c	30	**15/2**	**0.333**	**ERV–1**
31	|			a	32	|		
33	**35/2**	**6.05**	**HP–1–1**	b	34	**15/2**	**0.874**	**ERV–2**
35	|			c	36	|		
37	**15/2**	**1.81**	**HP–1–2**	a	38	**–/2**	**0**	**SPACE**
39	|			b	40	|		
41	**20/1**	**0.72**	**RECEPTACLE**	c	42	**–/1**	**0**	**SPACE**

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
DWELLING UNIT COOKING		**6.4**		LARGEST MOTOR	**6.05**	**1.51**	(25%)
PHASE A–B	**8**	**1 RANGE**		RECEPTACLES	**9.28**	**9.28**	(50%>10)
PHASE B–C	**0**	**0 RANGES**		CONTINUOUS	**0.8**	**1**	(125%)
PHASE C–A	**0**	**0 RANGES**		NONCONTINUOUS	**4.8**	**4.8**	(100%)
				HEATING	**12.8**	**0**	(0%)
				COOLING	**14.3**	**14.3**	(100%)
				TOTAL LOAD		**37.3**	
				BALANCED 3–PHASE LOAD		**103 A**	
				PHASE A		**83.7%**	
				PHASE B		**117%**	
				PHASE C		**99.4%**	

AM–DISC

City of Puyallup
CONDITIONED PERMIT
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

ROOM
MOUNTING **SURFACE**
FED FROM **AM–CT**
NOTE

VOLTS **208Y/120V 3P 4W**
BUS AMPS **400**
NEUTRAL **100%**

AIC **42,000**
MAIN BKR **400**
LUGS **STANDARD**

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	FEEDER RACEWAY AND CONDUCTORS
1	**400/3**	**PANEL AM–A**	**27.1**	**31.6**	**27.1**	**3–1/2"C,3#500kcmil,#500kcmil N,#2G**
		TOTAL CONNECTED KVA BY PHASE	**27.1**	**31.6**	**27.1**	

OPTIONAL MULTIFAMILY DWELLING CALCULATION (NEC 220.84)

DWELLING UNIT LOADS

	KVA		KVA
ELECTRIC COOKING	**8**	CONNECTED LOAD	**8**
		DWELLING UNITS	**0**
		DEMAND FACTOR	**(68%)**
		CALCULATED LOAD	**5.4**

HOUSE LOADS

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	**1.66**	**2.07**	(125%)	CONTINUOUS	**1.3**	**1.63**	(125%)
LARGEST MOTOR	**6.05**	**1.51**	(25%)	NONCONTINUOUS	**12.6**	**12.6**	(100%)
MOTORS	**5.75**	**5.75**	(100%)	HEATING	**37.9**	**37.9**	(100%)
RECEPTACLES	**17.3**	**13.6**	(50%>10)	COOLING	**14.6**	**0**	(0%)
				TOTAL HOUSE LOAD		**75**	

TOTAL LOAD

	KVA		KVA
TOTAL DWELLING UNIT LOAD	**5.4**	TOTAL LOAD	**80.4**
TOTAL HOUSE LOAD	**75**	BALANCED 3–PHASE LOAD	**223 A**

CIRCUITS AND LOADS IN PANEL POOL ARE PLACEHOLDERS ONLY FOR LOAD CALCULATION PURPOSES

POOL

ROOM
MOUNTING **SURFACE**
FED FROM **AM–A**
NOTE

VOLTS **208Y/120V 3P 4W**
BUS AMPS **100**
NEUTRAL **100%**

AIC **22,000**
MAIN BKR **MLO**
LUGS **STANDARD**

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	**20/1**	**1.18**	**EPS–1**	a	2	**20/2**	**1**	**EWH**
3	**–/1**	**0**	**SPACE**	b	4	|		
5	**–/1**	**0**	**SPACE**	c	6	**20/2**	**1**	**EWH**
7	**–/3**	**0**	**SPACE**	a	8	|		
9	|			b	10	**–/1**	**0**	**SPACE**
11	|			c	12	**–/1**	**0**	**SPACE**
13	**20/1**	**0.18**	**RECEPTACLE**	a	14	**–/1**	**0**	**SPACE**
15	**20/1**	**0.18**	**RECEPTACLE**	b	16	**–/1**	**0**	**SPACE**
17	**20/1**	**0.36**	**POOL HEATER**	c	18	**–/1**	**0**	**SPACE**
19	**20/3**	**2.83**	**PUMP**	a	20	**–/1**	**0**	**SPACE**
21	|			b	22	**–/1**	**0**	**SPACE**
23	|			c	24	**–/1**	**0**	**SPACE**
25	**20/3**	**1.75**	**EPS–1**	a	26	**–/1**	**0**	**SPACE**
27	|			b	28	**–/1**	**0**	**SPACE**
29	|			c	30	**–/1**	**0**	**SPACE**
31	**20/1**	**0.18**	**RECEPTACLE**	a	32	**–/1**	**0**	**SPACE**
33	**–/1**	**0**	**SPACE**	b	34	**–/1**	**0**	**SPACE**
35	**–/1**	**0**	**SPACE**	c	36	**–/1**	**0**	**SPACE**
37	**–/1**	**0**	**SPACE**	a	38	**–/1**	**0**	**SPACE**
39	**–/1**	**0**	**SPACE**	b	40	**–/1**	**0**	**SPACE**
41	**–/1**	**0**	**SPACE**	c	42	**–/1**	**0**	**SPACE**

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LARGEST MOTOR	**2.83**	**0.707**	(25%)	RECEPTACLES	**0.54**	**0.54**	(50%>10)
MOTORS	**5.75**	**5.75**	(100%)	HEATING	**0.36**	**0.36**	(100%)
				COOLING	**0.36**	**0**	(0%)
				TOTAL LOAD		**7.36**	
				BALANCED 3–PHASE LOAD		**20.4 A**	
				PHASE A		**138%**	
				PHASE B		**76.9%**	
				PHASE C		**85%**	

NO.	DATE	DESCRIPTION
2	5/2/25	CHANGES/PERMIT CORRECTION SET
		REVISIONS

MARK STEINKE — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER
05/02/2025

ROBISON ENGINEERING, INC
19401 40TH AVE W, SUITE 302
LYNNWOOD, WA 98036
206.364.3343 tel
REI PROJECT NO.: 1219001
CONTACT: ANN KISPERT

DRAWN:	DESIGNED:	CHECKED:	APPROVED:
KL	MHS	PSR	JAY

PROJECT: BRADLEY HEIGHTS APARTMENTS CLUBHOUSE
27TH AVE SE AND 5TH ST SE PUYALLUP, WA

ROBISON ENGINEERING, INC
19401 40TH AVE W, SUITE 302
LYNNWOOD, WA 98036
PHONE:(206)364-3343

PRCNC20240278

DATE: 05/02/2025

SHEET TITLE: PANELS SCHEDULES

SHEET NO. E6.01

	Remaining Base Site Allowance Watts	400

Exterior Non-Tradable Lighting Power Allowance

Non-Tradable Surface	Non-Tradable Surface Sub-Type	Surface Area (SF)	LPA (Watts/SF)	# of Items	LPA (Watts per # of items)	Total Watts Allowed (LPA x SF) or (LPA x # of Items)	Total Non-Tradable Proposed Watts by Surface Type	Non-Tradable Proposed Watts Exceeding LPA	Non-Tradable Compliance Status
Building façade		46,485	0.075			3,486	3,540	54	
							Total Proposed Watts Exceeding LPA	-53.6	
							Remaining Base Site Allowance	346	COMPLIES

Proposed Non-Tradable Lighting Power Density

Fixture Type	Fixture ID	Tradable Surface Type	Quantity of Fixtures (#F)	Watts or Wattage Limit per Fixture (WpF)	Total Linear Feet (LF)	Watts per Linear Foot (WpLF)	Total Watts Proposed (#F x WpF) or (LF x WpLF)
Individual Fixture							
Wall-mounted	SW1	Building façade -	59	60			3,540

Project Title	Bradley Heights Apartments - 2018 WSEC	Date	Oct 07, 2023
Proposed Fixtures Details	**NEW BUILDING - EXTERIOR LIGHTING**		

Fixture Type	Fixture ID	Location in Documents	Lamp Type	Tradable Surface Type	New or Existing-to-Remain
Individual Fixtures					
Canopy	C1	E1.01	LED	Building entrances and exits - Entry canopies	New
	Fixture Description: 8" SURFACE DOWNLIGHT			Do these fixtures require specific exterior lighting controls?: 30% reduced power (12-6am, closing or occupancy)	
Pole-mounted	SP1	E0.10	LED	Uncovered parking areas and drives -	New
	Fixture Description: POLE LIGHTING			Do these fixtures require specific exterior lighting controls?: Daylight sensing off controls	
Wall-mounted	X4	E1.01	LED	Building grounds - Walkways 10 feet and wider	New
	Fixture Description: AMENITY BUILDING WALL PACK			Do these fixtures require specific exterior lighting controls?: 30% reduced power (12-6am, closing or occupancy)	
Wall-mounted	X4	E1.01	LED	Building entrances and exits - Entry canopies	New
	Fixture Description: AMENITY BUILDING WALL PACK			Do these fixtures require specific exterior lighting controls?: 30% reduced power (12-6am, closing or occupancy)	

Fixture Type	Fixture ID	Location in Documents	Lamp Type	Non-Tradable Surface Type	New or Existing-to-Remain
Individual Fixture					
Wall-mounted	SW1	E0.10	LED	Building façade -	New
	Do these fixtures require specific exterior lighting controls?:				

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

LIGHTING COMPLIANCE SUMMARY

2018 WSEC Compliance Forms for Commercial Buildings including Group R2, R3 & R4 over 3 stories and all R1

Project & Applicant Information			For Building Department Use:
	Project Title	Bradley Heights Apartments - 2018 WSEC	Date: Oct 07, 2023
	Project Address	202 27th Ave SE Puyallup, WA 98374	
	Applicant Name	Nick Nagy	
	Applicant Phone	206-370-1750	
	Applicant Email	nnagy@robisonengineering.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	92,638
General Project Types	New Building	New Building or Addition Lighting Scope	Interior Lighting Exterior Lighting	Alteration Lighting Scope		Project Cond. Floor Area	92,638
						Floors Above Grade	3
						Compliance Method	Compliance Method 1 - General
Lighting Project Description							

Lighting Compliance Scope and Method	Project Type	Interior / Exterior (Interior includes both interior & parking)	Luminaire Replacement Scope	Compliance Method	LPA Calculation Adjustment	Compliance Verification
	New Building	Interior Lighting		Space by space	No Calculation Adjustments selected	COMPLIES
	New Building	Exterior Lighting			Not applicable to exterior	COMPLIES

Project Title	Bradley Heights Apartments - 2018 WSEC		Date	Oct 07, 2023
Lighting Power Calculation	**NEW BUILDING - INTERIOR LIGHTING**		Compliance Verification	COMPLIES
Compliance Method	Space by space	LPA Calculation Adjustment		none

Interior Lighting Power Allowance - Space by Space

General Space Type	Specific Space Type	Ceiling Height (Ft)	Gross Interior Area (SF)	LPA (Watts/SF)	Total Watts Allowed (SF x LPA x 1)	Total Proposed Watts (LPD + Display LPD)	Compliance Status
Conference/meeting/multipurpose			89	0.97	86		
Dining area	Bar/lounge/leisure dining		942	0.86	810		
Electrical/mechanical			72	0.43	31		
Lobby	General		113	0.84	95		
Lounge/breakroom	General		406	0.59	240		
Office	Enclosed less than 250 sf		635	0.74	470		
Restroom	General		360	0.63	227		
Storage room	General		560	0.38	213		
Storage room	Less than 50 sf		86	0.51	44		
Gymnasium/fitness center	Exercise area		972	0.90	875		
				Proposed Total LPD		1578.5	
	Totals				3,090	1,578	COMPLIES

Proposed Lighting Power Density

Fixture Type	Fixture ID	Quantity of Fixtures (#F)	Watts or Wattage Limit per Fixture (WpF)	Total Linear Feet (LF)	Watts per Linear Foot (WpLF)	Total Watts Proposed (#F x WpF) or (LF x WpLF)
Individual Fixtures						
Direct / indirect pendant	P1	16	40			640
Horizontal surface-mount	B1	5	31			157
Horizontal surface-mount	C1	49	14			662

Fixture Type	Fixture ID	Quantity of Fixtures (#F)	Watts or Wattage Limit per Fixture (WpF)	Total Linear Feet (LF)	Watts per Linear Foot (WpLF)	Total Watts Proposed (#F x WpF) or (LF x WpLF)
Recessed downlight	D1	10	12			120
					Proposed Total LPD	1578.5

Project Title	Bradley Heights Apartments - 2018 WSEC	Date	Oct 07, 2023
Proposed Fixtures Details	**NEW BUILDING - INTERIOR LIGHTING**		

