

October 23, 2020
Project No: 20-2646

Mackenzie Michalski and Kenton Reichen

716.785.3539 (Mackenzie)
760.831.7123 (Kenton)
kenziemichalski@gmail.com; kentonreichen@gmail.com

Submitted digitally (pdf format) with hard copies mailed on request

**Subject: Geotechnical Engineering Report
00 SW Montgomery Drive
Future driveway access between 1551 and 1553 SW Upper Hall Street
Portland, Oregon**

This report presents the results of a geotechnical engineering study conducted by Hardman Geotechnical Services Inc. (HGSI) for the proposed new residence at the property designated 00 SW Montgomery Drive (Figure 1). The purpose of this study was to evaluate subsurface conditions at the site and to provide geotechnical recommendations for site development. This geotechnical study was performed in accordance with HGSI Proposal No. 20-526, dated September 1, 2020, and your subsequent authorization of our proposal and *General Conditions for Geotechnical Services*.

SITE DESCRIPTION AND PROPOSED DEVELOPMENT

Available information indicates the property is approximately 0.11 acres (4,616 square feet) and is currently undeveloped. The site slopes steeply down to the west-northwest, with a near-vertical weathered basalt rock face ascending from SW Montgomery Drive (Figures 2 and 3). A concrete retaining wall up to about 13 feet in exposed height descends from the edge of SW Upper Hall Street to the site. In the southeast corner of the property is a concrete debris fill/wall which transitions to a decayed and rusted old soldier pile wall that has maximum height of about 9 feet (Figure 2).

We understand the project will involve construction of a single family residence in the upper, less steep portion of the site near SW Upper Hall Street. The proposed driveway access, between parcels at 1551 and 1553 SW Upper Hall Street, will span across an existing retaining wall that is up to about 13 feet high. The planned garage will need to be structurally supported to avoid placement of fill soils that could destabilize the existing slope.

The City maps the entire site as a “steep slope” area (greater than 20% inclination). As we understand current agency requirements, a Landslide Hazard Study should not be required, because there is no proposed land division as part of the project. Although a formal Landslide Hazard Study should not be needed, HGSI has evaluated slope stability hazards related to the project, due to the mapped steep slope zone.

LU 21-015135 EN

We anticipate that the proposed improvements will involve minimal earthwork, other than excavation that will be needed to accommodate the planned house foundations.

REGIONAL GEOLOGIC SETTING

Regionally, the subject site lies within the Willamette Valley/Puget Sound lowland, a broad structural depression situated between the Coast Range on the west and the Cascade Range on the east. A series of discontinuous faults subdivide the Willamette Valley into a mosaic of fault-bounded, structural blocks (Yeats et al., 1996). Uplifted structural blocks form bedrock highlands, while down-warped structural blocks form sedimentary basins. Valley-fill sediment in the adjacent basin achieves a maximum thickness of 1,500 feet and overlies Miocene Columbia River Basalt at depth (Madin, 1990; Yeats et al., 1996).

The subject site is located on the east flank of the Tualatin Mountains (Portland Hills), which were formed by uplifted and faulted Columbia River Basalt. Columbia River Basalt is differentiated into several members that are further subdivided into several units. The basalt underlying the subject site is part of the Sentinel Bluffs unit, a division of the Grande Ronde Basalt member. The Sentinel Bluffs unit is typically light to dark gray and displays blocky to columnar jointing (Beeson et al, 1991). Interflow zones between flows are typically vesicular, scoriaceous, and brecciated, and sometimes include sedimentary rocks. Where highly weathered, the upper portion of the basalt is altered to a distinctive red-brown clayey silt known as laterite or residual soil. Residual soils are generally thin or absent on steep slopes as a result of erosion.

At least three major source zones capable of generating damaging earthquakes are thought to exist in the vicinity of the subject site. These include the Portland Hills Fault Zone, the Gales Creek-Newberg-Mt. Angel Structural Zone, and the Cascadia Subduction Zone. These potential source zones are included in the probabilistic seismic design parameters specified by the current building code (see the *Seismic Design* section below).

FIELD EXPLORATION

Subsurface conditions were explored on September 16, 2020 by excavating three hand auger borings to refusal in medium hard (R-3) rock at depths of 1 to 3.5 feet below ground surface (bgs). Hand auger borings are designated HA-1 through HA-3, at the approximate locations shown on Figure 2. A previous geotechnical study performed by ADaPT Engineering, Inc. (ADaPT, 2000) on the adjacent property to the north included test pits using a limited-access “spider-hoe”. Three of these test pits are near enough to the subject site that the subsurface data can be extrapolated as representative of site conditions. The locations of these three test pits, TP-3, TP-6 and TP-7, are shown on Figure 2. Logs of these test pits are attached to this report.

During excavation of the hand auger borings, HGSI observed and recorded soil information such as color, stratigraphy, strength, and soil moisture. Soils were classified in general accordance with the Unified Soil Classification System (USCS). Rock hardness was classified in accordance with Table 1, modified from the ODOT Rock Hardness Classification Chart, on the following page.

Results of the exploration program are shown on the test pit logs attached to this report. At the completion of each boring, the excavation was backfilled using the excavated soils, and tamped into place. This backfill should not be expected to behave as engineered fill and some settling and/or erosion of the ground surface may occur.

Table 1. Rock Hardness Classification Chart

ODOT Rock Hardness Rating	Field Criteria	Unconfined Compressive Strength	Typical Equipment Needed For Excavation
Extremely Soft (R-0)	Indented by thumbnail	<100 psi	Small excavator
Very Soft (R-1)	Scratched by thumbnail, crumbled by rock hammer	100 - 1,000 psi	Small excavator
Soft (R-2)	Not scratched by thumbnail, indented by rock hammer	1,000 - 4,000 psi	Medium excavator (slow digging with small excavator)
Medium Hard (R-3)	Scratched or fractured by rock hammer	4,000 - 8,000 psi	Medium to large excavator (slow to very slow digging), typically requires chipping with hydraulic hammer or mass excavation)
Hard (R-4)	Scratched or fractured w/ difficulty	8,000 - 16,000 psi	Slow chipping with hydraulic hammer and/or blasting
Very Hard (R-5)	Not scratched or fractured after many blows, hammer rebounds	>16,000 psi	Blasting

SUBSURFACE CONDITIONS

Soil and Rock

The following report sections summarize subsurface conditions anticipated at the site, based on our exploration program and the results of the previous study on the adjacent site (ADaPT, 2000). On-site soils consist of undocumented fill, topsoil, weathered basalt rock, and Columbia River Basalt Bedrock, as described below.

Undocumented Fill: Hand auger HA-1 and Test pits TP-6 and TP-7 encountered undocumented fill, extending to depths of 2, 7.5 and 7 feet bgs respectively. The undocumented fill typically consisted of non-homogeneous stiff silt with angular cobbles and gravel. A basalt boulder about 3 feet in diameter was encountered in TP-6 within the fill.

Topsoil: Hand auger HA-2 encountered topsoil to a depth of about 4 inches. The topsoil consisted of slightly organic silt with some gravel and trace roots.

Weathered Basalt Rock: Directly underlying the undocumented fill in HA-1, and beneath topsoil in HA-2 and TP-3, basalt rock with varying degrees of weathering and hardness was encountered. Refer to Table 1 for a summary of the rock hardness classification system used for this study. The basalt encountered was typically highly weathered and was generally Extremely Soft (R-0) to Medium Hard (R-3), with hardness generally increasing with depth. Excavated materials were generally less than about 6 to 8 inches in maximum size, although some larger materials and a few boulders were encountered in the test pits.

Columbia River Basalt Bedrock: Medium Hard (R-3) Columbia River Basalt was encountered beneath the weathered basalt rock in HA-1, HA-2 and TP-3, from the ground surface in HA-3, and

beneath the undocumented fill in TP-6 and TP-7. All explorations met practical refusal on Medium Hard (R-3) basalt bedrock materials at depths ranging from 1 to 3.5 feet in the hand auger borings, and at depths ranging from 3.5 to 8.5 feet bgs in the test pits. Practical refusal is defined for the purposes of this report as hard excavating conditions with little or no progress, for the hand auger equipment and the “spider-hoe” used for the previous study. It is possible that greater depth of excavation could have been reached using larger machinery, a single-tooth ripper bucket, and/or by mass excavation.

Anticipated subsurface conditions on site are shown schematically on Section A-A', Figure 3. Depth to Medium Hard (R-3) rock is anticipated to be quite shallow across the site; and rock of Medium Hard consistency is exposed on the steep bluff face above SW Montgomery Drive. However, please note that the depth of explorations was limited and bedrock on site likely increases in hardness with depth. There is a potential for Hard (R-4) to Very Hard (R-5) rock to be encountered during construction.

Groundwater

Groundwater was not encountered in any of the hand auger borings conducted for this study, or in the test pits conducted by ADaPT (2000). United States Geological Survey mapping of the subject area indicates groundwater lies at an estimated depth of about 120 to 160 feet below the ground surface (Snyder, 2008). It is anticipated that groundwater conditions will vary depending on the season, local subsurface conditions, changes in site utilization, and other factors.

CONCLUSIONS AND RECOMMENDATIONS

Results of this study indicate that the proposed development is geotechnically feasible, provided that the recommendations of this report are incorporated into the design and construction phases of the project. The primary geotechnical constraint to the project is the presence of medium hard to hard weathered basalt rock present within the zone of excavation needed for the house structure. The proposed home may be supported on shallow foundations bearing on competent undisturbed native soils, or engineered fill, designed and constructed as recommended in this report. A 10-foot setback is recommended from the top of the existing steep bluff face; encroaching closer to the bluff would require use of deep foundations and/or ground anchors.

Recommendations are presented below for slope stability, constructability concerns, site preparation, engineered fill, seismic design, structural foundations, below-grade structural walls, concrete slabs-on-grade floors, footing drains, excavation conditions and utility trench backfill, pavement sections, and erosion control considerations.

Slope Stability

For the purpose of evaluating slope stability, we reviewed published geologic and hazard mapping, reviewed regional site topography and lidar images, performed a field reconnaissance, and evaluated subsurface soil conditions in hand auger borings and nearby test pits.

Regional geologic mapping and the Oregon Department of Geology and Mineral Industries (DOGAMI) online landslide database (SLIDO) show no mapped landslides, either on or in the vicinity of the subject site (Madin, 1990; DOGAMI, 2017). During our review of LiDAR imagery available from DOGAMI, we did not observe any topographic expression that would be considered indicative of slope instability.

Reconnaissance observations indicate that the topography at the site is generally smooth and uniform, consistent with stable slope conditions. No geomorphic evidence of prior slope instability (such as hummocky topography, benches or old scarps) was observed. During our site reconnaissance, we did not

observe indications of unstable slope conditions. No seeps or springs were noted on the subject slopes. The property is underlain by hard basalt bedrock materials with a relatively thin veneer of surface soils. In our opinion, the slopes on site have a very low potential for slope instability and erosion.

HGSI does not recommend placement of engineered fill soils on this site in order to maintain slope stability. The driveway for the house will need to be structurally supported to avoid placement of fill between the house and SW Upper Hall Street.

A near-vertical bluff is present along the western property boundary (Figures 2 and 3). The planned structure should be located a minimum of 10 feet from the top of the bluff. With this configuration it is HGSI's opinion that the on-site bedrock can accommodate the house loading without causing slope instability, provided the recommendations of this report are incorporated.

Based on our observations and results of the slope stability evaluation, it is our opinion that no special design or construction provisions are needed to address slope issues on the site. Development of the site is not anticipated to negatively impact slope stability of the site or adjacent properties. The project will be designed and constructed per current building codes, City of Portland requirements, and the current standard-of-practice in geotechnical engineering. As such, it is our opinion that adequate slope stability factors of safety will be maintained for both temporary construction, and long-term conditions.

There is some potential for surficial erosion and sloughing onto SW Montgomery Drive below the site. City personnel indicate that this portion of Montgomery is a chronic maintenance issue due to sloughing of the soil overlying rock and frequent smallish rockfall from the cut face. Hence, the jersey barriers down below that are meant to catch the smaller ones so PBOT can come through periodically and clear it out. It's not unusual to have bigger (yet still relatively small) failures in wet years that need to be scooped up off the roadway. The photograph attached to this report is from a surficial failure in 2017 a bit to the southwest of the site.

Storm water management systems should be designed such that potential overflow is discharged in a controlled manner away from structures and slopes. Retaining walls should be constructed with subsurface drainage behind the wall face.

Constructability Considerations

At present the house design is not complete. We understand preliminary designs call for a 23-foot height above the level of SW Upper Hall Street, as shown on the cross section, Figure 3. For a three-story structure, this will result in a very tall crawlspace that will require in-depth structural analysis. House foundations may consist of conventional spread footings, designed per the recommendations of this report and applicable Building Code requirements.