Fixture Type/Application	Fixture ID	Location in Documents	Lamp Type		New or Existing-to-Remain
Individual Fixtures					
Direct / indirect pendant	P1	E1.00	LED		New
	Fixture Description: STEM MOUNT DOWNLIGHT - SLOPED CEILING - 4' STEM			Are these fixtures located within a daylight zone?: Yes, controls provided	
	Daylight zone location(s): Sidelit daylight zones (primary and/or secondary)			Dimming method: Continuous dimming	
	Do these fixtures require specific application lighting controls?: None required				
Horizontal surface-mount	B1	E1.01	LED		New
	Fixture Description: 4' NARROW WRAP (BOH)			Are these fixtures located within a daylight zone?: No	
	Do these fixtures require specific application lighting controls?: None required				
Horizontal surface-mount	C1	E1.01	LED		New
	Fixture Description: 8" SURFACE DOWNLIGHT			Are these fixtures located within a daylight zone?: Yes, controls provided	
	Daylight zone location(s): Sidelit daylight zones (primary and/or secondary)			Dimming method: Continuous dimming	
	Do these fixtures require specific application lighting controls?: Exit access & egress lighting per IBC Section 1006.1				
Recessed downlight	D1	E1.00	LED		New
	Fixture Description: RECESSED DOWNLIGHT - SLOPED CEILING			Are these fixtures located within a daylight zone?: Yes, controls provided	
	Daylight zone location(s): Sidelit daylight zones (primary and/or secondary)			Dimming method: Continuous dimming	
	Do these fixtures require specific application lighting controls?: None required				

Project Title	Bradley Heights Apartments - 2018 WSEC		Date	Oct 07, 2023
Lighting Power Calculation	**NEW BUILDING - EXTERIOR LIGHTING**		Compliance Verification	COMPLIES
Exterior Lighting Zone	ZONE 2	Base Site Allowance		400

Exterior Tradable Lighting Power Allowance

Tradable Surface	Tradable Surface Sub-Type	Surface Area (SF)	LPA (Watts/SF)	Linear Feet (LF)	LPA (Watts/LF)	Total Watts Allowed (LPA x SF) or (LPA x LF)	Total Tradable Proposed Watts	Tradable Compliance Status
Building grounds	Walkways 10 feet and wider	208	0.10			21		
Building entrances and exits	Entry canopies	649	0.25			162		
Uncovered parking areas and drives		129,094	0.04			5,164		
					Base Site Allowance	400		
					Totals	5,747	653	COMPLIES

Proposed Tradable Lighting Power Density

Fixture Type	Fixture ID	Tradable Surface Type	Quantity of Fixtures (#F)	Watts or Wattage Limit per Fixture (WpF)	Total Linear Feet (LF)	Watts per Linear Foot (WpLF)	Total Watts Proposed (#F x WpF) or (LF x WpLF)
Individual Fixtures							
Canopy	C1	Building entrances and exits - Entry canopies	9	14			122
Pole-mounted	SP1	Uncovered parking areas and drives -	8	59			472
Wall-mounted	X4	Building grounds - Walkways 10 feet and wider	2	5			10
Wall-mounted	X4	Building entrances and exits - Entry canopies	10	5			50
						Tradable Proposed Total	653.5

NO.	DATE	DESCRIPTION
2	5/2/25	CHANGES/PERMIT CORRECTION SET

REVISIONS

MARK STEINKE
STATE OF WASHINGTON
53010315
REGISTERED PROFESSIONAL ENGINEER
05/02/2025

ROBISON ENGINEERING, INC
19401 40TH AVE W., SUITE 302
LYNNWOOD, WA 98036
206-364-3343 TEL
REI PROJECT NO.: 1219-001
CONTACT: ARIK ESPINELI

DRAWN: KL
DESIGNED: MHS
CHECKED: PSR
APPROVED: JAY

PROJECT: BRADLEY HEIGHTS APARTMENTS CLUBHOUSE
27TH AVE SE AND 5TH ST SE PUYALLUP, WA

ROBISON ENGINEERING, INC
19401 40TH AVE W. SUITE 302
LYNNWOOD, WA 98036
PHONE:(206)364-3343

PRCNC20240278

DATE: 05/02/2025

SHEET TITLE: LIGHTING COMPLIANCE FORMS

SHEET NO. E7.00

GENERAL NOTES

1. REFERENCE TO RELATED WORK: "REF" INDICATIONS DENOTE WORK COVERED ELSEWHERE (ARCHITECTURAL, STRUCTURAL, CIVIL, ELECTRICAL, LANDSCAPE, OR KITCHEN), OR ITEM BASED ON A SPECIFIC MANUFACTURER'S DIMENSIONS (VERIFY).
2. ELECTRICAL CHARACTERISTICS: REFER TO ELECTRICAL DRAWINGS FOR ELECTRICAL CHARACTERISTICS (VOLTAGES, ETC. OF MECHANICAL EQUIPMENT, UNLESS OTHERWISE INDICATED.
3. CODES: COMPLETE INSTALLATION OF THE PLUMBING SYSTEM SHALL BE PER THE APPLICABLE BUILDING, MECHANICAL, ENERGY, PLUMBING, FIRE, AND HEALTH CODES AND REGULATIONS AS ADOPTED BY THE LOCAL AHJ.
4. PREPARE AND SUBMIT FOR REVIEW A SHOP DRAWING BASED ON FINAL STRUCTURAL SHOP DRAWINGS FOR LOCATING AND ROUTING ALL EQUIPMENT, PIPING, ETC.
   A. COORDINATE FLOOR AND BEAM PENETRATIONS WITH STRUCTURAL.
   B. COORDINATE FINAL LOCATION AND ROUTING WITH CEILING, LIGHTS, WALLS, FIRE SPRINKLER PIPING, AND OTHER TRADES WORK.
   C. INCLUDE ADDITIONAL OFFSETS, ELBOWS, ROUTING, EQUIVALENT DUCT SIZING EXCHANGE, RELOCATING, ETC. AS REQUIRED FOR A COMPLETE OPERATING MECHANICAL SYSTEM.
   D. PROVIDE SHOP DRAWINGS AT NO ADDITIONAL COST TO THE OWNER.
5. PLUMBING CONTRACTOR SHALL LOCATE AND COORDINATE EXACT LOCATION OF ALL PLUMBING EQUIPMENT WITHIN THE STRUCTURE.
6. ACCESS DOORS: COORDINATE WITH ARCHITECT AND LOCATE ALL ACCESS DOORS ON SHOP DRAWINGS PRIOR TO BEGINNING OF CONSTRUCTION. ACCESS DOORS IN FIRE RATED STRUCTURE SHALL BE FIRE RATED. VERIFY ACCESS DOOR LOCATIONS WITH GENERAL CONTRACTOR PRIOR TO BIDDING.
7. ROOF PENETRATIONS: SEE ARCHITECTURAL DRAWINGS FOR ROOF CAP, ROOF CURB, ROOF DRAIN, OVERFLOW DRAINS AND VTR DETAILS.
8. EXPOSED PIPING: PROVIDE CHROME PLATING FOR EXPOSED PIPING IN FINISHED ROOMS.
9. PENETRATIONS: PROVIDE ESCUTCHEON PLATES FOR EXPOSED PIPING PENETRATIONS AND SHEET METAL FLASHING FOR EXPOSED DUCTWORK PENETRATIONS.
10. SHAFT AND PLENUM CONNECTIONS: SEAL CONNECTIONS TO AIR SHAFTS AIRTIGHT. PROVIDE AIRTIGHT SEAL AROUND PENETRATIONS IN AIR PLENUMS.
11. LIGHT FIXTURE CLEARANCE: COORDINATE LOCATIONS OF MECHANICAL WORK TO PROVIDE CLEARANCES OVER LIGHTING FIXTURES FOR REMOVAL AND REPLACEMENT.
12. CABLE TRAYS: PIPING INSTALLED ADJACENT TO ELECTRICAL CABLE TRAYS SHALL ALLOW MINIMUM ACCESS OF 6" ABOVE AND TO THE SIDE OF CABLE TRAYS.
13. MOTORS: COMPLY WITH ENERGY CODE ENFORCED BY AHJ FOR MINIMUM EFFICIENCIES UNDER FULL LOAD.
14. ACCESS CLEARANCES FOR MAINTENANCE AND REPLACEMENT: VERIFY PHYSICAL DIMENSIONS OF EQUIPMENT TO ENSURE THAT ACCESS CLEARANCES CAN BE MET. COORDINATE LOCATIONS OF MECHANICAL WORK AND WORK OF OTHER TRADES TO PROVIDE ACCESS CLEARANCES FOR SERVICE AND MAINTENANCE.

COORDINATION REQUIREMENTS

1. IRRIGATION SYSTEM: COORDINATE IRRIGATION WATER DEMAND, MINIMUM WATER PRESSURE REQUIREMENTS & CONTROL CABINET LOCATIONS WITH IRRIGATION CONTRACTOR.
2. GAS: CONTRACTOR/GAS COMPANY SHALL FINALIZE GAS METER AND GAS SERVICE LOCATIONS. INSTALL SEISMIC GAS SHUT OFF VALVE PER GAS COMPANY REGULATIONS.
3. UTILITIES: COORDINATE WITH SITE UTILITY CONTRACTOR AND CIVIL DRAWINGS FOR UTILITY CONNECTIONS AND EXTENSIONS.
4. ROOF DRAINAGE: COORDINATE WITH GENERAL CONTRACTOR FOR ROOF DRAIN AND OVERFLOWS, SCUPPER DRAINS, AND CONDENSATE DRAINS.
5. PLUMBING FIXTURES & EQUIPMENT: COORDINATE EXACT LOCATION OF ALL PLUMBING FIXTURES & EQUIPMENT WITH ARCHITECTURAL AND OTHER TRADES DOCUMENTS.
6. PIPING: COORDINATE EXACT LOCATION OF ALL STRUCTURAL FRAMING & FOOTINGS AND FINALIZE THE EXACT ROUTING OF ALL PIPES WITH STRUCTURAL ENGINEER AT THE SITE PRIOR TO AND DURING THE CONSTRUCTION. COORDINATE UNDER GRADE PIPING & FOUNDATION DRAINAGE PIPING WITH CIVIL ENGINEER.
7. ADJUSTMENTS: ALL EQUIPMENT, MOTORS, FANS GAS BURNERS, IGNITION DEVICES, DRIVES, ETC. SHALL BE ADJUSTED AND BALANCED TO OPERATE AT SPECIFIED RATINGS AS REQUIRED FOR THIS PROJECT SITE AND ACCOUNTING FOR ELEVATION ABOVE SEA LEVEL.
8. APPROVALS: MECHANICAL AND PLUMBING EQUIPMENT SHALL BE APPROVED FOR INSTALLATION IN THE PROJECT LOCATION AND SHALL HAVE ALL CERTIFICATIONS AND RATINGS TO MEET ALL ENERGY, POLLUTION, ENVIRONMENTAL, SEISMIC, APPLICABLE CODES AND REGULATIONS. THE CONTRACTOR SHALL COORDINATE WITH MANUFACTURE SUPPLIERS AND SHALL INCLUDE ALL COSTS REQUIRED TO MEET THE BID DOCUMENTS.
9. FIRE PROTECTION: CONTRACTOR SHALL PROVIDE A FULLY DESIGNED FIRE PROTECTION SPRINKLER SYSTEM IN COMPLIANCE WITH NFPA AND LOCAL CODES. PROVIDE DESIGN, PERMITS, MATERIALS, INSTALLATION, TESTING AND ALL OTHER FOR A FULLY OPERATIONAL SYSTEM. LOCATION OF ALL PIPING TO BE COORDINATED WITH OTHER TRADES.
10. PRIOR TO PIPING INSTALLATION: PLUMBING CONTRACTOR TO COORDINATE PIPING LAYOUT WITH ALL OTHER TRADES.
11. ACCESS: COORDINATE ALL ACCESS LOCATIONS WITH GENERAL CONTRACTOR AND ARCHITECT TO ENSURE ALL REQUIRED ACCESS HATCHES, ACCESS PANELS & ACCESS COVERS ARE PROVIDED.
12. PROVIDE WATER TIGHT SEALS FOR ANY PIPING PENETRATING THE EXTERIOR FOUNDATION WALLS OR SLABS.
13. ANY DISCREPANCIES SHOULD BE REPORTED TO THE ARCHITECT IMMEDIATELY.
14. PROVIDE FIRE PROOFING FOR ALL PIPING PENETRATING FIRE BARRIER WALLS OR FLOOR SLABS.

DISINFECTION OF POTABLE WATER SYSTEM REQUIREMENTS

1. NEW OR REPAIRED POTABLE WATER SUPPLY SYSTEMS SHALL BE DISINFECTED PRIOR TO USE.
2. INITIAL COLIFORM SAMPLE IS REQUIRED PRIOR TO ADMINISTERING WATER-CHLORINE SOLUTION.
3. SECTION 609.9 ITEMS #2 OR #3 CAN BE USED PRECEDED BY AND FOLLOWED BY ITEM #1.
   3.1. NOTE FILL PORT TO ADD CHLORINE MUST BE WHERE WATER SUPPLY ENTERS BUILDING AND A FLOW METER TO MEASURE SOLUTION.
4. AFTER WATEROCHLORINE SOLUTION IS INCORPORATED INTO THE NEW OR REPAIRED WATER SUPPLY SYSTEM A 48 HOUR WAITING PERIOD MUST BE OBSERVED PRIOR TO BACTERIOLOGICAL TEST.
5. BACTERIOLOGICAL TEST SHALL BE CONDUCTED BY A LABORATORY CERTIFIED FOR DRINKING WATER IN WASHINGTON STATE AFFIRMING WATER QUALITY CONTAINS NO COLIFORM BY SAMPLE TESTING THE FURTHEST FIXTURE FROM PUBLIC WATER SOURCE AND NOT LESS THAN TWO OTHER LOCATIONS PART OF THE WATER SUPPLY SYSTEM.
6. CHLORINE LEVEL IN THE NEW OR REPAIRED WATER SUPPLY SYSTEM SHALL NOT BE LESS THAN THE MEAN AVERAGE OF THE AREA IN RELATIONSHIP FROM THE WATER PURVEYOR SOURCE.
7. WARNING: IN CASE A WATER SOFTENER IS PART OF THE COLD WATER SYSTEM, CONTRACTOR TO ENSURE THE WATER SOFTENER IS CONNECTED AND OPERATIONAL BEFORE STARTING THE DISINFECTION PROCESS. FAILURE TO FOLLOW THE INSTRUCTIONS WILL VOID THE WATER HEATER OR HEAT PUMP WARRANTY.

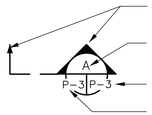
SYMBOLS & ABBREVIATIONS

GENERAL

ARCHITECTURAL BACKGROUND (THIN LINE)

NEW PIPING (HEAVY LINE)

SECTION IDENTIFICATION



INDICATES DIRECTION OF CUTTING PLANE

LETTER INDICATES SECTION (NO. INDICATES DETAIL)

SHEET NUMBER WHERE SECTION IS DRAWN

SHEET NUMBER WHERE SECTION IS TAKEN

DETAIL IDENTIFICATION

DETAIL NUMBER

DRAWING/SHEET NUMBER

EQUIPMENT

TYPICAL EQUIPMENT DESIGNATION

PIPING

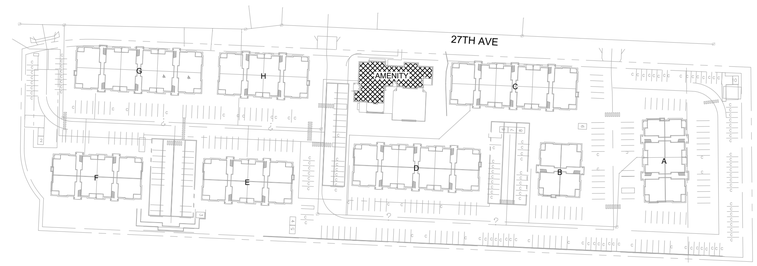
W	WASTE ABOVE GRADE
SS	SANITARY SEWER ABOVE GRADE
PSS	PUMPED SANITARY SEWER
V	VENT
CD	CONDENSATE DRAIN
-	COLD WATER (CW)
- -	HOT WATER (HW), POTABLE, 120°F
- - 140	HOT WATER, POTABLE, TEMPERATURE OTHER THAN 120°F
- - -	HOT WATER CIRCULATING (HWC), POTABLE, 120°F
- - - 140	HOT WATER CIRCULATING, POTABLE, TEMPERATURE OTHER THAN 120°F

PIPE SYMBOLS

	TOP PIPE CONNECTION
	BOTTOM PIPE CONNECTION
	PIPE TURNING UP
	PIPE TURNING DOWN/DROP
	BALL VALVE
	BALL VALVE
	CHECK VALVE
	POINT OF CONNECTION
	BREAK IN PIPING OR DUCTWORK
M	INLINE WATER METER
	PUMP
	PRESSURE GAUGE
	THERMOMETER

ABV	ABOVE
AD	AREA DRAIN
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
BFF	BELOW FINISHED FLOOR
BFP	BACKFLOW PREVENTER
BOH	BACK OF HOUSE
BP	BOOSTER PUMP
BT	BATHTUB
BTUH	BRITISH THERMAL UNIT PER HOUR
BV	BALANCING VALVE
C	COMMON
CAP	CAPACITY
CB	CATCH BASIN
CD	CONDENSATE DRAIN
CFF	CAPPED FOR FUTURE
CFM	CUBIC FEET PER MINUTE
CI	CAST IRON
CLG	CEILING, COOLING
CLW	CLOTHES WASHER
CO	CLEANOUTS
COMB	COMBUSTION
CONT	CONTINUE, CONTROL
CONTR	CONTRACTOR
COTG	CLEANOUTS TO GRADE
CP	CIRCULATING PUMP
CV	CHECK VALVE
CW	COLD WATER
D	DIAMETER
DB	DRY BULB, DECIBEL
DF	DRINKING FOUNTAIN
DFU	DRAIN FIXTURE UNITS
DI	DUCTILE IRON
DIM	DIMENSION
DN	DOWN
DS	DOWN SPOUT
DWG	DRAWING
(E)	EXISTING
EFF	EFFICIENCY
ELEC	ELECTRIC
EQUIV	EQUIVALENT
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EXT	EXTERIOR, EXTERNAL
F	FAHRENHEIT
FCO	FLOOR CLEANOUTS
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FF	FINISHED FLOOR
FLR	FLOOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FS	FLOOR SINK
FT	FEET
FU	FIXTURE UNITS
G	GAS (LOW PRESSURE)
GAL	GALLONS
GD	GARAGE DRAIN
GM	GAS METER
GPG	GRAINS PER GALLON
GPM	GALLONS PER MINUTE
GV	GATE VALVE
GWB	GYPSUM WALLBOARD
GWH	GAS WATER HEATER
HB	HOSE BIBB
HD	HEAD
HDR	HUB DRAIN
HEDV	HOSE END DRAIN VALVE
HORIZ	HORIZONTAL
HP	HORSEPOWER
HPCW	HIGH PRESSURE COLD WATER
HW	HOT WATER
HWC	HOT WATER RE-CIRCULATION
HWCP	HOT WATER CIRCULATION PUMP
HWR	HOT WATER RETURN
HWST	HOT WATER STORAGE TANK
HX	HEAT EXCHANGER
ICW	INDUSTRIAL COLD WATER
ID	INDIRECT DRAIN, INSIDE DIAMETER
IE	INVERT ELEVATION
IHW	INDUSTRIAL HOT WATER
IN	INCH
KS	KITCHEN SINK
KW	KILOWATT
L	LONG, LENGTH
LAV	LAVATORY
LB	POUND
M	WATER METER
MBH	THOUSAND BTU PER HOUR
MECH	MECHANICAL
MCA	MIN. CIRCUIT AMPACITY
MOCP	MAX. OVER CURRENT PROTECTION
MPG	MEDIUM PRESSURE GAS
MTD	MOUNTED
(N)	NEW
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OD	OUTSIDE DIMENSION/DIAMETER
	OVERFLOW DRAIN/DECK DRAIN
OPD	OVER PRESSURE DEVICE
OPNG	OPENING
P	PUMP
PD	PRESSURE DROP, PLANTER DRAIN
POC	POINT OF CONNECTION
PRV	PRESSURE REDUCING VALVE
	PRESSURE RELIEF VALVE
PS	PUMPED STORM DRAINAGE
PSIG	POUNDS PER SQUARE INCH GAUGE
PSD	PUMPED STORM DRAINAGE
PSS	PUMPED SANITARY SEWER
PSW	PUMPED SANITARY WASTE
PW	PUMPED WASTE
RD	ROOF DRAIN
REF	REFERENCE
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
RPM	REVOLUTIONS PER MINUTE
S	SINK
SCH	SCHEDULE
SCW	SOFTENED COLD WATER
SD	STORM DRAIN
SEP	SEWAGE EJECTOR PUMP
SF	SQUARE FOOT
SGSV	SEISMIC GAS SHUT-OFF VALVE
SH	SHOWER
SO	STORM OVERFLOW
SP	STATIC PRESSURE/SUMP PUMP
SR	SUDS RELIEF
SS	STAINLESS STEEL/SANITARY SEWER
SSS	SIDE SANITARY SEWER
STD	STANDARD
SQ	SQUARE
TD	TRENCH DRAIN
TMV	THERMOSTATIC MIXING VALVE
TP	TRAP PRIMER
TYP	TYPICAL
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
UR	URINAL
V	VENT
VTR	VENT THRU ROOF
W	WASTE, WATT, WIDE
WC	WATER CLOSET
WCO	WALL CLEANOUTS
WHD	WALL HYDRANT
WM	WASHING MACHINE
WSFU	WATER SUPPLY FIXTURE UNITS

SITE VICINITY PLAN



PROJECT ADDRESS:

202 27TH AVE SE
PUYALLUP, WA

PROJECT PARCEL NUMBER:

419036006

DRAWING INDEX

DWG	DESCRIPTION	INCLUDED IN SET					
		REVIEW SET 6/30/2023	OWNER CHANGE SET 9/06/2024	PERMIT RESUB 02/26/2025	PERMIT RESUB 05/01/2025		
P0.00	LEGEND, GENERAL NOTES, AND DRAWING INDEX	x	x	x	x		
P0.01	PLUMBING NOTES AND TABLES	x	x	x	x		
P0.02	PLUMBING CALCULATIONS	x	x	x	x		
P0.03	PLUMBING SCHEDULES	x	x	x	x		
P0.04	GAS LOAD CALCULATIONS AND SIZING			x	x		
P2.00	UNDERSLAB WASTE & VENT PLAN	x	x	x	x		
P2.01	MAIN FLOOR WASTE & VENT PLAN	x	x	x	x		
P2.02	ROOF WASTE & VENT PLAN	x	x	x	x		
P3.01	PLUMBING SUPPLY PLAN	x	x	x	x		
P7.00	DETAILS	x	x	x	x		
P7.01	DETAILS	x	x	x	x		

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

NO.	DATE	DESCRIPTION
2.	5/1/25	PERMIT RESUBMITTAL
1.	2/26/25	PERMIT RESUBMITTAL
		REVISIONS

REED JACKSON
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER

ROBISON ENGINEERING, INC
13901 40TH AVE W, SUITE 302
LYNNWOOD, WA 98036
206.364.3343 TEL
RED PROJECT NO.: 1219-001
CONTACT: JEFF MACGILLIVRAY

DRAWN: JM
DESIGNED: JM
CHECKED: RJ
APPROVED: JR

PROJECT:
BRADLEY HEIGHT APARTMENTS
CLUBHOUSE BUILDING

ROBISON ENGINEERING, INC
19401 40TH AVE W, SUITE 302
LYNNWOOD, WA 98036
PHONE (206) 364-3343

PRCNC20240278

DATE: 04/25/2025

SHEET TITLE:
LEGEND, GENERAL NOTES, AND DRAWING INDEX

SHEET NO.
P0.00

PLUMBING TABLES

PIPE INSULATION SCHEDULE

SERVICE	OPTION 1		OPTION 2		VAPOR RETARDER REQUIRED	NOTES
	MATERIAL	THICKNESS	MATERIAL	THICKNESS		
DOMESTIC COLD WATER, IRRIGATION WATER, CONDENSATE DRAINS, WASTE (OUTSIDE THE CONDITIONED SPACE)	MINERAL–FIBER WITH JACKET	(R–3) ½" PIPE: ½" ALL OTHER SIZES: 1"	PVC/NBR	(R–3) ½" PIPE: ½" ALL OTHER SIZES: ¾"	YES	7,8,10
ROOF DRAIN BODIES	MINERAL–FIBER OR CELLULAR GLASS WITH JACKET	1"	PVC/NBR	1"	YES	12
DOMESTIC HOT WATER AND RECIRCULATED HOT WATER (RESIDENTIAL)	MINERAL–FIBER WITH JACKET	(R–3) ½" PIPE: ½" ALL OTHER SIZES: 1"	PVC/NBR	(R–3) ½" PIPE: ½" ALL OTHER SIZES: ¾"	NO	2,10
DOMESTIC HOT WATER AND RECIRCULATED HOT WATER (NONRESIDENTIAL)	MINERAL–FIBER WITH JACKET	½"–1¼" PIPE: 1" 1½"–4" PIPE:1.5"	PVC/NBR	½"–1¼" PIPE: 1" 1½"–4" PIPE:1.5"	NO	3,9
EXPOSED SANITARY DRAINS AND DOMESTIC WATER SUPPLIES AND STOPS FOR ADA FIXTURES.	TRUEBRO LAV–GUARD	N/A	N/A	N/A	NO	11

NOTES:

1. PIPING INSULATION EXPOSED TO THE WEATHER SHALL BE PROTECTED FROM DAMAGE. CONTRACTOR SHALL PROVIDE SHIELDING FROM SOLAR RADIATION THAT CAN CAUSE DEGRADATION OF THE MATERIAL. ADHESIVE TAPE SHALL NOT BE PERMITTED.
2. PER 2019 CEC SECTION R403.5.3 (RESIDENTIAL) INSULATION FOR HOT WATER PIPE SHALL HAVE A MINIMUM R–VALUE OF R–3.
3. PIPING FROM WATER HEATER TO THE TERMINATION OF HEATED WATER SUPPLY PIPE SHALL BE INSULATED IN ACCORDANCE WITH TABLE C403.2.9.
4. ON BOTH THE INLET AND OUTLET PIPING OF A STORAGE HOT WATER HEATER, THE FIRST 8 FEET OF PIPING OR PIPING FROM WATER HEATER TO HEAT TRAP SHALL BE INSULATED.
5. HEAT TRACED PIPING SHALL BE INSULATED IN THE SAME MANNER AS NON HEAT TRACED PIPING OR PER THE HEAT TRACE MANUFACTURER'S INSTRUCTIONS.
6. TUBULAR PIPING INSULATION SHALL NOT BE REQUIRED FOR THE FOLLOWING:
   - 6.1. THE TUBING FROM THE CONNECTION AT THE TERMINATION OF THE FIXTURE SUPPLY PIPING TO A PLUMBING FIXTURE OR PLUMBING APPLIANCE.
   - 6.2. VALVES, PUMPS, STRAINERS, AND THREADED UNIONS IN PIPING THAT IS 1 INCH OR LESS IN NOMINAL DIAMETER.
   - 6.3. PIPING FROM USER–CONTROLLED SHOWER AND BATH MIXING VALVES TO THE WATER OUTLETS.
   - 6.4. COLD WATER PIPING OF A DEMAND RECIRCULATION WATER SYSTEM.
   - 6.5. TUBING FROM A HOT DRINKING–WATER HEATING UNIT TO THE WATER OUTLET.
   - 6.6. PIPING AT LOCATIONS WHERE A VERTICAL SUPPORT OF THE PIPING IS INSTALLED.
   - 6.7. PIPING SURROUNDED BY BUILDING INSULATION WITH A THERMAL RESISTANCE (R–VALUE) OF NOT LESS THAN R–3.
   - 6.8. HOT WATER PIPING THAT IS PART OF THE FINAL PIPE RUN TO THE PLUMBING FIXTURE AND IS NOT PART OF THE HEATED–WATER CIRCULATION SYSTEM CIRCULATION PATH IS NOT REQUIRED TO MEET THE MINIMUM INSULATION REQUIREMENTS OF C404.6.
7. PER 2018 UPC SECTION 312.6 NO WATER, SOIL, OR WASTE PIPE SHALL BE INSTALLED OR PERMITTED OUTSIDE OF A BUILDING, IN ATTICS OR CRAWL SPACES, OR IN AN EXTERIOR WALL UNLESS, WHERE NECESSARY, ADEQUATE PROVISION IS MADE TO PROTECT SUCH PIPE FROM FREEZING. ALL HOT AND COLD WATER PIPES OUTSIDE THE CONDITIONED SPACE SHALL BE PROVIDED WITH INSULATION WITH A MINIMUM R–VALUE OF R–3.
8. HEAT TRACING SHALL BE PROVIDED FOR COLD WATER AND IRRIGATION WATER IN UNCONDITIONED SPACES. CONTACT ENGINEERING IF NECESSARY. PER 2019 CEC SECTION C403.12.3 FREEZE PROTECTION SYSTEMS, SUCH AS HEAT TRACING OF OUTDOOR PIPING, SHALL INCLUDE AUTOMATIC CONTROLS CONFIGURED TO SHUT OFF THE SYSTEMS WHEN OUTDOOR AIR TEMPERATURES ARE ABOVE 40°F.
9. PER 2019 CEC TABLE C403.2.9 INSULATION FOR HOT WATER AND HOT WATER RECIRCULATION SHALL HAVE A THERMAL CONDUCTIVITY OF 0.21–0.28 (BTU.IN/H.FT².°F) AT OPERATING TEMPERATURE.
10. INSULATION R–VALUE SHALL MEET THE MINIMUM REQUIREMENT. THICKNESS IS BASED ON GRAINGER SAMPLE DATA FOR K–FLEX(PVC/NBR) AND OWENS CORNING(FIBER GLASS).
11. ALL ADA P–TRAPS, HOT WATER SUPPLY TUBING, AND SHUT–OFF COCKS SHALL BE PROTECTED WITH APPROVED COVERS TO PREVENT SCALDING.
12. REQUIRED BY ENGINEERING BASED ON BEST PRACTICE.
13. INSULATION IS NOT REQUIRED ON PLASTIC COLD WATER PIPING.

HANGER SPACING FOR WATER PIPING

ALL SUSPENDED WATER SUPPLY PIPE SHALL BE SUPPORTED AS FOLLOWS PER 2018 UPC TABLE 313.3:

	MAX. HORIZONTAL SPACING	MAX. VERTICAL SPACING
COPPER PIPE ≤1½"	6 FT.	10 FT.
COPPER PIPE >2"	10 FT.	10 FT.
COPPER TUBING ≤1½"	6 FT.	10 FT.
COPPER TUBING >2"	10 FT.	10 FT.
CPVC ≤ 1"	3 FT.	10 FT.
CPVC > 1¼"	4 FT.	10 FT.

HANGER SPACING FOR WASTE AND VENT PIPING

ALL SUSPENDED SANITARY AND VENT PIPE SHALL BE SUPPORTED AS FOLLOWS PER 2018 UPC TABLE 313.3:

	MAX. HORIZ. SPACING	MAX. VERT. SPACING
ABS	4 FT.	10 FT.
PVC (TYPE DWV)	4 FT.	10 FT.
CAST–IRON HUBLESS*	EVERY OTHER JOINT	15 FT.

*CAST–IRON OVER 4' SHALL BE SUPPORTED AT EVERY JOINT

PLUMBING FIXTURE FLOW RATES PER 2018 UPC CH. 4

FIXTURE TYPE	FLOW RATE	NOTES
SHOWERHEADS	1.8 GPM @ 80 PSI	
LAVATORY FAUCETS, RESIDENTIAL	1.2 GPM @ 60 PSI	1
LAVATORY FAUCETS, NON–RESIDENTIAL	0.5 GPM @ 60 PSI	2
KITCHEN FAUCETS	1.8 GPM @ 60 PSI	3
GRAVITY TANK–TYPE WATER CLOSETS	1.28 GALLONS/FLUSH	4
FLUSHOMETER TANK WATER CLOSETS	1.28 GALLONS/FLUSH	4
FLUSHOMETER VALVE WATER CLOSETS	1.28 GALLONS/FLUSH	4
ELECTROMECHANICAL HYDRAULIC WATER CLOSETS	1.28 GALLONS/FLUSH	4
URINALS	0.5 GALLONS/FLUSH	

NOTES:

1. LAVATORY FAUCETS SHALL NOT HAVE A FLOW RATE LESS THAN 0.8 GPM AT 20 PSI.
2. WHERE COMPLYING FAUCETS ARE UNAVAILABLE, AERATORS RATED AT 0.35 GPM OR OTHER MEANS MAY BE USED TO ACHIEVE REDUCTION.
3. KITCHEN FAUCETS MAY TEMPORARILY INCREASE FLOW ABOVE THE MAXIMUM RATE, BUT NOT ABOVE 2.2 GPM @ 60 PSI AND MUST DEFAULT TO A MAXIMUM FLOW RATE OF 1.8 GPM @ 60 PSI.
4. INCLUDES SINGLE AND DUAL FLUSH WATER CLOSETS WITH AN EFFECTIVE FLUSH OF 1.6 GALLONS OR LESS. SINGLE FLUSH TOILETS – THE EFFECTIVE FLUSH VOLUME SHALL NOT EXCEED 1.6 GALLONS. THE EFFECTIVE FLUSH VOLUME IS THE AVERAGE FLUSH VOLUME WHEN TESTED IN ACCORDANCE WITH ASME A112.19.2 DUAL FLUSH TOILETS – THE EFFECTIVE FLUSH VOLUME SHALL NOT EXCEED 1.6 GALLONS. THE EFFECTIVE FLUSH VOLUME IS DEFINED AS THE COMPOSITE, AVERAGE FLUSH VOLUME OF TWO REDUCED FLUSHES AND ONE FULL FLUSH. FLUSH VOLUMES WILL BE TESTED IN ACCORDANCE WITH ASME A112.19.2 AND ASME A112.19.14.

NOTE TO CONTRACTOR

DRAWINGS ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE DUCTWORK, CONNECTIONS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY FOR A COMPLETE SYSTEM.

CONTRACTOR SUBSTITUTIONS & REVISIONS

PLEASE SUBMIT PROPOSALS FOR SUBSTITUTIONS OR REVISIONS FOR REVIEW AND APPROVAL PRIOR TO ORDERING MATERIAL OR DOING WORK. FOR EQUIPMENT THAT IS SCHEDULED BY MANUFACTURER'S NAME AND CATALOG DESIGNATIONS, THE MANUFACTURER'S PUBLISHED DATA AND/OR SPECIFICATION FOR THAT ITEM ARE CONSIDERED PART OF SPECIFICATION. ENGINEERING COSTS FOR REVISING MEP PLANS SHALL BE ADDRESSED IN THE COST ANALYSIS OF THE SUBSTITUTION PROPOSAL. CONTRACTOR TO COORDINATE WITH ENGINEER AND DETERMINE ASSOCIATED DESIGN AND PERMITTING COSTS. CONTRACTOR SHALL BE RESPONSIBLE FOR OTHER COSTS ASSOCIATED WITH UNFORESEEN ISSUES RESULTING FROM SUBSTITUTIONS OR REVISIONS.

PLUMBING NOTES

City of Puyallup Development & Permitting Services ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