Although the site is considered suitable for the planned home construction, detailed evaluation of constructability issues is beyond the scope of this study. Of major concern would be limitations regarding the type and size of construction equipment that can access the site. We anticipate any equipment used on site will need to be lifted over the concrete wall on SW Upper Hall Street with a crane. Construction aggregate and concrete will need to be delivered via conveyor trucks and pump trucks.

Excavations will be difficult due to anticipated hard rock conditions, particularly considering the limited size of equipment that will be able to be used. The foundation system for the home will need to step up rapidly to conform to existing topography, as shown on Figure 3. For preliminary planning purposes, we suggest assuming near-vertical cuts can be made in the hard rock up to 8 feet high to accommodate the individual steps in the foundation walls. HGSI should review house plans when available to confirm this recommendation. It will also be critical for HGSI to be on site during excavation to verify stability of the

materials during excavation. If any soft/weak zones, fracture planes or other potential sources of slope instability are encountered during construction, it may be necessary to implement additional measures such as rock anchors.

HGSI strongly recommends installation of a rockfall protection fence along the top of the steep bluff above SW Montgomery Drive, to prevent rockfall from impacting street use and public safety. Please note that HGSI is not responsible for any part of jobsite safety. Analysis, installation and maintenance of the rockfall protection system, and performing the site work in a manner that eliminates the potential for rockfall, will be the responsibility of others.

Site Preparation

Proposed structure areas should be cleared of debris. The existing rusted and decayed soldier pile wall should be removed as part of site development. Undocumented fill within the proposed building footprint or other settlement-sensitive improvements, should be completely removed and replaced with engineered fill.

If encountered within the proposed building footprint, soft to medium stiff soils may need to be overexcavated and replaced with engineered fill. The depth of over-excavation should be determined on the basis of a foundation excavation observation during construction.

Exposed subgrade soils should be evaluated by HGSI. For large areas, this evaluation is normally performed by proof-rolling the exposed subgrade with fully loaded construction equipment. For smaller areas where access is restricted, the subgrade should be evaluated by probing the soil with a steel probe. Soft/loose soils identified during subgrade preparation should be compacted to a firm and unyielding condition or over-excavated and replaced with engineered fill, as described below. The depth of overexcavation, if required, should be evaluated by HGSI at the time of construction.

Engineered Fill

As discussed above, HGSI does not recommend placement of any fill soils as part of the project. This section is included in the report to provide compaction specifications for backfill soils, in the event that overexcavations are needed.

Fill materials (if used) should be compacted in horizontal lifts not exceeding 12 inches using conventional compaction equipment. We recommend that engineered fill be compacted to at least 90 percent of the maximum dry density determined by ASTM D1557 (Modified Proctor) or equivalent. Soils or crushed rock materials will need to be moisture conditioned to near optimum moisture content, to enable meeting the compaction specification.

Proper test frequency and earthwork documentation usually requires daily observation and testing during stripping, rough grading, and placement of engineered fill. Field density testing should generally conform to ASTM D2922 and D3017, or D1556. Engineered fill should be periodically observed and tested by HGSI. Typically, one density test is performed for at least every 2 vertical feet of fill placed or every 500 cubic yards, whichever requires more testing. Because testing is performed on an on-call basis, we recommend that the earthwork contractor be held contractually responsible for test scheduling and frequency.

Seismic Design

Structures should be designed to resist earthquake loading in accordance with the methodology described in the current Oregon Structural Specialty Code (OSSC). We recommend Site Class C (Very Dense Soil and Soft Rock) be used for design per the OSSC, which references ASCE 7. Design values determined for the

site using the ASCE 7-16 Hazard Tool are summarized on Table 2, for Risk Category I, II or III. A copy of the Hazard Tool output is attached at the end of this report.

Table 2. Recommended Earthquake Ground Motion Parameters (ASCE 7-16)

Parameter	Value
Location (Lat, Long), degrees	45.5139, -122.6939
Mapped Spectral Acceleration Values (MCE, Site Class B):	
Short Period, S_s	0.89 g
1.0 Sec Period, S_1	0.399 g
Design Values for Site Class C (Very Dense Soil and Soft Rock):	
Peak Ground Acceleration PGA_M	0.481 g
F_a	1.2
F_v	1.5
$SD_s = 2/3 \times F_a \times S_s$	0.712 g
$SD_1 = 2/3 \times F_v \times S_1$	0.399 g

Soil liquefaction is a phenomenon wherein saturated soil deposits temporarily lose strength and behave as a liquid in response to earthquake shaking. Soil liquefaction is generally limited to loose, granular soils located below the water table. Weathered basalt bedrock was encountered in our subsurface explorations to the maximum depth of exploration. Static groundwater level lies at depths of about 120 to 160 feet bgs in the site area. Therefore, soils under the project site are not considered susceptible to liquefaction. It is our opinion that special design or construction measures are not required to mitigate the effects of liquefaction.

Based on our review of geologic literature, there are no recent fault zones on or near the subject site. Therefore the risk of faulting hazard to the proposed improvements is considered very low to non-existent.

Structural Foundations

Based on our understanding of the proposed project and the results of our exploration program, and assuming our recommendations for site preparation are followed, weathered basalt bedrock, or Columbia River Basalt materials should be encountered at or near the foundation level of the proposed structure. These materials are considered suitable to provide adequate support of the structural loads.

Shallow, conventional isolated or continuous spread footings may be used to support the proposed structures, provided they are founded on weathered rock or better. We recommend a maximum allowable bearing pressure of 4,000 pounds per square foot (psf) for designing footings under these conditions. The recommended maximum allowable bearing pressures may be increased by a factor of 1.33 for short term transient conditions such as wind and seismic loading. Exterior footings should be founded at least 18 inches below the lowest adjacent finished grade. Minimum footing widths should be determined by the project engineer/architect in accordance with applicable design codes.

Assuming construction is accomplished as recommended herein, and for the foundation loads anticipated, we estimate total settlement of spread foundations of less than about 1 inch and differential settlement between two adjacent load-bearing components supported on competent soil of less than about ½ inch. We anticipate that the majority of the estimated settlement will occur during construction, as loads are applied.

Wind, earthquakes, and unbalanced earth loads will subject the proposed structure to lateral forces. Lateral forces on a structure will be resisted by a combination of sliding resistance of its base or footing on the underlying soil and passive earth pressure against the buried portions of the structure. For use in design, a coefficient of friction of 0.6 may be assumed along the interface between the base of the footing and subgrade soils. Passive earth pressure for buried portions of structures may be calculated using an equivalent fluid weight of 420 pounds per cubic foot (pcf), assuming footings are cast against dense, natural soils or engineered fill. The recommended coefficient of friction and passive earth pressure values do not include a safety factor. The upper 12 inches of soil should be neglected in passive pressure computations unless it is protected by pavement or slabs on grade.

Footing excavations should be trimmed neat and the bottom of the excavation should be carefully prepared. Loose, wet or otherwise softened soil should be removed from the footing excavation prior to placing reinforcing steel bars.

The above foundation recommendations are for dry weather conditions. Due to the high moisture sensitivity of on-site soils, construction during wet weather may require overexcavation of footings and backfill with compacted, crushed aggregate. HGSJ should observe foundation excavations prior to placing formwork and reinforcing steel, to verify that adequate bearing soils have been reached.

Below-Grade Structural Walls

Retaining wall footings founded on competent native soils or engineered fill may be designed using an allowable bearing pressure of 4,000 psf. The recommended maximum allowable bearing pressure may be increased by a factor of 1.33 for short term transient conditions such as wind and seismic loading.

Lateral earth pressures against below-grade retaining walls will depend upon the inclination of any adjacent slopes, type of backfill, degree of wall restraint, method of backfill placement, degree of backfill compaction, drainage provisions, and magnitude and location of any adjacent surcharge loads. At-rest soil pressure is exerted on a retaining wall when it is restrained against rotation. In contrast, active soil pressure will be exerted on a wall if its top is allowed to rotate or yield a distance of roughly 0.001 times its height or greater.

Table 3 provides recommended lateral earth pressure values for unrestrained and restrained walls, for both level backfill conditions and 2H:1V (Horizontal:Vertical) sloping ground conditions at the top of the wall. These values assume that the recommended drainage provisions are incorporated, and hydrostatic pressures are not allowed to develop against the wall.

Table 3. Lateral Earth Pressures for Below-Grade Retaining Wall Design

Earth Pressure Condition	Level at Top of Wall	2H:1V Slope at Top of Wall
Active (unrestrained wall)	30	50
At-rest (restrained wall)	50	70

During a seismic event, lateral earth pressures acting on below-grade structural walls will increase by an incremental amount that corresponds to the earthquake loading. However, if at-rest earth pressures are used in design, a conservative structural design that can readily accommodate the temporary seismic overloading conditions generally results. Therefore, it is our opinion that the dynamic incremental pressures from earthquake loading may be neglected if the below-grade structures are designed based on at-rest earth pressures. For unrestrained walls, seismic loading should be modeled using the active earth pressure listed in the above table, plus an incremental rectangular-shaped seismic load of magnitude 6H, where H is the total

height of the wall. Alternatively, a peak horizontal acceleration coefficient of 0.12g may be used for analysis using conventional pseudostatic procedures.

We recommend passive earth pressure of 420 pcf for use in design, assuming wall footings are cast against competent native soils or engineered fill. If the ground surface slopes down and away from the base of any of the walls steeper than about 10H:1V, HGSI should be contacted for additional recommendations.

A coefficient of friction of 0.6 may be assumed along the interface between the base of the wall footing and subgrade soils. The recommended coefficient of friction and passive earth pressure values do not include a safety factor, and an appropriate safety factor should be included in overall design. The upper 12 inches of soil should be neglected in passive pressure computations unless it is protected by pavement or slabs on grade.

The above recommendations for lateral earth pressures assume that the backfill behind the subsurface walls will consist of properly compacted structural fill, and no adjacent surcharge loading. If the walls will be subjected to the influence of surcharge loading within a horizontal distance equal to or less than the height of the wall, the walls should be designed for the additional horizontal pressure. For uniform surcharge pressures, a uniformly distributed lateral pressure of 0.3 times the surcharge pressure should be added. Traffic surcharges may be estimated using an additional vertical load of 250 psf (2 feet of additional fill), in accordance with local practice.

The recommended equivalent fluid densities assume a free-draining condition behind the walls so that hydrostatic pressures do not build-up. This can be accomplished by placing a 12-inch wide zone of crushed drain rock containing less than 5 percent fines against the walls. A 3-inch minimum diameter perforated, plastic drain pipe should be installed at the base of the walls and connected to a sump to remove water from the crushed drain rock zone. The drain pipe should be wrapped in filter fabric (Mirafi 140N or other as approved by the geotechnical engineer) to minimize clogging. The above drainage measures are intended to remove water from behind the wall to prevent hydrostatic pressures from building up. Additional drainage measures may be specified by the project architect or structural engineer, for damp-proofing or other reasons.

HGSI should be contacted during construction to verify subgrade strength in wall keyway excavations, to verify that backslope soils are in accordance with our assumptions, and to take density tests on the wall backfill materials.

Concrete Slab-on-grade Floors

Preparation of areas beneath concrete slab-on-grade floors should be performed as recommended in the *Site Preparation* section. Care should be taken during excavation for foundations and floor slabs, to avoid disturbing subgrade soils. If subgrade soils have been adversely impacted by wet weather or otherwise disturbed, the surficial soils should be scarified to a minimum depth of 8 inches, moisture conditioned to within about 3 percent of optimum moisture content, and compacted to engineered fill specifications. Alternatively, disturbed soils may be removed and the removal zone backfilled with additional crushed rock.

For evaluation of the concrete slab-on-grade floors using the beam on elastic foundation method, a modulus of subgrade reaction of 250 kcf (145 pci) should be assumed for the native materials anticipated at floor slab depth. This value assumes the concrete slab system is designed and constructed as recommended herein, with a minimum thickness of crushed rock of 8 inches beneath the slab.

Interior slab-on-grade floors should be provided with an adequate moisture break. The capillary break material should consist of Open-Graded Aggregate per ODOT Standard Specifications Section 02630.11. The minimum recommended thickness of capillary break materials on re-compacted soil subgrade is 8 inches. The total thickness of crushed aggregate will be dependent on the subgrade conditions at the time of

construction, and should be verified visually by proof-rolling. Under-slab aggregate should be compacted to at least 90 percent of its maximum dry density as determined by ASTM D1557 or equivalent.

In areas where moisture will be detrimental to floor coverings or equipment inside the proposed structure, appropriate vapor barrier and damp-proofing measures should be implemented. A commonly applied vapor barrier system consists of a 10-mil polyethylene vapor barrier placed directly over the capillary break material. Other damp/vapor barrier systems may also be feasible. Appropriate design professionals should be consulted regarding vapor barrier and damp proofing systems, ventilation, building material selection, radon and mold prevention issues, which are outside HGSI's area of expertise.

Footing and Roof Drains

We recommend the outside edge of perimeter footings for the new buildings be provided with a footing drain system. The retaining wall drains recommended around the perimeter of the new below-grade walls for the building will take the place of perimeter footing drains and a separate, shallow footing drain system is not needed.

Footing drains should consist of 3-inch minimum diameter perforated plastic pipe embedded in a minimum of 1 ft³ per lineal foot of clean, crushed rock or 1"- ¼" drain rock. The drain pipe and surrounding drain rock should be wrapped in non-woven geotextile (Mirafi 140N, or approved equivalent) to minimize the potential for clogging and/or ground loss due to piping. Water collected from the footing drains should be directed into the local storm drain system or other suitable outlet. A minimum 0.5 percent fall should be maintained throughout the drain and non-perforated pipe outlet. The footing drains should include clean-outs to allow periodic maintenance and inspection.

Down spouts and roof drains should collect roof water in a system separate from the footing drains in order to reduce the potential for clogging. Roof drain water should be directed to an appropriate discharge point well away from structural foundations. Grades should be sloped downward and away from buildings to reduce the potential for ponded water near structures.

Excavating Conditions and Utility Trench Backfill

The contractor should expect difficult excavation of the on-site rock materials. Hard rock should be anticipated, particularly in the deeper portions of excavations. The contractor should anticipate the potential presence of hard rock that will require heavy ripping, use of pneumatic rock breaker attachments, and possibly blasting to remove. Due to the proximity of SW Montgomery Drive and nearby existing structures, we do not recommend use of blasting on this site without additional investigation of the ground motion particle velocities and frequencies generated during the blasting operation and the effects thereof. The potential for fly rock would also need to be carefully considered. Due to the urban setting, it is highly doubtful that blasting would be feasible for rock removal. Drilling of tightly spaced holes and use of expansive compounds may be another alternative for rock removal.

Maintenance of safe working conditions, including temporary excavation stability, is the responsibility of the contractor. Actual slope inclinations at the time of construction should be determined based on safety requirements and actual soil and groundwater conditions. All temporary cuts in excess of 4 feet in height should be sloped in accordance with U.S. Occupational Safety and Health Administration (OSHA) regulations, or be shored. The existing native soils classify as Type A Soil and temporary excavation side slope inclinations as steep as ½H : 1V (Horizontal:Vertical) may be assumed for planning purposes. This cut slope inclination is applicable to excavations above the water table only. Flatter temporary excavation slopes will be needed if groundwater is present, or if significant thicknesses of sandy soils are present in excavation sidewalls.

Shallow, perched groundwater may be encountered during the wet weather season and should be anticipated in excavations and utility trenches. Vibrations created by traffic and construction equipment may cause some caving and raveling of excavation walls. In such an event, lateral support for the excavation walls should be provided by the contractor to prevent loss of ground support and possible distress to existing or previously constructed structural improvements.

PVC pipe should be installed in accordance with the procedures specified in ASTM D2321. We recommend that structural trench backfill be compacted to at least 90% of the maximum dry density obtained by Modified Proctor (ASTM D1557) or equivalent.

Adequate density testing should be performed during construction to verify that the recommended relative compaction is achieved. Typically, at least one density test is taken for every 4 vertical feet of backfill on each 200-lineal-foot section of trench.

Erosion Control Considerations

During our field exploration program, we did not observe soil types that would be considered highly susceptible to erosion. In our opinion, the primary concern regarding erosion potential will occur during construction, in areas that have been stripped of vegetation. Erosion at the site during construction can be minimized by implementing the project erosion control plan, which should include judicious use of straw bales and silt fences. If used, these erosion control devices should be in place and remain in place throughout site preparation and construction.

Erosion and sedimentation of exposed soils can also be minimized by quickly re-vegetating exposed areas of soil, and by staging construction such that large areas of the project site are not denuded and exposed at the same time. Areas of exposed soil requiring immediate and/or temporary protection against exposure should be covered with either mulch or erosion control netting/blankets. Areas of exposed soil requiring permanent stabilization should be seeded with an approved grass seed mixture, or hydroseeded with an approved seed-mulch-fertilizer mixture.

UNCERTAINTIES AND LIMITATIONS

We have prepared this report for the owner and their consultants for use in design of this project only. This report should be provided in its entirety to prospective contractors for bidding and estimating purposes; however, the conclusions and interpretations presented in this report should not be construed as a warranty of the subsurface conditions. Experience has shown that soil and groundwater conditions can vary significantly over small distances. Inconsistent conditions can occur between explorations that may not be detected by a geotechnical study. If, during future site operations, subsurface conditions are encountered which vary appreciably from those described herein, HGSi should be notified for review of the recommendations of this report, and revision of such if necessary.

Sufficient geotechnical monitoring, testing and consultation should be provided during construction to confirm that the conditions encountered are consistent with those indicated by explorations. Recommendations for design changes will be provided should conditions revealed during construction differ from those anticipated, and to verify that the geotechnical aspects of construction comply with the contract plans and specifications.

Within the limitations of scope, schedule and budget, executed these services in accordance with generally accepted professional principles and practices in the field of geotechnical engineering at the time the report was prepared. No warranty, expressed or implied, is made. The scope of our work did not include environmental assessments or evaluations regarding the presence or absence of wetlands or hazardous or toxic substances in the soil, surface water, or groundwater at this site.



We appreciate this opportunity to be of service.

Sincerely,

HARDMAN GEOTECHNICAL SERVICES INC.



EXPIRES: 06-30-2021

Scott L. Hardman, P.E., G.E.
Principal Geotechnical Engineer

Attachments: References
 Photos
 Figure 1 – Vicinity Map
 Figure 2 – Site and Exploration Plan
 Figure 3 – Cross Section A-A'
 Logs of Hand Auger Borings HA-1 through HA-3
 Lots of Test Pits TP-3, TP-6 and TP-7 (ADaPT, 2000)

REFERENCES

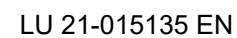
- ADaPT Engineering, Inc. (2000), *Revised Preliminary Geotechnical Investigation, [1551] SW Upper Hall Street House*; consultant report dated April 24, 2000.
- Beeson, M.H., Tolan, T.L., and Anderson, J.L., 1989, The Columbia River Basalt Group in western Oregon; Geologic structures and other factors that controlled flow emplacement patterns: Geological Society of America Special Paper 239, in *Volcanism and tectonism in the Columbia River flood-basalt province* published by the Geological Society of America, p. 223-246.
- Gannett, M.W., and Caldwell, R.R., 1998, Geologic framework of the Willamette lowland aquifer system, Oregon and Washington: U.S. Geological Survey, Professional Paper PP-1424-A, scale 1:250,000.
- Madin, I.P., 1990, Earthquake hazard geology maps of the Portland metropolitan area, Oregon: Oregon Department of Geology and Mineral Industries Open-File Report 0-90-2, scale 1:24,000, 22 p.
- Oregon Department of Geology and Mineral Industries, SLIDO, Version 3.4, updated December 14, 2017 viewed March 16, 2019: <https://gis.dogami.oregon.gov/slido/>
- Snyder, D.T., 2008, Estimated Depth to Ground Water and Configuration of the Water Table in the Portland, Oregon Area: U.S. Geological Survey Scientific Investigations Report 2008-5059, 41 p., 3 plates.
- Yeats, R.S., Graven, E.P., Werner, K.S., Goldfinger, C., and Popowski, T., 1996, Tectonics of the Willamette Valley, Oregon: in *Assessing earthquake hazards and reducing risk in the Pacific Northwest*, Vol. 1: U.S. Geological Survey Professional Paper 1560, P. 183-222, 5 plates, scale 1:100,000.



**Photo from February 2017, looking down on SW Montgomery Drive.
Mudslide from nearby property just southwest of the project site.**



VICINITY MAP

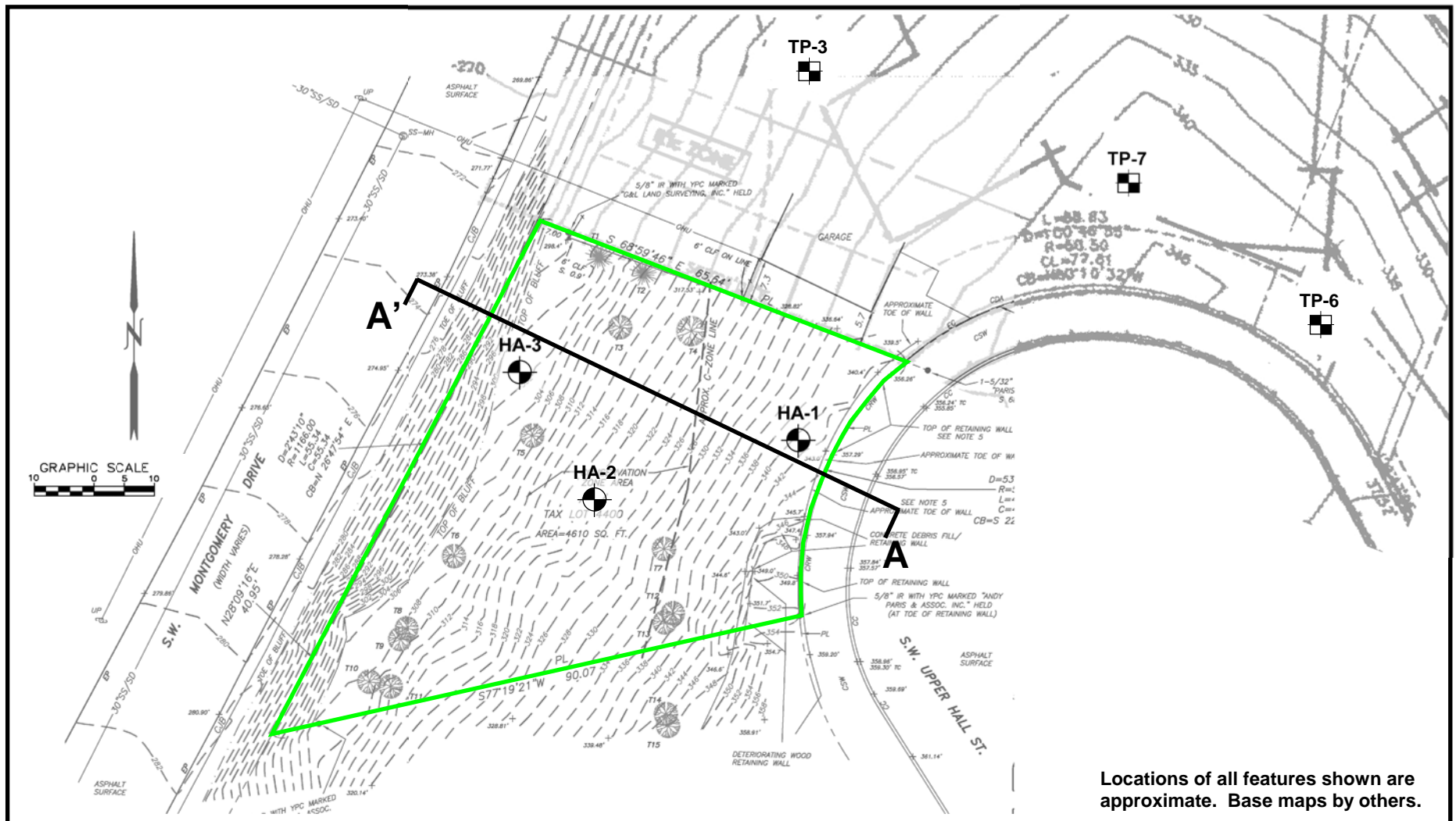




**HARDMAN
GEOTECHNICAL
SERVICES INC.**

Practical, Cost-Effective Geotechnical Solutions

SITE PLAN AND EXPLORATION LOCATIONS



Locations of all features shown are approximate. Base maps by others.