1. CONNECTIONS: PROVIDE PLUMBING FIXTURE CONNECTIONS TO BUILDING WASTE, VENT, COLD WATER, AND HOT WATER SYSTEM IN ACCORDANCE WITH DRAWINGS, MANUFACTURER'S RECOMMENDATIONS, AND LOCAL CODES. CONNECT TO EACH FIXTURE, EQUIPMENT, ETC. WITH ALL ACCESSORIES, VALVES, VACUUM BREAKERS, REGULATORS, UNIONS, ETC. AS REQUIRED AND AS RECOMMENDED BY THE MANUFACTURERS. REFER TO PLUMBING FIXTURE CONNECTION SCHEDULE ON PLANS.
2. HOT AND COLD: WATER PIPING CONNECTION TO EACH FIXTURE SHALL BE COLD WATER ON THE RIGHT HAND SIDE AND HOT WATER ON THE LEFT HAND SIDE.
3. HOT WATER: NON–CIRCULATING HOT WATER PIPE SHALL NOT EXCEED 10' UNLESS OTHERWISE SHOWN ON DRAWINGS.
4. VENT STACKS: COORDINATE VENT STACK WITH HVAC EQUIPMENT TO MAINTAIN MINIMUM 10' CLEARANCE FROM OUTSIDE AIR INTAKES.
5. CLEANOUTS: PROVIDE CLEANOUTS PER CURRENT UPC AND AS REQUIRED BY LOCAL JURISDICTIONS. CLEANOUTS SHALL BE LOCATED IN WALLS/FLOORS WHERE THEY ARE NOT HIGHLY VISIBLE. FLOOR CLEANOUTS IN CARPETED AREAS TO BE FITTED WITH CARPET INSERTS. LOCATIONS SHALL BE SUBMITTED TO ARCHITECT FOR APPROVAL. NOTE: NOT ALL CLEANOUTS ARE SHOWN ON THE PLUMBING DRAWINGS.
6. SUDS RELIEF: PROVIDE SUDS RELIEF IN ACCORDANCE WITH 2018 UPC SECTION 711.0, STATE AND LOCAL CODES.
7. SHUT–OFFS: PROVIDE 1/4 TURN BALL VALVE ANGLE STOP SHUT–OFF VALVES AND BRAIDED STAINLESS STEEL FLEX CONNECTORS AT HOT AND COLD WATER SUPPLY TO EACH FIXTURE. EXCEPTION: PROVIDE SCREWDRIVER STOPS AT BATH/SHOWERS.
8. TUB SPOUTS SHALL BE THREADED (NO PUSH–ON FITTINGS).
9. TRAP ARMS: PROVIDE TRAP ARMS SUCH THAT THE MAXIMUM LENGTH WILL NOT EXCEED CODE REQUIREMENTS.
10. ADA INSULATION: AT PLUMBING PIPING EXPOSED UNDER LAVATORIES, INSULATE THE EXPOSED PIPING AND TRAPS WITH PRODUCT SPECIFICALLY DESIGNED FOR THIS APPLICATION MEETING ADA REQUIREMENTS. PROVIDE HANDI–LAV GUARD OR EQUIVALENT. OFFSET P–TRAPS TO CLEAR WHEELCHAIR ACCESS.
11. GAS EQUIPMENT: GAS EQUIPMENT SHALL BE INSTALLED PER EQUIPMENT LISTINGS, APPLICABLE SFGC, SPC, LOCAL CODES & NFPA STANDARDS.
12. GAS CONNECTIONS: INSTALL FLEXIBLE QUICK DISCONNECT ASSEMBLIES FOR ALL GAS FIRED KITCHEN EQUIPMENT PER APPLICABLE SFGC, SPC, LOCAL CODES & NFPA STANDARDS. PROVIDE LOCKABLE GAS SHUT–OFF VALVES FOR FIREPLACES & BBQS IN UNATTENDED PUBLIC LOCATIONS IN THE BUILDING.
13. GAS PIPING CONNECTIONS TO WATER HEATERS, BOILERS AND FURNACES SHALL HAVE DIRT LEGS AND UNIONS PROVIDED ON APPLIANCE SIDE OF SHUTOFF VALVE.
14. GAS PIPING INSTALLATION: STEEL OR MALLEABLE IRON FUEL LINES 2" OR SMALLER SHALL BE ASSEMBLED USING THREAD SEALANT SUITABLE FOR NATURAL GAS. GAS PIPING LARGER THAN 2" SHALL HAVE WELDED FITTINGS.
15. GAS PIPING UNDERGROUND: WHERE INSTALLED BELOW GRADE THROUGH THE OUTER FOUNDATION OR BASEMENT WALL OF A BUILDING, SHALL BE ENCASED IN A PROTECTIVE PIPE SLEEVE. THE ANNULAR SPACE BETWEEN THE GAS PIPING AND THE SLEEVE SHALL BE SEALED.
16. GAS PIPING ABOVE GROUND: WHERE PASSING THROUGH AN OUTSIDE WALL, GAS PIPING SHALL BE PROTECTED AGAINST CORROSION BY COATING OR WRAPPING WITH AN INERT MATERIAL. WHERE PIPING IS ENCASED IN A PROTECTIVE PIPE SLEEVE, THE ANNULAR SPACE BETWEEN THE PIPING AND THE SLEEVE SHALL BE SEALED.
17. GAS PIPE SUPPORT: FUEL LINES SHALL BE SUPPORTED OR STRAPPED, AND SHALL BE PLUMB AND SQUARE.
18. GAS PIPING ON ROOFTOPS SHALL BE SUPPORTED AND ANCHORED TO THE ROOF.
19. GAS PIPING SHALL NOT BE BURIED UNDER A BUILDING, SLAB OR OTHER STRUCTURE.
20. GAS PIPING PROTECTIVE COATING: PAINT ALL EXTERIOR EXPOSED GAS PIPING WITH TWO COATS OF RUST INHIBITIVE PAINT. COLOR: GRAY.
21. WATER HAMMER ARRESTORS: PROVIDE AT THE END OF HOT AND COLD WATER LINES SERVING TWO OR MORE FIXTURES; SIZE IN ACCORDANCE WITH PLUMBING AND DRAINAGE INSTITUTE (PDI) REQUIREMENTS. WATER HAMMER ARRESTORS ARE REQUIRED FOR QUICK CLOSING VALVES, SUCH AS LAUNDRY WASHERS, FLUSH VALVES (PUBLIC TOILETS), ETC.
22. TRAP PRIMERS AS SPECIFIED: PROVIDE TRAP PRIMERS AND PIPING FOR FLOOR DRAINS, FLOOR SINKS, AREA DRAINS & HUB DRAINS. ARRANGE PIPING TO ACHIEVE EQUAL FLOW TO EACH DRAIN AND FLOOR SINK FOR TRAP PRIMERS SERVING MULTIPLE DRAINS AND FLOOR SINKS. COORDINATE EXACT LOCATIONS WITH ARCHITECT & ELECTRICAL ENGINEER.
23. P–TRAPS: ALL EXPOSED P–TRAPS SHALL BE CHROME–PLATED BRASS. P–TRAPS SERVING HANDICAPPED COUNTER TOP LAVATORIES SHALL BE INSULATED.
24. THROUGHOUT THE PROJECT PROVIDE BALL VALVES. GATE VALVES SHALL NOT BE USED. NO EXCEPTIONS.
25. HOT WATER RECIRCULATING BALANCING VALVES SHOULD BE BELL & GOSSETT CIRCUIT SETTER (WATTS OR EQUAL) WITH INTEGRAL READOUT PORTS, ADJUSTMENT KNOB, DRAIN CONNECTION, AND POSITIVE SHUTOFF.
26. DISASSEMBLY PROVISIONS: PROVIDE UNIONS OR FLANGES AT PIPING CONNECTIONS TO EQUIPMENT, COILS, TRAPS, CONTROL VALVES, AND OTHER COMPONENTS TO ALLOW DISASSEMBLY FOR MAINTENANCE.
27. REDUCERS: PROVIDE AS REQUIRED FROM LINE PIPE SIZE TO EQUIPMENT, TRAP, COIL, AND CONTROL VALVE CONNECTION SIZES.
28. VALVE TAGS: PROVIDE VALVE TAGS PER SPECIFICATIONS TO IDENTIFY VALVE AND THE AREA IT SERVES.
29. OFFSETS: PROVIDE FOR BRANCH LINES TO EQUIPMENT.
30. ALL TEMPERATURE MIXING VALVES SHALL COMPLY WITH ASSE–1070 SAFETY STANDARDS.
31. PROVIDE PIPE MARKER WITH DIRECTION OF FLOW. LABEL "NON–POTABLE WATER DO NOT DRINK" CLEARLY ON NON–POTABLE WATER PIPING.
32. PROVIDE EXPANSION LOOPS/EXPANSION JOINTS IN PIPING PER 2018 UPC TABLE 313.3.3 AND MANUFACTURER INSTALLATION INSTRUCTIONS.
33. PROVIDE APPROVED PIPE HANGERS & PIPE SUPPORTS IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND 2018 UPC TABLES 313.3 & 313.6. SUBMIT FOR APPROVAL.
34. DIELECTRIC UNIONS: PROVIDE AT CONNECTIONS OF DISSIMILAR PIPE.
35. REFRIGERANT PIPING: PROVIDE SIZING & INSTALLATION IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
36. CONDENSATE DRAIN: PROVIDE A P–TRAP FOR EACH HVAC UNIT CONDENSATE PAN WITH PLUG TEES FOR CLEANING. CONDENSATE DRAINS SHALL BE DISCHARGED TO AN INDIRECT WASTE OR OUTSIDE.
37. PIPING & EQUIPMENT SUPPORTS/HANGERS & SEISMIC RESTRAINTS TO BE DESIGNED BY DESIGN BUILT CONTRACTOR.
38. IF NEEDED, PROVIDE VACUUM BREAKERS AT ALL HOSE BIBBS.
39. FLOOR DRAINS OR SIMILAR TRAPS DIRECTLY CONNECTED TO THE DRAINAGE AND SUBJECT TO INFREQUENT USE SHALL BE PROVIDED WITH AN APPROVED AUTOMATIC MEANS OF MAINTAINING THEIR WATER SEALS IN ACCORDANCE WITH 2018 UPC 1007.0.
40. INSULATION MATERIAL SHALL MEET CITY OF FERNDALE QUALITY STANDARDS.
41. ALL PIPING AND DUCTWORK SHALL BE INSULATED CONSISTENT WITH THE 2018 WASHINGTON STATE ENERGY CODE.
42. BUILDING DRAIN AND VENT PIPING MATERIALS SHALL COMPLY WITH 2018 UPC 701.0 AND 903.0.
43. ALL SANITARY SYSTEM MATERIAL SHALL BE LISTED BY AN APPROVED LISTING AGENCY.
44. ALL STORAGE WATER HEATING EQUIPMENT SHALL BE PROVIDED WITH AN APPROVED, LISTED EXPANSION TANK OR OTHER DEVICE DESIGNED FOR INTERMITTENT OPERATION FOR THERMAL EXPANSION CONTROL PER 2018 UPC 608.3.
45. WATER HEATERS SHALL BE ANCHORED OR STRAPPED TO RESIST HORIZONTAL DISPLACEMENTS DUE TO SEISMIC MOTION PER 2018 UPC 507.2.
46. MATERIAL EXPOSED WITHIN A DUCT OR PLENUM SHALL COMPLY WITH 2018 IMC 602.2.1.
47. HVAC EQUIPMENT AND WATER HEATERS SHALL COMPLY WITH 2018 IMC CHAPTER 3.
48. BOILERS SHALL COMPLY WITH ALL THE REQUIREMENTS OF 2018 IMC CHAPTER 10.
49. PROVIDE EXPANSION TANKS FOR BOILERS PER 2018 IMC SECTION 1009.0.
50. SHOWERS AND TUB/SHOWER COMBINATIONS SHALL BE PROVIDED WITH MIXING VALVES PER 2018 UPC 408.0.
51. PLUMBING FIXTURES AND FITTINGS SHALL COMPLY WITH CITY OF FERNDALE WATER CONSERVATION STANDARDS.
52. CONTRACTOR SHALL PROVIDE FIRESTOPPING AT PENETRATIONS AS NECESSARY TO RETAIN THE FIRE RATING OF ALL ASSEMBLIES. ALL WORK SHALL BE IN COMPLIANCE WITH CODE REQUIREMENTS FOR THE BUILDING CONSTRUCTION TYPE.
53. ALL GARAGE DRAINS, TRASH ROOMS DRAINS & GARAGE TRENCH DRAINS SHALL BE TAKEN TO SAND/OIL INTERCEPTOR(S) BEFORE CONNECTING TO THE SANITARY SEWER SYSTEM.
54. PLUMBING CONTRACTOR SHALL PROVIDE REDUCED PRESSURE BACKFLOW PREVENTERS OR OTHER APPROVED BACKFLOW PREVENTION DEVICE WHERE REQUIRED BY HEALTH AUTHORITIES, FOOD SERVICE DRAWINGS, APPLIANCE MANUFACTURER INSTRUCTIONS AND BY CODE.

    PROVIDE REQUIRED & PROPER BACK FLOW PREVENTERS AS SPECIFIED FOR THE APPLIANCES INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:

    a. ICE MACHINES AND ICE MAKERS
    b. CARBONATED BEVERAGE DISPENSING SYSTEMS
    c. COFFEE BREWERS
    d. ESPRESSO MACHINES
    e. WATER FILTERS
    f. STEAM OR HOT WATER BOILERS
    g. IRRIGATION SYSTEM
    h. FIRE PROTECTION SYSTEM
    i. CHEMICAL TREATMENT SYSTEM
    j. SOAP/CHEMICAL DISPENSER SYSTEM
    k. COMMERCIAL WASHER

APPLICABLE CODES

THE FOLLOWING PROJECT DESIGN IS BASED ON THE FOLLOWING CODES:

–2018 INTERNATIONAL BUILDING CODE (IBC)
–2018 INTERNATIONAL MECHANICAL CODE (IMC)
–2018 UNIVERSAL PLUMBING CODE (UPC)
–2018 WASHINGTON STATE ENERGY CODE (WSEC) – COMMERCIAL PROVISIONS

NO.	DATE	DESCRIPTION
2.	5/1/25	PERMIT RESUBMITTAL
1.	2/26/25	PERMIT RESUBMITTAL

REVISIONS

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206.364.3343 TEL
RED PROJECT NO.: 1219-001
CONTACT: JEFF MACGILLIVRAY

DRAWN:	DESIGNED:	CHECKED:	APPROVED:
JM	JM	RJ	JR

PROJECT: BRADLEY HEIGHT APARTMENTS
CLUBHOUSE BUILDING

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PRCNC20240278

DATE: 04/25/2025

SHEET TITLE: PLUMBING NOTES AND TABLES

SHEET NO. P0.01

PLUMBING CALCULATIONS

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

CALCULATIONS BASED ON 2018 UPC													
Public Fixtures													
FIXTURE	FIXTURE UNITS				TOTAL QTY	TOTAL FIXTURE UNITS							
	TOTAL	CW	HW	W/V	OF FIXTURES	SERVICE	CW ONLY	HW ONLY	W/V ONLY				
LAVATORY	1	0.75	0.75	1	2	2	1.5	1.5	2				
WATER CLOSET (FLUSH VALVE)	5	5	0	6	4	20	20	0	24				
URINAL	4	4	0	5	2	8	8	0	10				
SHOWER	2	1.5	1.5	2	1	2	1.5	1.5	2				
DRINKING FOUNTAIN	0.5	0.5	0	1	1	0.5	0.5	0	1				
KITCHEN SINK	1.5	1.125	1.125	2	2	3	2.25	2.25	4				
MOP SINK	3	2.25	2.25	3	1	3	2.25	2.25	3				
HOSE BIB	2.5/1	2.5/1	0	0	4	5.5	5.5	0	0				
4" FLOOR DRAIN	0	0	0	8	1	0	0	0	8				
					TOTAL:	44	41.5	7.5	54				
	TOTAL	CW	HW	W/V									
TOTAL FIXTURE UNITS:	44	41.5	7.5	54									
PEAK FLOW:	51 GPM												
	SUPPLY	WASTE											
REQUIRED SERVICE SIZE IN BUILDING:	2"	4"											

BRADLEY HEIGHTS CLUBHOUSE - WATER SUPPLY PRESSURE CALCULATIONS ARE BASED ON 2018 UPC APPENDIX A		
FROM STREET TO RPBP		
STREET PRESSURE, PSI		**75**
MINIMUM STREET PRESSURE, PSI		**75**
ASSUME +/- 5 PSI FLUCTUATION		
EQUIPMENT LOSSES, PSI		
WATER METER LOSS		**4**
BACKFLOW PREVENTER		**10**
SITE SERVICE LINE (ESTIMATE)		
PIPING SYSTEM LENGTH, FEET	50	
FITTING ALLOWANCE, FEET	12.5	
FROM STREET TO RPBP		
ZONE FRICTION LOSS FACTOR, PSI/100'	**7.0**	
TOTAL ZONE FRICTION LOSS, PSI		**4.38**
MINIMUM PRESSURE AT RPBP, PSI		**56.63**
FROM RPBP TO FURTHEST FIXTURE UNIT		
MINIMUM PRESSURE AT END PREVIOUS ZONE, PSI		**56.6**
STATIC HEAD, PSI		
TOTAL ELEVATION GAIN, FT	5	**2.2**
PIPING FRICTION LOSSES		
PIPING SYSTEM LENGTH, FEET	240	
FITTING ALLOWANCE, FEET	60	
ZONE FRICTION LOSS FACTOR, PSI/100'	**7.0**	
TOTAL ZONE FRICTION LOSS, PSI		**21**
MINIMUM PRESSURE AT FURTHEST FIXTURE, PSI		**33.5**

NO.	DATE	DESCRIPTION
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1.	2/26/25	PERMIT RESUBMITTAL

REVISIONS

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PRCNC20240278

DATE: 04/25/2025

SHEET TITLE:
PLUMBING
CALCULATIONS

SHEET NO.
P0.02

PLUMBING SCHEDULES

PIPE MATERIALS

PIPE TYPE	MATERIAL	JOINT	NOTES
WATER DISTRIBUTION PIPING	COPPER, TYPE L	SOLDERED	2
WASTE AND VENT PIPING	SCHEDULE 40 SOLID CORE PVC	SOLVENT CEMENT	1,3
CONDENSATE DRAIN PIPING	COPPER, TYPE M	SOLDERED OR PROPRESS FITTINGS	
GAS PIPING	SCHEDULE 40 STEEL	SOLDERED OR THREADED	

NOTES:
1. ALL SANITARY SYSTEM MATERIALS SHALL BE LISTED BY AN APPROVED LISTING AGENCY.
2. PROVIDE THERMAL EXPANSION LOOPS FOR ALL WATER PIPING IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS.
3. PROVIDE CAST IRON PIPING FOR WASTE DISCHARGE EXCEEDING 110 DEGREES FAHRENHEIT.

PIPE SIZING SCHEDULE - COPPER TYPE L AT 7.0 PSI/100 FEET

PIPE SIZE	COLD WATER, FLUSH TANK			HOT WATER			COLD WATER, FLUSH VALVE		
	FIXTURE UNITS	FLOW, GPM	VELOCITY, FPS	FIXTURE UNITS	FLOW, GPM	VELOCITY, FPS	FIXTURE UNITS	FLOW, GPM	VELOCITY, FPS
1/2"	3.0	2.8	4.0	3.0	2.8	4.0	---	---	---
3/4"	9.0	7.5	5.2	8.5	7.0	4.9	---	---	---
1"	22.0	16.0	6.4	16.0	12.2	5.0	---	---	---
1-1/4"	45.0	27.0	7.3	27.0	18.5	5.0	9	27	7.3
1-1/2"	100.0	43.0	8.0	43.0	26.0	5.0	30	42.5	8
2"	230.0	75.0	8.0	112.0	45.0	5.0	125.0	74.0	8.0
2-1/2"	440.0	116.0	8.0	215.0	72.0	5.0	340.0	116.0	8.0
3"	750.0	160.0	8.0	350.0	100.0	5.0	680.0	160.0	8.0
4"	1600.0	280.0	8.0	800.0	175.0	5.0	1600.0	280.0	8.0
6"	5250.0	650.0	8.0	2750.0	400.0	5.0	5250.0	650.0	8.0

REDUCED PRESSURE BACKFLOW ASSEMBLY

EQUIP NO.	QTY	SERVICE	INLET/OUTLET SIZE	BASIS OF DESIGN	NOTES
RPBP-1	1	DOMESTIC WATER	2"	ZURN WILKINS 375XL	1,2

NOTES:
1. INSTALL IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS.
2. ALL DOMESTIC WATER EQUIPMENT SHALL BE NSF-61 LISTED.

EXPANSION TANK

EQUIP NO.	SERVICE	CAPACITY GAL.	PRE-CHARGE PRESSURE, PSI	TANK SIZE		OPERATING WEIGHT, LBS	BASIS OF DESIGN	NOTES
				DIAMETER	HEIGHT			
ET-1	DOMESTIC HOT WATER	4.5	50	11	15	9	THERM-X-TROL ST-12	1

NOTES:
1. INSTALL PER MANUFACTURER'S RECOMMENDATIONS

WATER HEATER - ELECTRIC

EQUIP NO.	SERVICE	GPH RECOVERY AT 100°F TR	OPERATING WEIGHT (LBS)	ELECTRICAL				BASIS OF DESIGN	NOTES
				VOLTAGE	ELEMENT SIZE	# OF ELEMENTS	AMPS		
WH-1	CLUBHOUSE	50	596	208V/3P	24KW	6	66.6	AO SMITH DRE-52-12	1

NOTES:
1. INSTALL PER MANUFACTURERS REQUIREMENTS

HOT WATER CIRCULATION PUMP SCHEDULE

EQUIP NO.	SERVICE	TYPE	FLOW, GPM	HEAD, FT	PUMP RPM	ELECTRICAL		WEIGHT, LBS	BASIS OF DESIGN	NOTES
						VOLTAGE	HP			
HWCP-1	DOMESTIC HOT WATER	INLINE	0.5	8	VARIABLE	120V/1P	.2	22	BELL & GOSSETT - ECOCIRC 19-16	1

NOTES:
1. ALL STAINLESS STEEL, MAINTENANCE FREE, SUITABLE FOR POTABLE WATER APPLICATION.

NO.	DATE	DESCRIPTION
2.	5/1/25	PERMIT RESUBMITTAL
1.	2/26/25	PERMIT RESUBMITTAL

REVISIONS

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PRCNC20240278

DATE: 04/25/2025

SHEET TITLE: PLUMBING SCHEDULES

SHEET NO. P0.03

GAS LOAD CALCULATIONS AND SIZING

City of Puyallup Development & Permitting Services ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

GAS FIXTURE SCHEDULE

EQUIP NO.	SERVICE	INPUT BTUH	BASIS OF DESIGN (1)
BBQ-1,2	BBQ SHELTER	50,000	TBD
FP-1	COURTYARD	150,000	TBD
POOL EQUIP	POOL/SPA	400,000	REFERENCE POOL/SPA DESIGN DRAWINGS

NOTES:(1) EQUIPMENT MAY BE SUBSTITUTED FOR EQUAL OR BETTER MANUFACTURER. REFER TO EQUIPMENT SUBMITTALS FOR FINAL SELECTIONS. EQUIPMENT TO BE APPROVED BY ARCHITECT PRIOR TO INSTALLATION.

NATURAL GAS PIPE SIZING

PIPE SIZE (INCHES)	LOW PRESSURE GAS CAPACITY (CFH) (INLET PRESSURE < 2 PSI) (1)(2)
½"	26
¾"	54
1"	102
1¼"	209
1½"	313
2"	602
3"	960

(1) SEE PLUMBING PLAN FOR PIPE SIZE

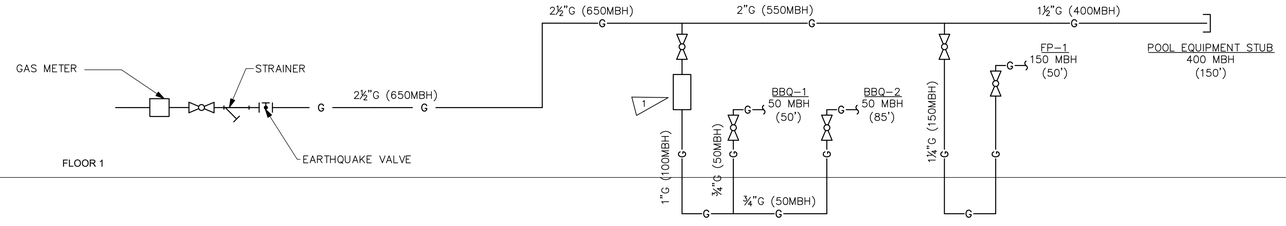
(2) VALUES FOR LOW PRESSURED GAS PIPING BASED ON 200' TOTAL DEVELOPED LENGTH, 0.60 SPECIFIC GRAVITY, 0.5 IN W.C. PRESSURE DROP, AND METALLIC PIPE, 2018 IFGC TABLE 402.4(1)

GAS LOAD

TAG #	EQUIPMENT NAME	QTY	DEMAND (MBH)
BBQ1,2	BBQ	2	2 (50) = 100
FP-1	FIREPLACE	1	150
POOL EQUIP	POOL EQUIP (ESTIMATED)	1	400
	TOTAL:		650

GAS RISER DIAGRAM

ROOF



GENERAL NOTES:

1. LENGTH FROM METER TO FURTHEST FIXTURE IS 180 FEET. DISTANCES FROM THE METER TO MOST REMOTE APPLIANCES ARE LABELED ON THE RISER DIAGRAM.
2. PROVIDE CONNECTION TO EACH PIECE OF EQUIPMENT WITH UNION, GAS COCK(TYP), AND SEDIMENT TRAP INSTALLED AS CLOSE AS POSSIBLE TO THE APPLIANCE INLET WITH THE PLUMBING DESIGN. EXCEPTIONS: APPLIANCES WITH AN INTERNAL SEDIMENT TRAP, (OR) RANGES AND GAS FIREPLACES.
3. PROVIDE VENTS TO OUTDOORS FOR REGULATORS PER LOCAL JURISDICTION AND NFPA-54. ROUTING OF VENTS IS NOT SHOWN ON THE PLANS.

FLAG NOTES:

1. PROVIDE GAS TIMER AND EMERGENCY SHUTOFF SWITCH,

1 ADDED GAS SIZING

NO.	DATE	DESCRIPTION
2.	5/1/25	PERMIT RESUBMITTAL
1.	2/26/25	PERMIT RESUBMITTAL

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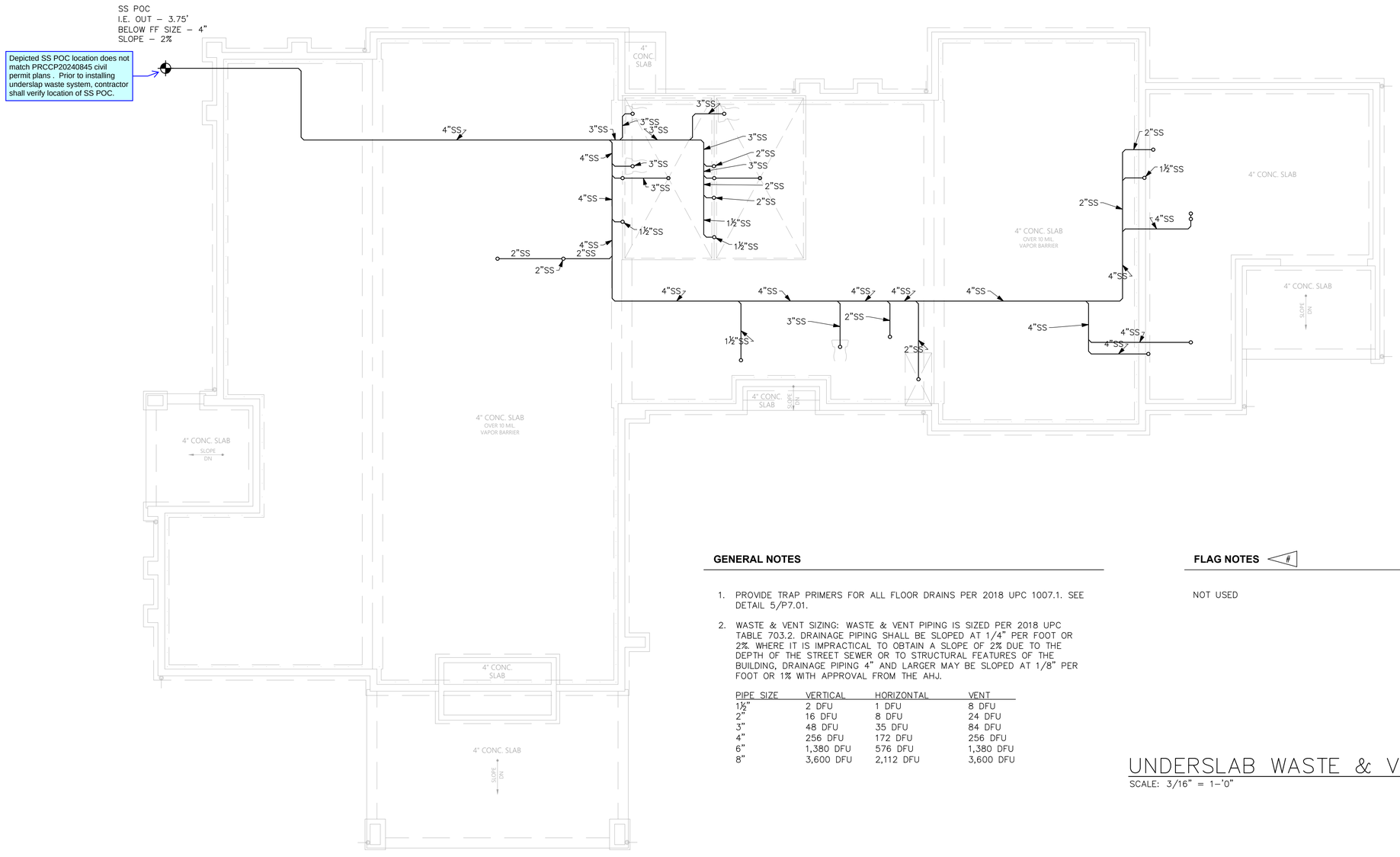
PRCNC20240278

DATE: 04/25/2025

SHEET TITLE: GAS LOAD CALCULATIONS AND SIZING

SHEET NO. P0.04



GENERAL NOTES

1. PROVIDE TRAP PRIMERS FOR ALL FLOOR DRAINS PER 2018 UPC 1007.1. SEE DETAIL 5/P7.01.
2. WASTE & VENT SIZING: WASTE & VENT PIPING IS SIZED PER 2018 UPC TABLE 703.2. DRAINAGE PIPING SHALL BE SLOPED AT 1/4" PER FOOT OR 2%. WHERE IT IS IMPRACTICAL TO OBTAIN A SLOPE OF 2% DUE TO THE DEPTH OF THE STREET SEWER OR TO STRUCTURAL FEATURES OF THE BUILDING, DRAINAGE PIPING 4" AND LARGER MAY BE SLOPED AT 1/8" PER FOOT OR 1% WITH APPROVAL FROM THE AHJ.