Legend

TP-7 Test Pit Designation and Approximate Location (ADaPT, 2000)

HA-3 Hand Auger Boring Designation and Approximate Location, Current Study

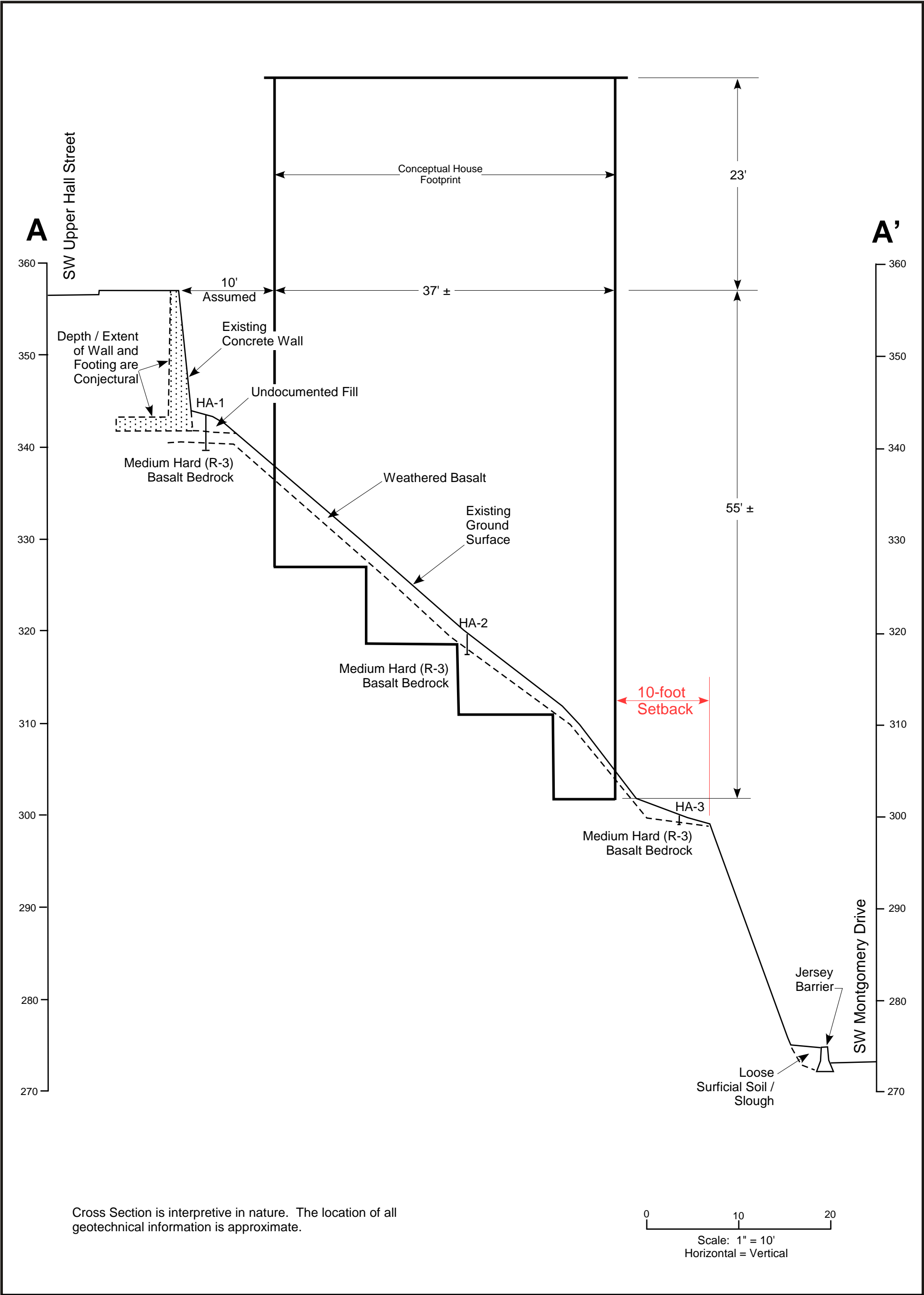
Approximate Site Boundary

Project: 00 SW Montgomery Drive at SW Upper Hall Street
Portland, Oregon

Project No. 20-2646

FIGURE 2

LU 21-015135 EN



LEGEND

HA-3
| Hand auger boring approximate location and designation.

Project No. 20-2646

00 SW Montgomery Drive
Portland, Oregon

Figure 3

HAND AUGER BORING LOG

Project: 00 SW Montgomery Drive
Portland, Oregon

Project No. 20-2646

Boring No. HA-1

Depth (ft)	Sample Interval	Sample Designation	In-Situ Dry Density (lb/ft ³)	Moisture Content (%)	Groundwater	Material Description
1						Stiff, brown and light brown Silt with angular gravel and cobbles, slightly moist (Undocumented Fill)
2						Very stiff to hard, brown to light red brown Silt with angular gravel and cobbles, slightly moist (Weathered Basalt Bedrock)
3						Soft (R-2) to Medium Hard (R-3), gray to gray brown basalt rock, moderately weathered and jointed, slightly vesicular. (Columbia River Basalt)
4						Refusal at 3.5 feet on Medium Hard (R-3) rock No seepage or groundwater encountered
5						
6						
7						

HGSI HARDMAN
GEOTECHNICAL
SERVICES INC.
Practical Cost-Effective Geotechnical Solutions
10110 SW Nimbus Avenue, Suite B-5
Portland, Oregon 97223
(503) 530-8076

LEGEND



S-1

Soil Sample Depth
Interval and Designation



Water Level at
Time of Drilling

Date Drilled: 9/16/2020

Logged By: SLH

HAND AUGER BORING LOG

Project: 00 SW Montgomery Drive
Portland, Oregon

Project No. 20-2646

Boring No. HA- 2

Depth (ft)	Sample Interval	Sample Designation	In-Situ Dry Density (lb/ft ³)	Moisture Content (%)	Groundwater	Material Description
1						Stiff, brown and light brown Silt with angular gravel, slightly moist, slightly organic with trace roots (Topsoil)
						Very stiff to hard, brown to light red brown Silt with angular gravel and cobbles, slightly moist (Weathered Basalt Bedrock)
2						Soft (R-2) to Medium Hard (R-3), gray to gray brown basalt rock, moderately weathered and jointed, slightly vesicular. (Columbia River Basalt)
3						Refusal at 2 feet on Medium Hard (R-3) rock No seepage or groundwater encountered
4						
5						
6						
7						



10110 SW Nimbus Avenue, Suite B-5
Portland, Oregon 97223
(503) 530-8076

LEGEND



S-1

Soil Sample Depth
Interval and Designation



Water Level at
Time of Drilling

Date Drilled: 9/16/2020

Logged By: SLH

HAND AUGER BORING LOG

Project: 00 SW Montgomery Drive
Portland, Oregon

Project No. 20-2646

Boring No. HA-3

Depth (ft)	Sample Interval	Sample Designation	In-Situ Dry Density (lb/ft ³)	Moisture Content (%)	Groundwater	Material Description
1						Soft (R-2) to Medium Hard (R-3), gray to gray brown basalt rock, moderately weathered and jointed, slightly vesicular. (Columbia River Basalt)
2						Refusal at 1 foot on Medium Hard (R-3) rock No seepage or groundwater encountered
3						
4						
5						
6						
7						

HGSI HARDMAN
GEOTECHNICAL
SERVICES INC.
Practical Cost-Effective Geotechnical Solutions
10110 SW Nimbus Avenue, Suite B-5
Portland, Oregon 97223
(503) 530-8076

LEGEND



S-1

Soil Sample Depth
Interval and Designation



Water Level at
Time of Drilling

Date Drilled: 9/16/2020

Logged By: SLH

**ADaPT Engineering, Inc.**

17700 SW Upper Boones Ferry Road, Suite 100
Portland, Oregon 97224
Tel: (503) 598-8445 Fax: (503) 598-8705

TEST PIT LOG

Project: Upper Hall Street
Residence
Portland, Oregon

Job No. OR00-3727

Test Pit No. **TP-3**

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Sample Type	In-Situ Dry Density (lb/ft ³)	Moisture Content (%)	Water Bearing Zone	Material Description
1						Brown, SILT with gravel and cobble sized basalt fragments, with numerous fine rootlets and roots (to 1"), moist
2						
3						Gray, BASALT BEDROCK, medium hardRH-3), close jointed, slightly weathered, slightly vesicular to dense
4						Test Pit Terminated at 3.5 feet due to practical refusal of spiderhoe Note: No significant seepage or groundwater encountered.
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						

LEGEND

Bag Sample



Bucket Sample



Shelby Tube Sample



Seepage



Water Bearing Zone



Water Level at Abandonment

Date Excavated: 3/16/00

Logged By: K LW

Surface Elevation:

**ADaPT Engineering, Inc.**

17700 SW Upper Boones Ferry Road, Suite 100

Portland, Oregon 97224

Tel: (503) 598-8445 Fax: (503) 598-8705

TEST PIT LOGProject: Upper Hall Street
Residence
Portland, Oregon

Job No. OR00-3727

Test Pit No. **TP-6**

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Sample Type	In-Situ Dry Density (lb/ft ³)	Moisture Content (%)	Water Bearing Zone	Material Description
1						Brown, SILT (ML) with abundant organics and roots, damp (man-made fill)
2						
3						Brown, SILT (ML), with some basalt fragments (to 3' diameter), damp (man-made fill)
4						
5						
6						
7						
8						Gray, BASALT BEDROCK, medium hardRH-3), close jointed, slightly weathered, slightly vesicular to dense
9						
10						Test Pit Terminated @ 8.5 feet due to practical refusal of spiderhoe
11						
12						Note: No seeps or groundwater encountered.
13						
14						
15						
16						
17						

LEGEND

Bag Sample



Bucket Sample



Shelby Tube Sample



Seepage



Water Bearing Zone



Water Level at Abandonment

Date Excavated: 3/16/00

Logged By: K LW

Surface Elevation:

**AdaPT Engineering, Inc.**

17700 SW Upper Boones Ferry Road, Suite 100

Portland, Oregon 97224

Tel: (503) 598-8445 Fax: (503) 598-8705

TEST PIT LOG

Project: Upper Hall Street

Residence

Portland, Oregon

Job No. OR00-3727

Test Pit No. **TP-7**

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Sample Type	In-Situ Dry Density (lb/ft ³)	Moisture Content (%)	Water Bearing Zone	Material Description
1						Brown, SILT (ML) with abundant organics and roots, damp (man-made fill)
2						Brown, SILT (ML), with some roots to a depth of 2.0' , damp (man-made fill)
3						
4						
5						
6						
7						
8						Gray, BASALT BEDROCK, medium hard (RH-3), close jointed, slightly weathered, slightly vesicular to dense
9						Test Pit Terminated @ 8.0 feet due to practical refusal of spiderhoe
10						
11						Note: No seeps or groundwater encountered.
12						
13						
14						
15						
16						
17						

LEGEND

Bag Sample



Bucket Sample



Shelby Tube Sample



Seepage



Water Bearing Zone



Water Level at Abandonment

Date Excavated: 3/16/00

Logged By: K LW

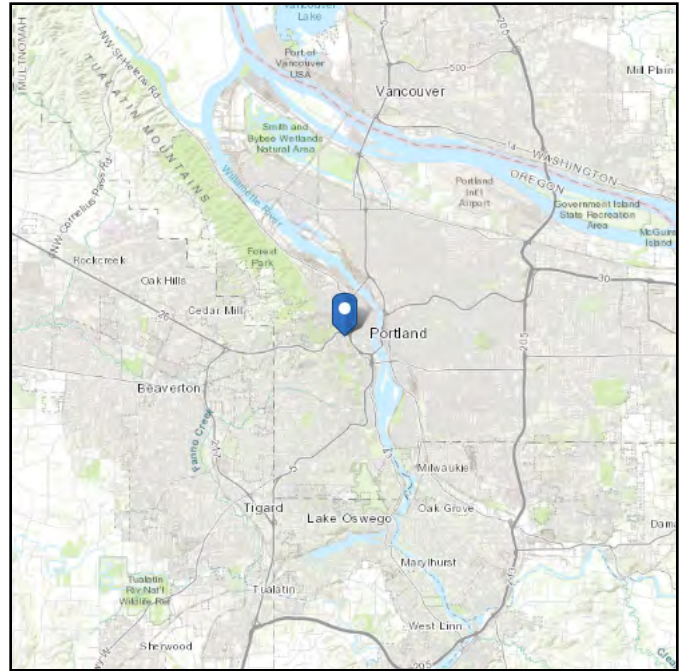
Surface Elevation:

ASCE 7 Hazards Report

Address:
No Address at This
Location

Standard: ASCE/SEI 7-16
Risk Category: III
Soil Class: C - Very Dense
Soil and Soft Rock

Elevation: 330.72 ft (NAVD 88)
Latitude: 45.5139
Longitude: -122.6939

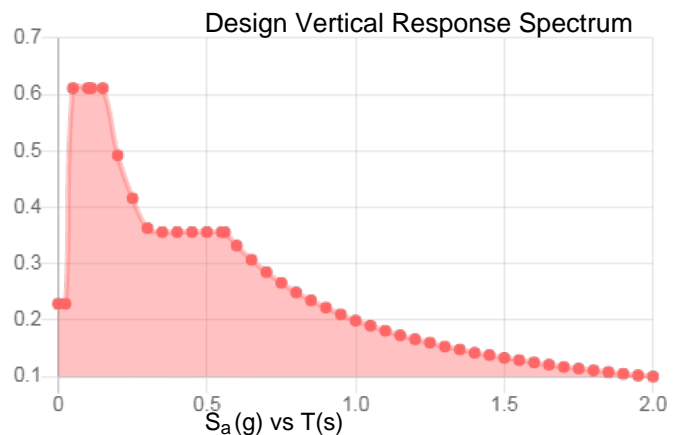
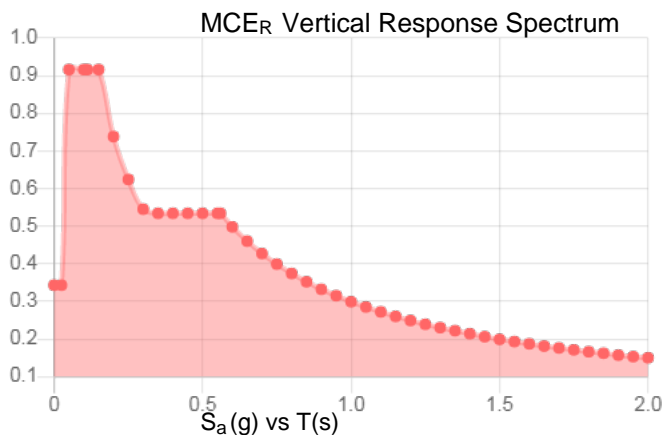
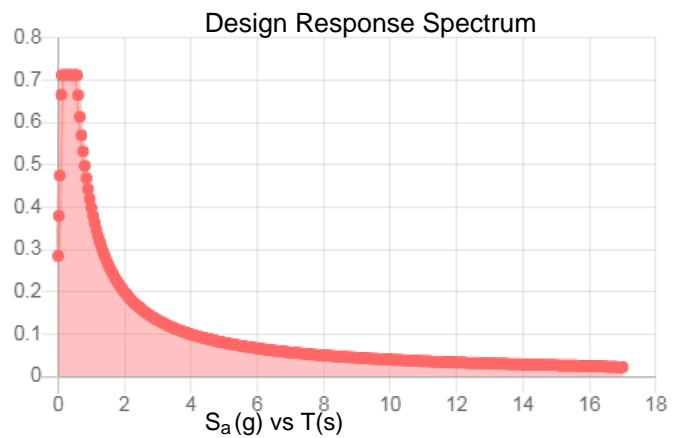
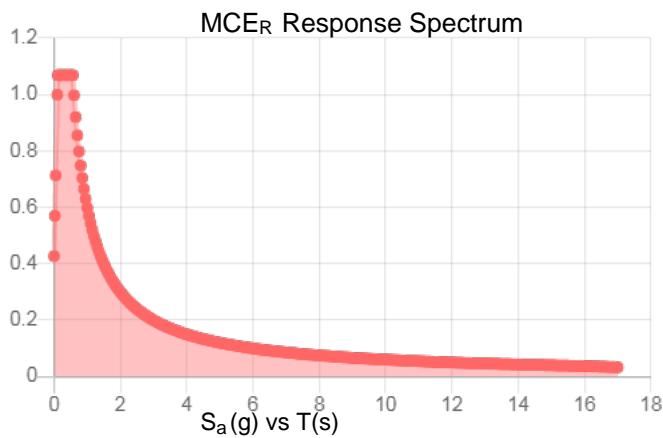


Site Soil Class: C - Very Dense Soil and Soft Rock

Results:

S_S :	0.89	S_{D1} :	0.399
S_1 :	0.399	T_L :	16
F_a :	1.2	PGA :	0.401
F_v :	1.5	PGA _M :	0.481
S_{MS} :	1.068	F_{PGA} :	1.2
S_{M1} :	0.598	I_e :	1.25
S_{DS} :	0.712	C_v :	1.072

Seismic Design Category D



Data Accessed:

Thu Sep 24 2020

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

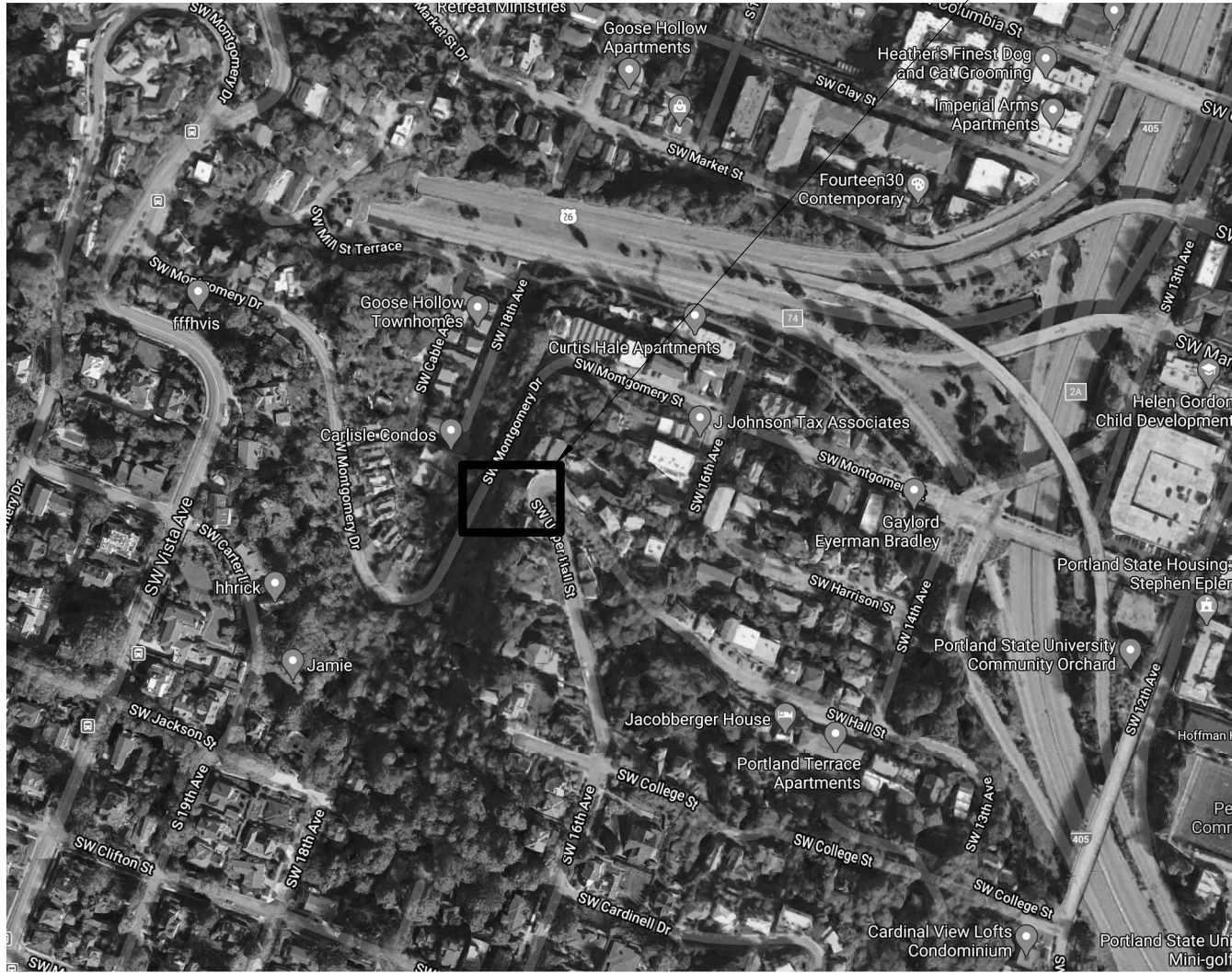
In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.

UPPER HALL RESIDENCE



REPRESENTATIONAL IMAGE. IMAGE SHOWN MAY NOT BE AN EXACT REPRESENTATION OF ACTUAL DESIGN AND CONSTRUCTION

VICINITY MAP



PROJECT TEAM

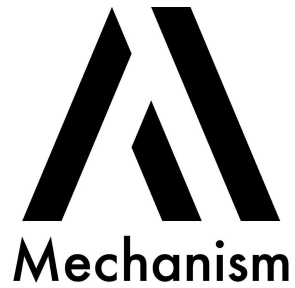
OWNER
KENTON REICHEN & KENZIE MICHALSKI
206 HENDRICKS BLVD
AMHERST, NY 14226
P: 760.831.7123
CONTACT: KENTON REICHEN

ARCHITECT
MECHANISM ARCHITECTURE LLC
1017 SW MORRISON STREET, SUITE 409
PORTLAND, OREGON 97205
P: 503.473.0567
CONTACT: ADAM LAWLER

STRUCTURAL
MUNZING STRUCTURAL ENGINEERING, LLC
15 SE 16TH AVE
PORTLAND, OR 97214
P: 503.477.5936
CONTACT: MIKE MUNZING

SHEET INDEX	
SHEET NUMBER	SHEET NAME
A000	COVER SHEET
A001	GENERAL NOTES
A100	EXISTING CONDITIONS SITE PLAN
A101	DEVELOPMENT SITE PLAN
A102	LANDSCAPE PLAN
A130	FOUNDATION PLAN
A131	FLOOR PLAN - LEVEL 1 & 2
A132	FLOOR PLAN - LEVEL 3 & 4
A133	ROOF PLAN
A137	ELECTRICAL PLAN - LEVEL 1 & 2
A138	ELECTRICAL PLAN - LEVEL 3 & 4
A139	ELECTRICAL PLAN - ROOF
A141	FINISH PLAN - LEVEL 1 & 2
A142	FINISH PLAN - LEVEL 3
A143	FINISH PLAN - LEVEL 4
A151	REFLECTED CEILING PLAN - LEVEL 1 & 2
A152	REFLECTED CEILING PLAN - LEVEL 3 & 4
A161	CRICKET PLAN DIAGRAM - LEVEL 1 & 2
A162	CRICKET PLAN DIAGRAM - LEVEL 3 & 4
A163	CRICKET PLAN - ROOF
A201	EXTERIOR ELEVATIONS
A202	EXTERIOR ELEVATIONS
A301	BUILDING SECTIONS
A302	BUILDING SECTIONS
A303	BUILDING SECTIONS
A304	BUILDING SECTIONS - STAIR
A305	WALL SECTIONS
A501	INTERIOR ELEVATIONS - LEVEL 1
A502	INTERIOR ELEVATIONS - LEVEL 1
A503	INTERIOR ELEVATIONS - LEVEL 2
A504	INTERIOR ELEVATIONS - LEVEL 3
A505	INTERIOR ELEVATIONS - LEVEL 3
A506	INTERIOR ELEVATIONS - LEVEL 4
A600	SCHEDULES
A700	ASSEMBLIES
A701	ASSEMBLIES
A710	PARTITION TYPES
A720	EXTERIOR DETAILS - FOUNDATION
A721	EXTERIOR DETAILS - SITE
A722	EXTERIOR DETAILS - CLADDING & DOORS
A723	EXTERIOR DETAILS - DOORS
A724	EXTERIOR DETAILS - WINDOWS
A725	EXTERIOR DETAILS - FASCIA
A726	EXTERIOR DETAILS - ROOF
A730	EXTERIOR DETAILS - MISC
A751	INTERIOR DETAILS - CASEWORK
A752	INTERIOR DETAILS - CASEWORK
A753	INTERIOR DETAILS - STAIR & HANDRAIL
A754	INTERIOR DETAILS - DOORS
A755	INTERIOR DETAILS - GLASS
A756	INTERIOR DETAILS
A757	INTERIOR DETAILS