PIPE SIZE	VERTICAL	HORIZONTAL	VENT
1½"	2 DFU	1 DFU	8 DFU
2"	16 DFU	8 DFU	24 DFU
3"	48 DFU	35 DFU	84 DFU
4"	256 DFU	172 DFU	256 DFU
6"	1,380 DFU	576 DFU	1,380 DFU
8"	3,600 DFU	2,112 DFU	3,600 DFU

FLAG NOTES

NOT USED

UNDERSLAB WASTE & VENT PLAN

SCALE: 3/16" = 1'-0"

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

NO.	DESCRIPTION	DATE
1.	PERMIT RESUBMITTAL	2/26/25
2.	PERMIT RESUBMITTAL	5/1/25

REVISIONS

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STATE OF WASHINGTON
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REI PROJECT NO.: 1219-001
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DESIGNED: JM
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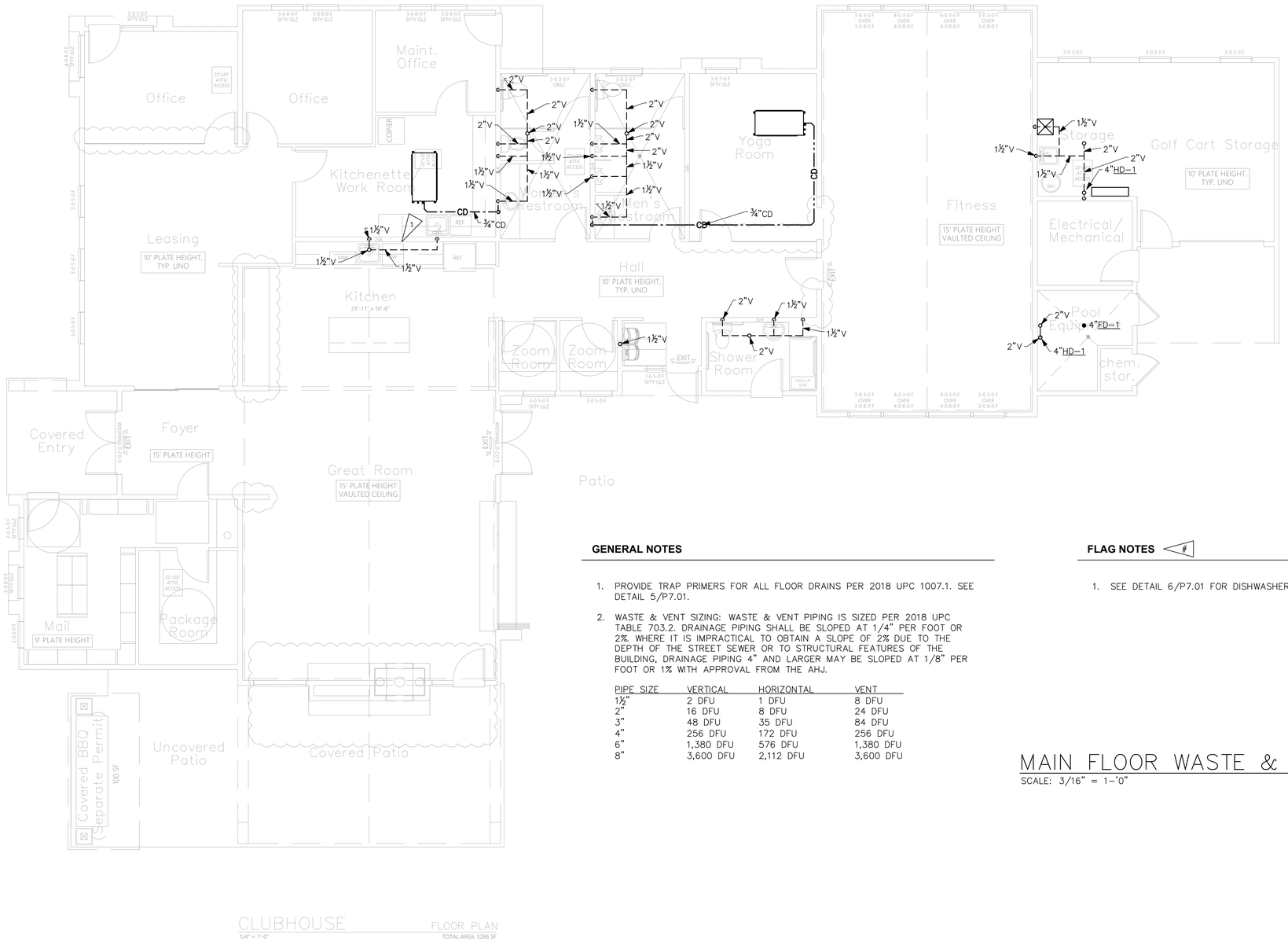
PRCNC20240278

DATE: 04/25/2025

SHEET TITLE: UNDERSLAB WASTE & VENT PLAN

SHEET NO. P2.00



CLUBHOUSE FLOOR PLAN

1/4" = 1'-0" TOTAL AREA: 5286 SF

GENERAL NOTES

1. PROVIDE TRAP PRIMERS FOR ALL FLOOR DRAINS PER 2018 UPC 1007.1. SEE DETAIL 5/P7.01.
2. WASTE & VENT SIZING: WASTE & VENT PIPING IS SIZED PER 2018 UPC TABLE 703.2. DRAINAGE PIPING SHALL BE SLOPED AT 1/4" PER FOOT OR 2%. WHERE IT IS IMPRACTICAL TO OBTAIN A SLOPE OF 2% DUE TO THE DEPTH OF THE STREET SEWER OR TO STRUCTURAL FEATURES OF THE BUILDING, DRAINAGE PIPING 4" AND LARGER MAY BE SLOPED AT 1/8" PER FOOT OR 1% WITH APPROVAL FROM THE AHJ.

PIPE SIZE	VERTICAL	HORIZONTAL	VENT
1½"	2 DFU	1 DFU	8 DFU
2"	16 DFU	8 DFU	24 DFU
3"	48 DFU	35 DFU	84 DFU
4"	256 DFU	172 DFU	256 DFU
6"	1,380 DFU	576 DFU	1,380 DFU
8"	3,600 DFU	2,112 DFU	3,600 DFU

FLAG NOTES

1. SEE DETAIL 6/P7.01 FOR DISHWASHER WASTE CONNECTION DETAIL.

MAIN FLOOR WASTE & VENT PLAN

SCALE: 3/16" = 1'-0"

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

NO.	DATE	DESCRIPTION
2.	5/1/25	PERMIT RESUBMITTAL
1.	2/26/25	PERMIT RESUBMITTAL

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ROBISON ENGINEERING, INC
19401 40TH AVE W., SUITE 302
LYNNWOOD, WA 98036
206.364.3343 TEL
RE PROJECT NO.: 1219-001
CONTACT: JEFF MacGILLIVRAY

DRAWN: JM
DESIGNED: JM
CHECKED: RJ
APPROVED: JR

PROJECT: BRADLEY HEIGHT APARTMENTS
CLUBHOUSE BUILDING

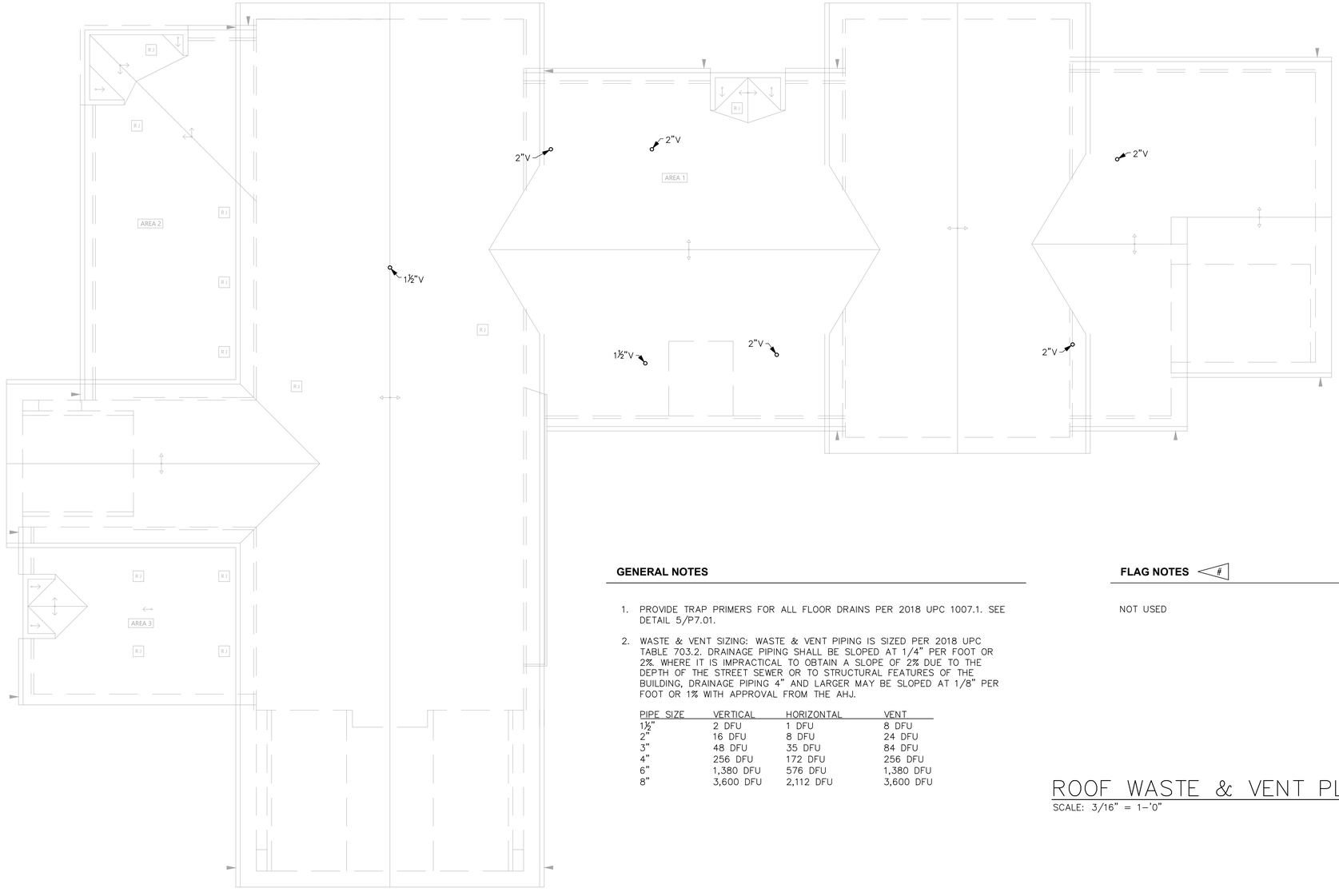
ROBISON ENGINEERING, INC
19401 40TH AVE W, SUITE 302
LYNNWOOD, WA 98036
PHONE: (206) 364-3343

PRCNC20240278

DATE: 04/25/2025

SHEET TITLE: MAIN FLOOR WASTE & VENT PLAN

SHEET NO. P2.01



GENERAL NOTES

1. PROVIDE TRAP PRIMERS FOR ALL FLOOR DRAINS PER 2018 UPC 1007.1. SEE DETAIL 5/P7.01.

2. WASTE & VENT SIZING: WASTE & VENT PIPING IS SIZED PER 2018 UPC TABLE 703.2. DRAINAGE PIPING SHALL BE SLOPED AT 1/4" PER FOOT OR 2%. WHERE IT IS IMPRACTICAL TO OBTAIN A SLOPE OF 2% DUE TO THE DEPTH OF THE STREET SEWER OR TO STRUCTURAL FEATURES OF THE BUILDING, DRAINAGE PIPING 4" AND LARGER MAY BE SLOPED AT 1/8" PER FOOT OR 1% WITH APPROVAL FROM THE AHJ.

PIPE SIZE	VERTICAL	HORIZONTAL	VENT
1½"	2 DFU	1 DFU	8 DFU
2"	16 DFU	8 DFU	24 DFU
3"	48 DFU	35 DFU	84 DFU
4"	256 DFU	172 DFU	256 DFU
6"	1,380 DFU	576 DFU	1,380 DFU
8"	3,600 DFU	2,112 DFU	3,600 DFU

FLAG NOTES #

NOT USED

ROOF WASTE & VENT PLAN

SCALE: 3/16" = 1'-0"

CONTRACTOR NOTE
Air intakes shall be a minimum of 10 feet from a hazardous or noxious contaminated source, per State Mechanical Code.