PROJECT DESCRIPTION			
NEW SINGLE FAMILY RESIDENCE ON STEEPLY SLOPING SITE.			
SITE & ZONING INFORMATION			
LEGAL DESCRIPTION:	CARTERS ADD TO P, BLOCK 38, LOT 1&7&8 TL 4400		
TAX MAP/PARCEL #:	R128255		
TOTAL LOT AREA:	0.11 ACRES (4,616 SQ FT)		
ZONING OF SITE:	R5c - RESIDENTIAL 5,000; PARTIAL ENVIRONMENTAL CONSVERVATION (C) OVERLAY		
NEIGHBORHOOD:	GOOSE HOLLOW FOOTHILLS LEAGUE/SOUTHWEST HILLS RESIDENTIAL LEAGUE		
PROPERTY LINE SETBACKS:	MIN REQ'D PROVIDED		
FRONT (EAST): SIDE (NORTH): SIDE (SOUTH): REAR (WEST): GARAGE:	10'	10'	HEIGHT LIMITATION. THE HEIGHT LIMIT IN THE AREA OF THE REDUCED SETBACK IS LOWERED ONE FOOT FOR EVERY FOOT OF REDUCED SETBACK. SEE FIGURES 110-2 AND 110-3.
	5'	5'	
	5'	5'	
	10'	14'-9"	
	5'	5' (10' TALL GARAGE)	
MAXIMUM HEIGHT:	30' ALLOWED, 23' PROVIDED (INCLUDING HANDRAIL)		DUE TO SLOPING SITE (OVER 20% DOWN FROM STREET): HEIGHT LIMIT IS THE HIGHER OF EITHER 23 FEET ABOVE THE AVERAGE GRADE OF THE STREET, OR THE NORMAL HEIGHT LIMIT CALCULATED AS STATED IN CHAPTER 33.930, MEASUREMENTS. IN ADDITION, THE ALTERNATIVE HEIGHT AND SETBACK STANDARDS OF SUBSECTION 33.110.220.D APPLY.
MAXIMUM LOT COVERAGE:	FROM TABLE 110-4: 1,500 SF + 37.5% OF LOT AREA OVER 3,000 SF (4,616 SF - 3,000 SF) 1,500 SF + (1,616 * 37.5%) 1,500 SF + 606 = 2,106 SF MAX LOT COVERAGE (1,024 SF PROVIDED)		
MAXIMUM DISTURBANCE AREA:	FROM 33.430 TABLE 430.1: 2,500 SF MAXIMUM DISTURBANCE AREA ALLOWED WITHIN RESOURCE (ENVIRONMENTAL CONSERVATION OVERLAY) AREA ON SITE THE PROPOSED BUILDINGS MUST BE SET BACK AT LEAST 5 FEET FROM THE EDGE OF THE DISTURBANCE AREA		
SITE LANDSCAPE AREA:	SEE LANDSCAPING PLAN		
PARKING: (TABLE 266-2)	NONE REQUIRED: NO PARKING IF SITE IS "LOCATED 1500 FEET OR LESS FROM A TRANSIT STATION, OR 500 FEET OR LESS FROM A TRANSIT STREET WITH 20-MINUTE PEAK HOUR SERVICE." AT THIS TIME, THE NEAREST BUS LINE (51) IS WITHIN 500-FT AND IS CONSIDERED FREQUENT SERVICE.		
STREET FACING FACADES (33.110.232)	EXEMPT FROM STANDARDS DUE TO SLOPING SITE (OVER 20% DOWN FROM STREET)		
GARAGES (33.110.253)	<ul style="list-style-type: none">EXEMPT FROM LENGTH OF STREET FACING GARAGE WALL DUE TO SLOPING SITE (OVER 20% DOWN FROM STREET)EXEMPT FROM STREET LOT LINE SETBACK RULES DUE TO SLOPING SITE (OVER 20% DOWN FROM STREET)		
FENCES (33.110.255)	1. FRONT BUILDING SETBACKS. FENCES UP TO 3-1/2 FEET HIGH ARE ALLOWED IN REQUIRED FRONT BUILDING SETBACKS. 2. SIDE AND REAR BUILDING SETBACKS A. FENCES UP TO 8 FEET HIGH ARE ALLOWED IN REQUIRED SIDE OR REAR BUILDING SETBACKS THAT DO NOT ABUT A PEDESTRIAN CONNECTION.		
TREE PROTECTION:	NONE REQUIRED OUTSIDE OF CONSERVATION ZONE.		
APPLICABLE CODES AND STANDARDS			
BUILDING CODE EDITION:	2017 OREGON RESIDENTIAL SPECIALTY CODE 2014 OREGON MECHANICAL SPECIALTY CODE 2017 OREGON PLUMBING SPECIALTY CODE 2017 OREGON ELECTRICAL SPECIALTY CODE 2014 OREGON ENERGY EFFICIENCY SPECIALTY CODE 2014 OREGON FIRE CODE 2016 PORTLAND FIRE CODE		
ENERGY CONSERVATION			
ENERGY CONSERVATION:	INSULATION VALUES (FROM ORSC CHAPTER 11)		OPENINGS MINIMUM REQUIRED WINDOW U VALUE: U-0.30
IN ADDITION TO MEASURES SHOWN AT RIGHT FROM TABLE N1101.1(1), BUILDING SHALL COMPLY WITH TWO ADDITIONAL MEASURES FROM TABLE N1101.1(2):	WALL INSULATION ABOVE GRADE:	REQUIRED: R-21 PROVIDED: R-23	MINIMUM REQUIRED SKYLIGHT U VALUE: U-0.60
	FLAT CEILINGS:	REQUIRED: R-49 PROVIDED: R-59.2 + ROOF INSULATION (VARIES)	MINIMUM REQUIRED EXTERIOR DOOR U VALUE: U-0.20 (R-5) MINIMUM REQUIRED EXTERIOR DOOR WITH > 2.5 SF GLAZING: U0.40 (R-2.5)
	UNDERFLOOR:	REQUIRED: R-30 PROVIDED: R-38	FORCED AIR DUCTS: R-5
MEASURE B DUCTED HVAC SYSTEMS WITHIN CONDITIONED SPACE			
MEASURE 3 UPGRADED FEATURES			
RADON			
RADON CONTROL METHOD	RADON MITIGATION REQUIRED. SEE PLANS		
BUILDING FIRE PROTECTION & SUPPRESSION			
AUTOMATIC FIRE SPRINKLERS: AT2904.1	REQUIRED: REQUIRED NFPA 12D IF STRUCTURE IS MORE THAN 3 STORIES OR IF REQUIRED AS A CONDITION OF LAND USE REVIEW		
FIRE ALARM AND CARBON MONOXIDE DETECTION:	REQUIRED, SEE RCPS		



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

#	REVISION	DATE
---	----------	------



Project Number
20029
DWG EXPORTED 2/15/2021 9:52:38 AM
2/15/21

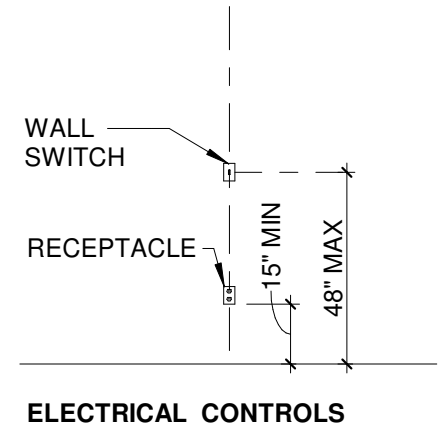
A000
COVER SHEET

CD DRAFT

DEFERRED/DESIGN-BUILD SUBMITTAL REQUIREMENTS

1. THE CONTRACTOR IS RESPONSIBLE FOR THE FOLLOWING DEFERRED/DESIGN-BUILD SUBMITTALS:
- A. ELECTRICAL
 - B. HVAC
 - C. PLUMBING
 - D. STORMWATER PLANTER
 - E. GLASS GUARDS AND STAIR HANDRAILS
 - F. NFPA 12-D AUTOMATIC SPRINKLER SYSTEM
 - G. CONCRETE BARRIER WALL AT ROAD
2. THE PORTIONS OF THE PROJECT LISTED ABOVE WILL BE CONSTRUCTED USING A DESIGN-BUILD APPROACH. THE DRAWINGS INCLUDED IN THIS PACKAGE ARE PRELIMINARY TO PROVIDE A BASIS FOR PLANNING AND BIDDING.
3. ACTUAL DRAWINGS, DETAILS, AND CALCULATIONS FOR THE PORTIONS OF WORK LISTED AS DEFERRED/DESIGN-BUILD SUBMITTALS ARE TO BE PROVIDED BY THE CONTRACTOR AND SHALL INCLUDE ALL WORK REQUIRED TO IMPLEMENT THE ENTIRE PROJECT SCOPE RELATED TO THESE PORTIONS AND COORDINATION WITH OTHER WORK.
4. DEFERRED/DESIGN-BUILD SUBMITTAL INFORMATION REQUIRES REVIEW OF BOTH ARCHITECT AND APPROVAL BY THE AUTHORITY HAVING JURISDICTION.
5. PERMIT ACQUISITION FOR THE DEFERRED/DESIGN-BUILD SCOPE OF WORK SHALL BE PROVIDED BY THE CONTRACTOR.
6. THE CONTRACTOR SHALL VERIFY ALL UTILITIES AND EQUIPMENT, AND COORDINATE EQUIPMENT REQUIREMENTS AND LOCATIONS.
7. THE PROCEDURE FOR DEFERRED/DESIGN-BUILD SUBMITTAL IS AS FOLLOWS:
- A. INITIAL DESIGN REVIEW SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR PRELIMINARY REVIEW.
 - B. FINAL DESIGN, ENGINEERING, AND SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW. SUCH DRAWINGS SHALL BE STAMPED AND SIGNED BY AN ENGINEER WHEN REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
 - C. FOLLOWING THE ARCHITECT'S REVIEW, THE CONTRACTOR SHALL SUBMIT TO THE AUTHORITY HAVING JURISDICTION FOR PERMIT APPROVAL AND ACQUISITION.
 - D. PROCUREMENT, FABRICATION, AND OTHER WORK RELATED TO DEFERRED/DESIGN-BUILD SUBMITTAL SHALL NOT BE PERFORMED UNTIL THE DEFERRED/DESIGN-BUILD SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND APPROVED BY THE ARCHITECT AND THE AUTHORITY HAVING JURISDICTION.
8. CENTRAL HEATING AND AIR CONDITIONING REQUIRED - CONSULT WITH ARCHITECT FOR ROUTING AND PLACEMENT OF SYSTEMS.

ELECTRICAL MOUNTING HEIGHTS



GENERAL NOTES

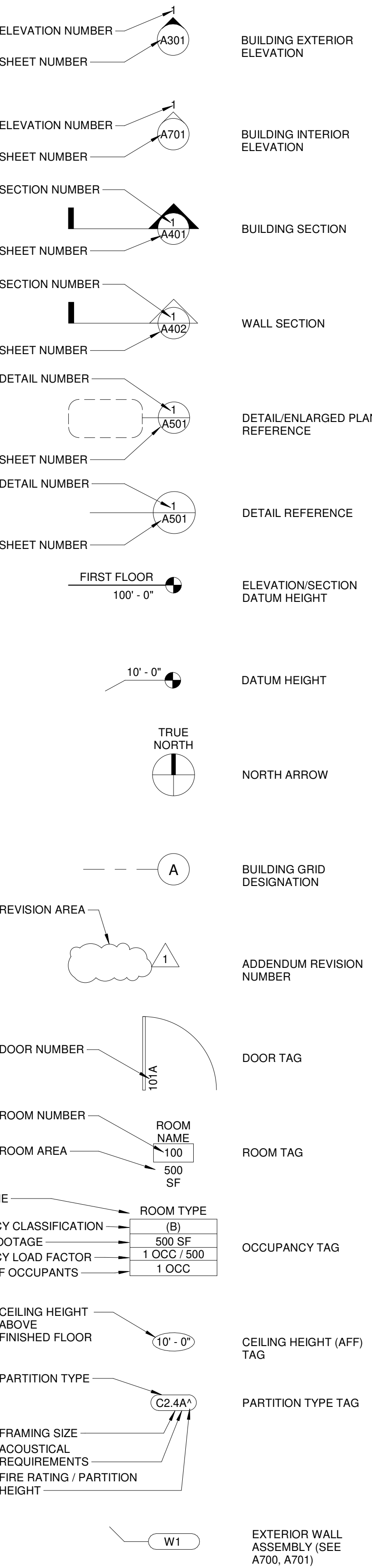
1. DO NOT SCALE DRAWINGS.
2. ALL MANUFACTURED ARTICLES, MATERIALS AND EQUIPMENT SHALL BE APPLIED, INSTALLED, ERECTED AND CONNECTED IN ACCORDANCE WITH MANUFACTURERS' DIRECTIONS AND RECOMMENDATIONS.
3. ANY DISCREPANCIES BETWEEN DRAWINGS AND/OR SPECIFICATIONS, LOCAL CODES, BUILDING INSPECTOR REQUIREMENTS AND/OR EXISTING CONDITIONS SHALL BE REFERRED TO THE ARCHITECT FOR RESOLUTION.
4. THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS FOR THE PROJECT WHERE JOB CONDITIONS PREVENT OBTAINING DIMENSIONS OR RESULTS AS SHOWN OR SPECIFIED.
5. LARGER SCALE DETAILS HAVE PRECEDENCE OVER SMALLER SCALE DETAILS.
6. CONFIRM ALL NEW AND EXISTING CONDITIONS WITH THE CONTRACT DOCUMENTS. NOTIFY ARCHITECT IMMEDIATELY IN WRITING OF ALL DISCREPANCIES OR CONFLICTS. DO NOT PROCEED WITH WORK IN THE AREA OF DISCREPANCY OR CONFLICT UNTIL DIRECTION IS GIVEN BY ARCHITECT. IF CONTRACTOR PROCEEDS WITHOUT DIRECTION FROM ARCHITECT, IT SHALL BE AT CONTRACTORS RISK AND CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED CORRECTIVE ACTION.
7. REVIEW THE ARCHITECTURAL DRAWINGS BEFORE THE INSTALLATION OF SYSTEMS SHOWN ON CONSULTING ENGINEER'S DOCUMENTS. DISCREPANCIES BETWEEN THE ARCHITECTURAL AND CONSULTING ENGINEER'S DOCUMENTS SHALL BE BROUGHT TO ARCHITECT'S ATTENTION FOR DIRECTION. CONSTRUCTION INSTALLED IN CONFLICT WITH THE ARCHITECTURAL DRAWINGS SHALL BE CORRECTED BY CONTRACTOR AT NO EXPENSE TO THE OWNER.
8. THE CONTRACTOR SHALL ESTABLISH CLEAR UNDERSTANDING REQUIREMENTS OF THE PROJECT, SYSTEMS AND THEIR COMPONENTS PRIOR TO ORDERING MATERIALS.
9. THE CONTRACTOR SHALL PROVIDE SHORING, BRACING, SUPPORT AND PROTECTION AS REQUIRED.
10. THE CONTRACTOR IS RESPONSIBLE FOR ALL MEANS AND METHODS OF CONSTRUCTION AND SHALL COORDINATE ALL CONSTRUCTION EFFORTS WITH THE OWNER'S REQUIREMENTS.
11. THE CONTRACTOR SHALL PROVIDE FOR DUST CONTROL THROUGHOUT AND SHALL PROVIDE TEMPORARY MEASURES TO VENTILATE AREAS DURING ALL PHASES OF DEMOLITION AND CONSTRUCTION, AND SHALL ERADICATE THE BUILD-UP OF FUMES FROM FINISH MATERIALS AND CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL MAINTAIN SIX (6) AIR EXCHANGES PER HOUR UNLESS MORE STRINGENT OSHA, STATE OR LOCAL STANDARDS ARE TO BE ADHERED TO.
12. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OWNER AND OWNER PROVIDED CONTRACTORS, IF ANY, AS REQUIRED TO IMPLEMENT THE SCOPE OF WORK.
13. THE ARCHITECT SHALL NOT BE RESPONSIBLE FOR LOCATING, IDENTIFYING, OR SPECIFYING MEANS OF REMOVAL OF ANY HAZARDOUS MATERIALS. HAZARDOUS MATERIAL TESTING SHALL BE COMPLETED BY OWNER CONTRACTED CONSULTANT.
14. THE CONTRACTOR SHALL BE FULLY AND SOLELY RESPONSIBLE FOR THE REMOVAL, REPLACEMENT AND RECTIFICATION OF ALL DAMAGED AND DEFECTIVE MATERIAL AND WORKMANSHIP IN CONNECTION WITH THE CONTRACT WORK.
15. REASONABLE ALLOWANCES SHALL BE PROVIDED FOR ALL ITEMS NOT SPECIFIED IN THE DRAWINGS, MATERIALS LIST AND SPECIFICATIONS.
16. THE CONTRACTOR IS RESPONSIBLE THAT EASEMENTS AND SETBACKS ARE NOT ENCROACHED.
17. THE CONTRACTOR SHALL COORDINATE ALL THE TIE-INS AND ALL UTILITY SERVICES WITH THE RESPECTIVE UTILITY COMPANIES.
18. COORDINATE FLOOR, WALL AND CEILING FIRE RATINGS WITH CODE COMPLIANCE SHEETS. ALL PENETRATIONS THROUGH RATED ASSEMBLIES TO BE SEALED WITH AN APPROPRIATE FIRESTOP SYSTEM WITH AN EQUAL OR GREATER RATING THAN THE PENETRATED ASSEMBLY.

ABBREVIATIONS

ACT	ACOUSTICAL CEILING TILE
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISH FLOOR
B.O.	BOTTOM OF
CJ	CONTROL JOINT
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
CONT	CONTINUOUS
DEMO	DEMOLISH/DEMOLITION
DIA	DIAMETER
DIM	DIMENSION
DN	DOWN
DS	DOWNSPOUT
(E)	EXISTING
EA	EACH
EJ	EXPANSION JOINT
ELEC	ELECTRICAL
ELEV	ELEVATOR
EQ	EQUAL
EQUIP	EQUIPMENT
EW	EACH WAY
FD	FLOOR DRAIN
FF	FINISH FLOOR
FO	FACE OF
GA	GAGE
GALV	GALVANIZED
GYP BD	GYPSUM BOARD
HR	HOURLY
HSS	HOLLOW STRUCTURAL SECTION
HVAC	HEATING, VENTILATING, AIR CONDITIONING
MAX	MAXIMUM
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
N/A	NOT APPLICABLE
NO	NOT IN CONTRACT
NO.	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
OPH	OPPOSITE HAND
OTS	OPEN TO STRUCTURE
P.LAM	PLASTIC LAMINATE
PL	PLATE
PT	PRESSURE/PRESERVATIVE TREATED
RD	ROOF DRAIN
RO	ROUGH OPENING
SF	SQUARE FEET
SIM	SIMILAR
STC	SOUND TRANSMISSION CLASS
T&G	TONGUE AND GROOVE
TG	TEMPERED GLASS
T.O.	TOP OF
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
VIF	VERIFY IN FIELD
W/	WITH
W/O	WITHOUT

TAG LEGEND

NOT ALL TAGS MAY BE USED



NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER

UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

#	REVISION	DATE
---	----------	------



Project Number
20029
DWG EXPORTED 2/15/2021 9:52:38 AM
2/15/21

A001
GENERAL NOTES

CD DRAFT

SITE PLAN NOTES

1. (E) WATER MAIN AT SW UPPER HALL DOES NOT REACH FRONTAGE OF THIS PROPERTY. 85' EXTENSION IS REQUIRED.

- RESOURCE AREA
- TRANSITION AREA
- EC

CONSERVATION ZONE
- TEMPORARY DISTURBANCE
- PERMANENT DISTURBANCE

TREE TABLE

TREE NO.	DIAMETER	SPECIES
T1	8"	CEDAR
T2	12"	CONIFER
T3	8"	DECIDUOUS
T4	8"	DECIDUOUS
T5	15"	MAPLE
T6	12"	MAPLE
T7	13"	MAPLE
T8	6"	MAPLE
T9	6"	MAPLE
T10	6"	MAPLE
T11	12"	MAPLE
T12	41"	MAPLE
T13	12"	MAPLE
T14	23"	MAPLE
T15	15"	MAPLE

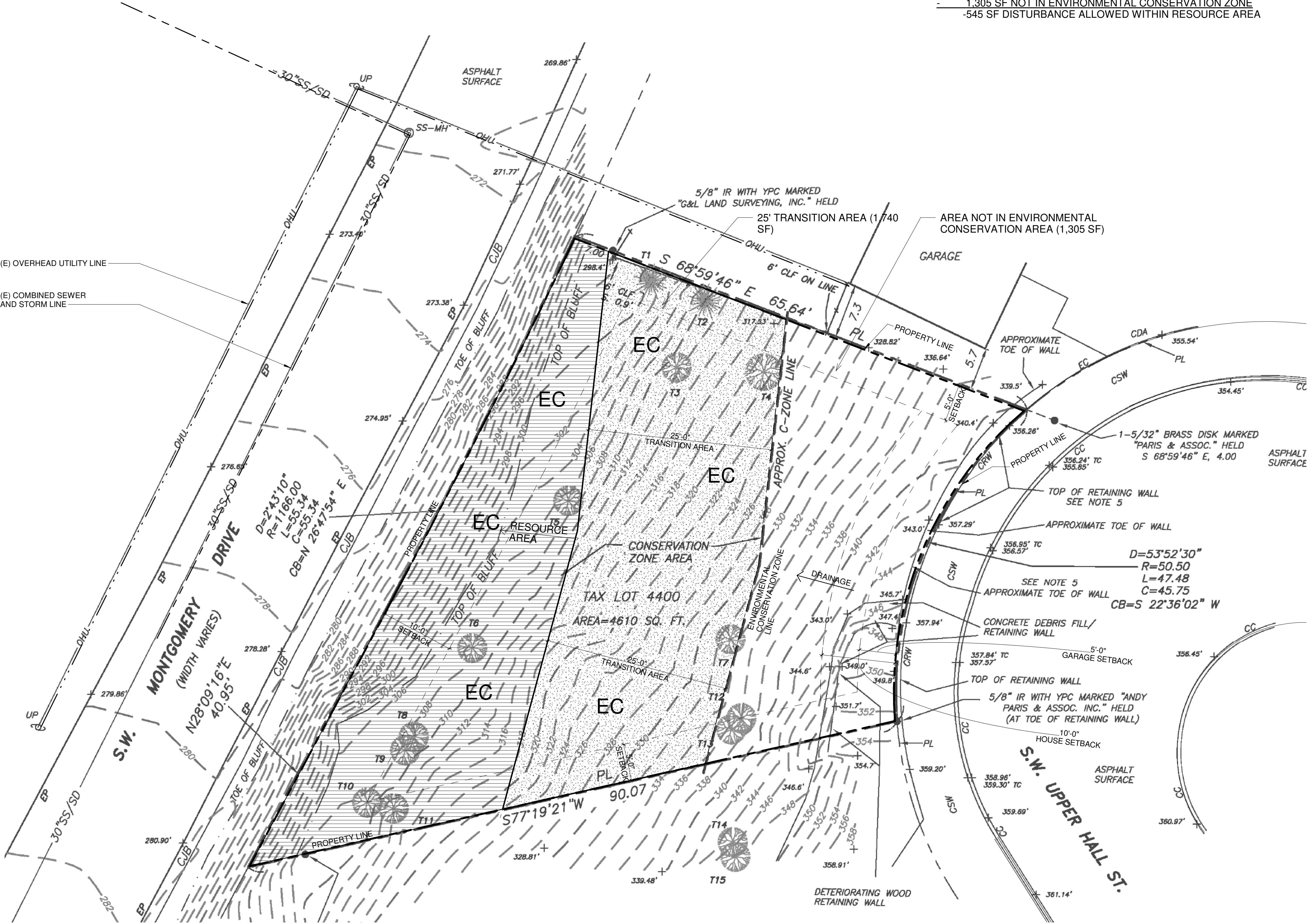
LEGEND

● = MONUMENT FOUND AS NOTED
CC = CONCRETE CURB
CDA = CONCRETE DRIVEWAY APRON
CJB = CONCRETE JERSEY BARRIER
CLF = CHAIN LINK FENCE
CSW = CONCRETE SIDEWALK
CRW = TOP OF CONCRETE RETAINING WALL
EP = EDGE OF PAVEMENT
IR = IRON ROD
OHU = OVERHEAD UTILITY LINES
PL = PROPERTY LINE
SS = EXISTING SANITARY SERVICE
SS-MH = SANITARY MANHOLE
SS/SD = COMBINED SEWER AND STORM LINE
UP = UTILITY POLE
YPC = YELLOW PLASTIC CAP

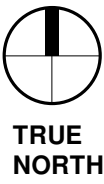
ALLOWED DISTURBANCE CALCULATION

THE MAXIMUM DISTURBANCE AREA ALLOWED WITHIN THE RESOURCE AREA ON THE SITE IS DETERMINED BY SUBTRACTING ALL PORTIONS OF THE SITE OUTSIDE THE RESOURCE AREA FROM 2,500 SF

- 2,500 SF
- 1,740 SF TRANSITION ZONE
- 1,305 SF NOT IN ENVIRONMENTAL CONSERVATION ZONE
- 545 SF DISTURBANCE ALLOWED WITHIN RESOURCE AREA