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

NO.	DATE	DESCRIPTION
2.	5/1/25	PERMIT RESUBMITTAL
1.	2/26/25	PERMIT RESUBMITTAL

REVISIONS

R.E.D. JACKSON
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER

ROBISON
ENGINEERING, INC
19401 40TH AVE W., SUITE 302
LYNNWOOD, WA 98036
206.364.3343 TEL
RE1 PROJECT NO.: 1219.001
CONTACT: JEFF MacGILLIVRAY

DRAWN: JM
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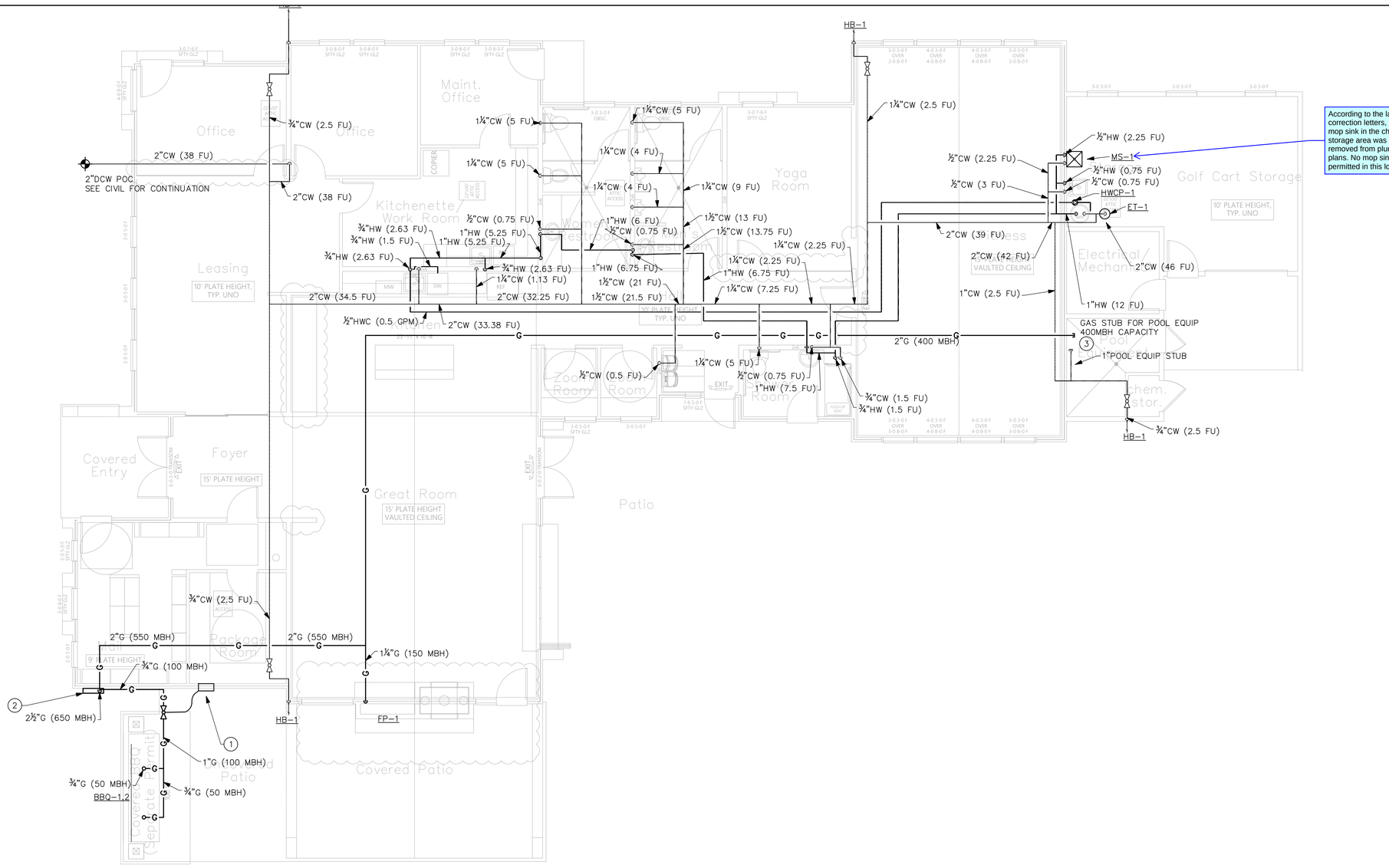
PRCNC20240278

DATE: 04/25/2025

SHEET TITLE:
ROOF
WASTE & VENT
PLAN

SHEET NO.
P2.02



According to the last two correction letters, the mop sink in the chemical storage area was to be removed from plumbing plans. No mop sink permitted in this location.

GENERAL NOTES

1. PROVIDE EXPANSION LOOPS FOR ALL WATER PIPING PER THE MANUFACTURER'S INSTRUCTIONS. SEE DETAIL 3/P7.01.
2. INSTALL HEAT TRACE ON SUPPLY PIPE IN NON CONDITIONED SPACES.

FLAG NOTES

NOT USED

CLUBHOUSE PLUMBING SUPPLY PLAN

SCALE: 3/16" = 1–'0"

NO.	DESCRIPTION	DATE
2.	PERMIT RESUBMITTAL	5/1/25
1.	PERMIT RESUBMITTAL	2/26/25

REVISIONS

REED JACKSON — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER

ROBISON ENGINEERING, INC
19401 40TH AVE W, SUITE 302
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PROJECT: BRADLEY HEIGHT APARTMENTS
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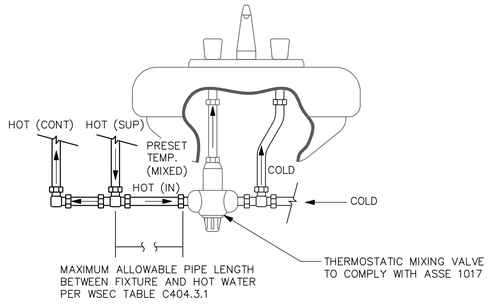
PHONE:(206)364-3343

PRCNC202402778

DATE: 04/25/2025

SHEET TITLE: CLUBHOUSE PLUMBING SUPPLY PLAN

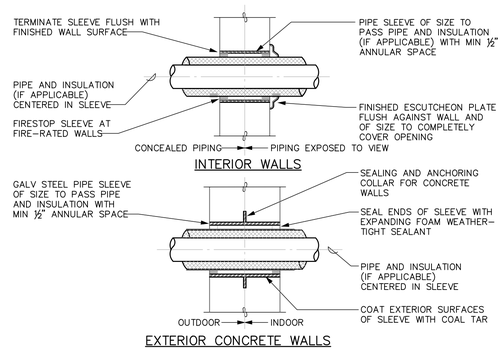
SHEET NO. P3.01



THERMOSTATIC MIXING VALVE

SCALE: NONE

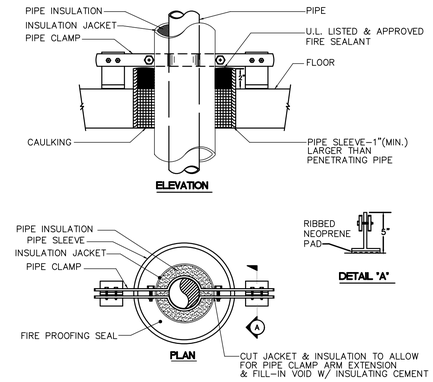
9



PIPE SLEEVES THROUGH WALLS

SCALE: NONE

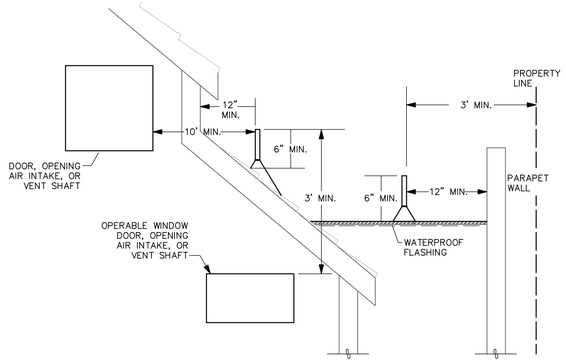
8



RISER PIPE SUPPORT

SCALE: NONE

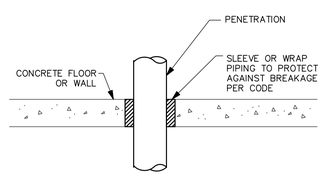
7



VENT TERMINATION CLEARANCE

SCALE: NONE

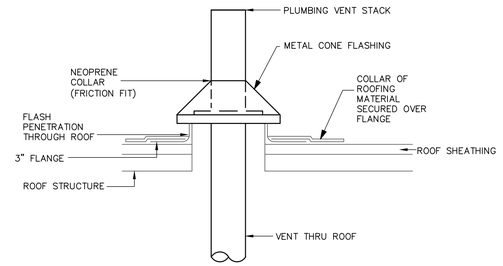
6



PIPE SLAB PENETRATION

SCALE: NONE

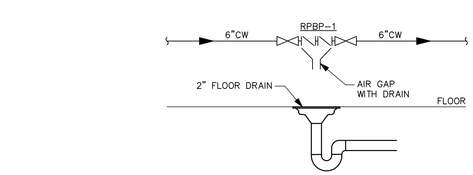
5



VENT THROUGH ROOF

SCALE: NONE

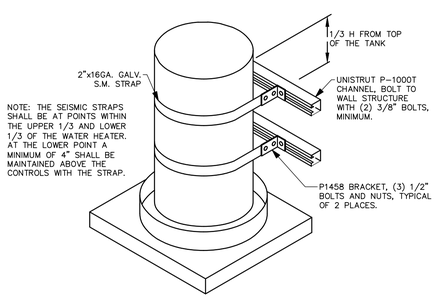
4



REDUCED PRESSURE BACKFLOW PREVENTER

SCALE: NONE

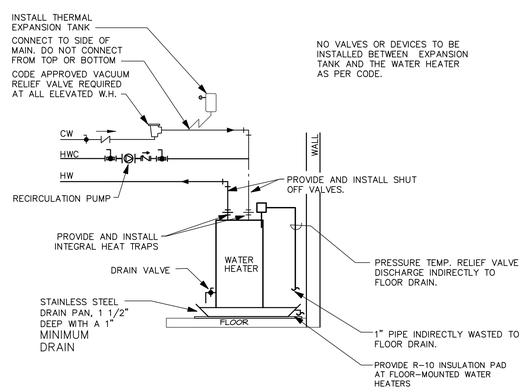
3



WATER HEATER SEISMIC RESTRAINTS

SCALE: NONE

2



WATER HEATER PIPING

SCALE: NONE

1

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

NO.	DATE	DESCRIPTION
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1.	2/26/25	PERMIT RESUBMITTAL

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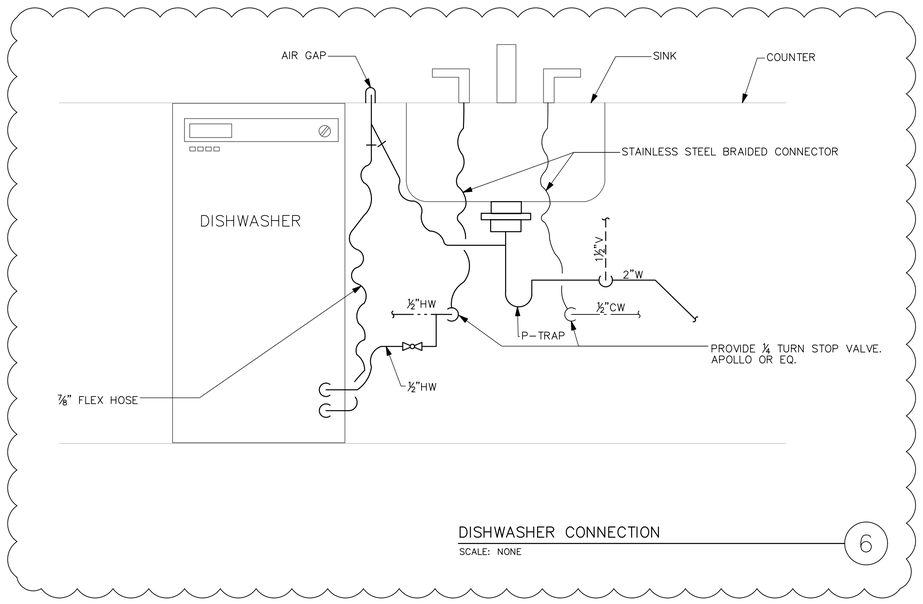
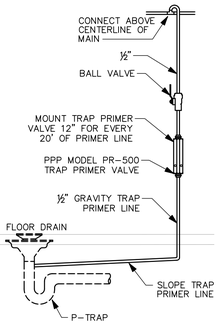
SHEET TITLE:
DETAILS

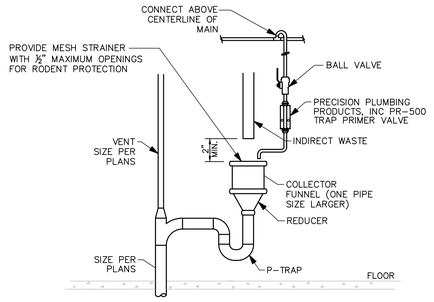
SHEET NO.
P7.00



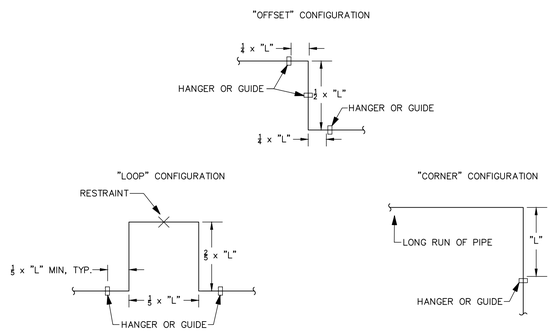
DISHWASHER CONNECTION 6
SCALE: NONE



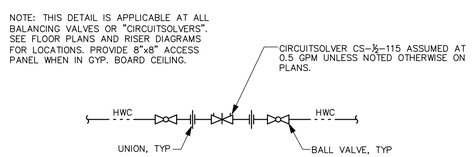
TRAP PRIMER 5
SCALE: NONE



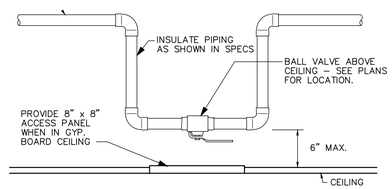
HUB DRAIN 4
SCALE: NONE



EXPANSION LOOP CONFIGURATIONS 3
SCALE: NONE



BALANCING VALVE 2
SCALE: NONE



TYPICAL VALVE PLACEMENT 1
SCALE: NONE

NO.	DATE	DESCRIPTION
2.	5/1/25	PERMIT RESUBMITTAL
1.	2/26/25	PERMIT RESUBMITTAL

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