1 SITE EXISTING CONDITIONS PLAN
1/8" = 1'-0"



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER

#	REVISION	DATE
---	----------	------



Project Number
20029
DWG EXPORTED 2/15/2021 9:52:39 AM
2/15/21

A100
EXISTING
CONDITIONS SITE
PLAN

CD DRAFT

ALLOWED DISTURBANCE CALCULATION

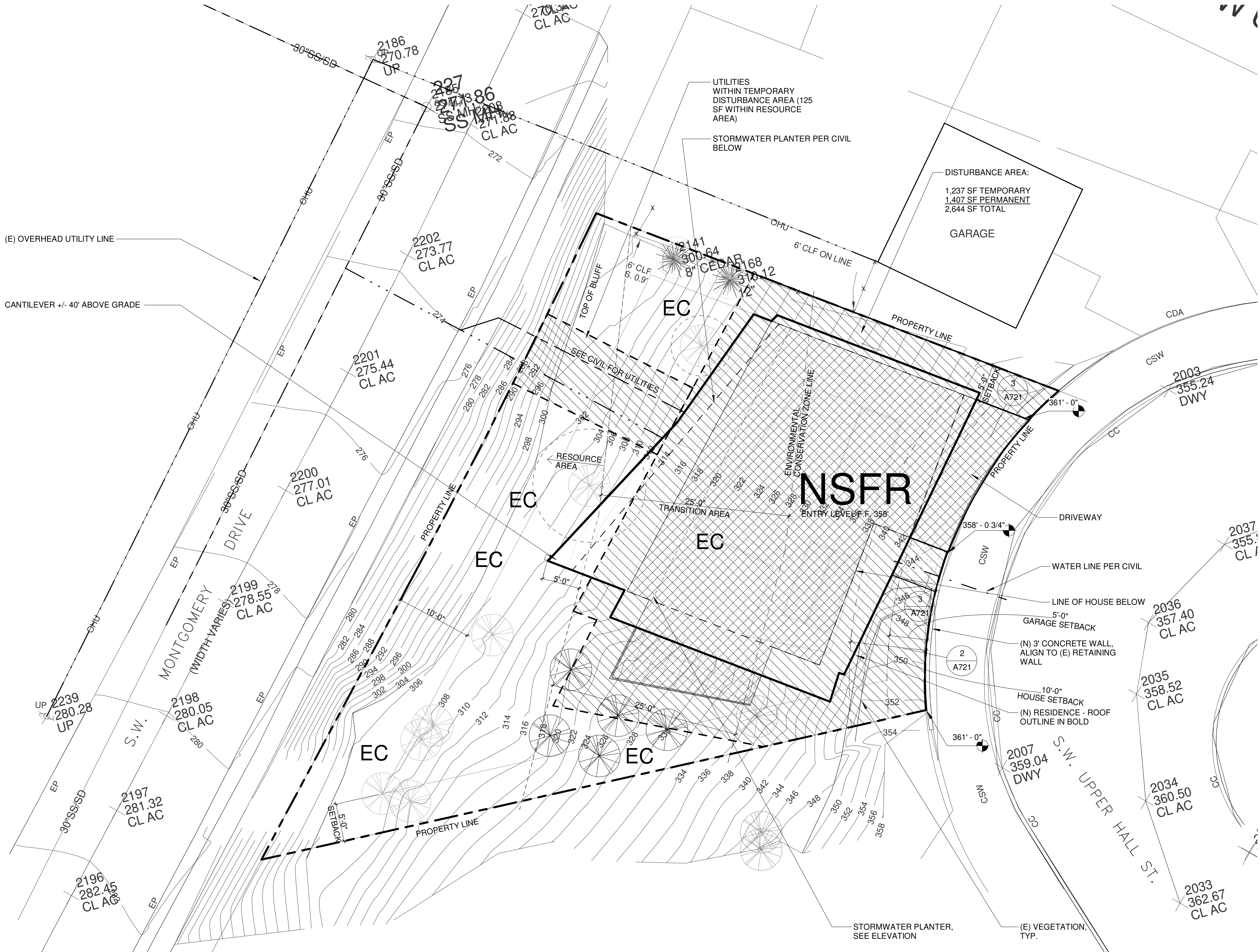
THE MAXIMUM DISTURBANCE AREA ALLOWED WITHIN THE RESOURCE AREA ON THE SITE IS DETERMINED BY SUBTRACTING ALL PORTIONS OF THE SITE OUTSIDE THE RESOURCE AREA FROM 2,500 SF

- 2,500 SF
- 1,740 SF TRANSITION ZONE
- 1,305 SF NOT IN ENVIRONMENTAL CONSERVATION ZONE
- 545 SF DISTURBANCE ALLOWED WITHIN RESOURCE AREA

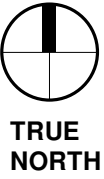
SITE PLAN NOTES

- (E) WATER MAIN AT SW UPPER HALL DOES NOT REACH FRONTAGE OF THIS PROPERTY. 85' EXTENSION IS REQUIRED.

- RESOURCE AREA
- TRANSITION AREA
- EC CONSERVATION ZONE
- TEMPORARY DISTURBANCE
- PERMANENT DISTURBANCE



1 DEVELOPMENT SITE PLAN
1/8" = 1'-0"



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER

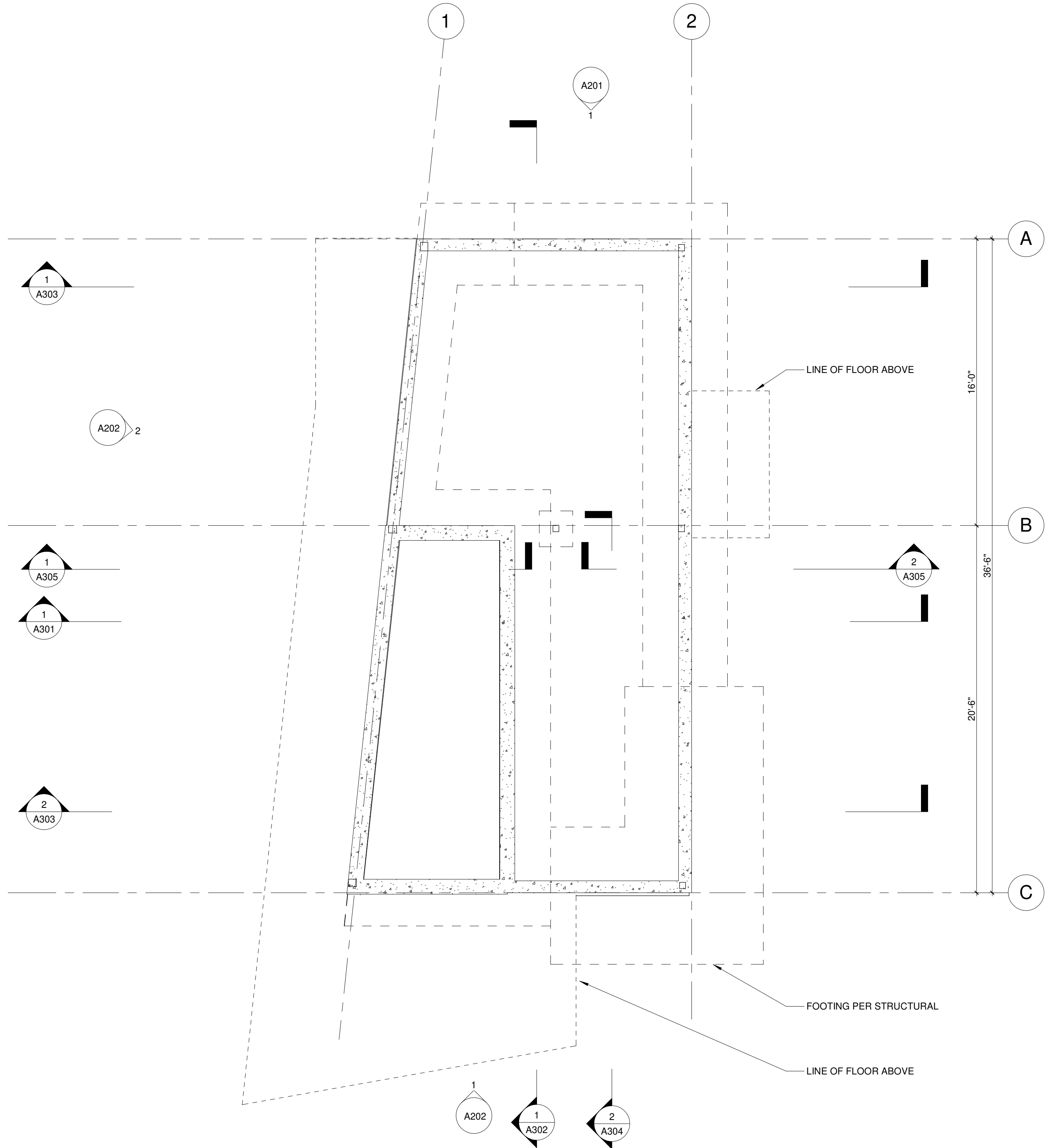
#	REVISION	DATE
---	----------	------



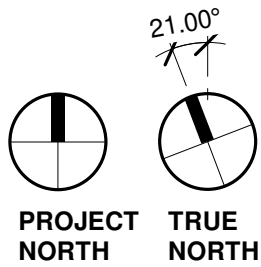
Project Number
20029
DWG EXPORTED 2/15/2021 9:52:40 AM
2/15/21

A101
DEVELOPMENT
SITE PLAN

CD DRAFT



① FOUNDATION PLAN
1/4" = 1'-0"



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER

#	REVISION	DATE
---	----------	------



Project Number
20029
DWG EXPORTED 2/15/2021 9:52:43 AM
2/15/21

A130
FOUNDATION
PLAN

CD DRAFT



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

#	REVISION	DATE
---	----------	------



Project Number
20029
DWG EXPORTED 2/15/2021 9:52:43 AM
2/15/21

A131
FLOOR PLAN -
LEVEL 1 & 2

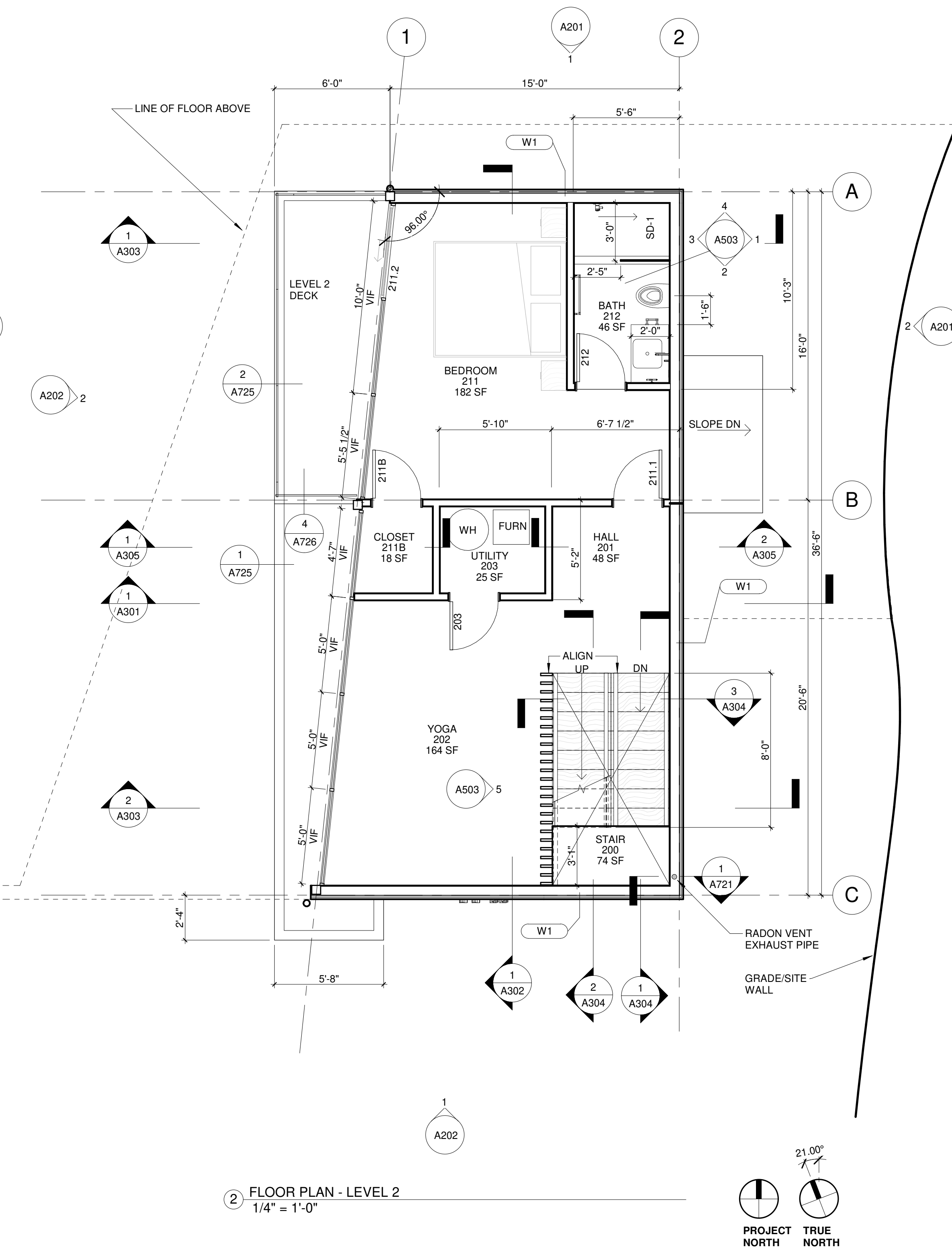
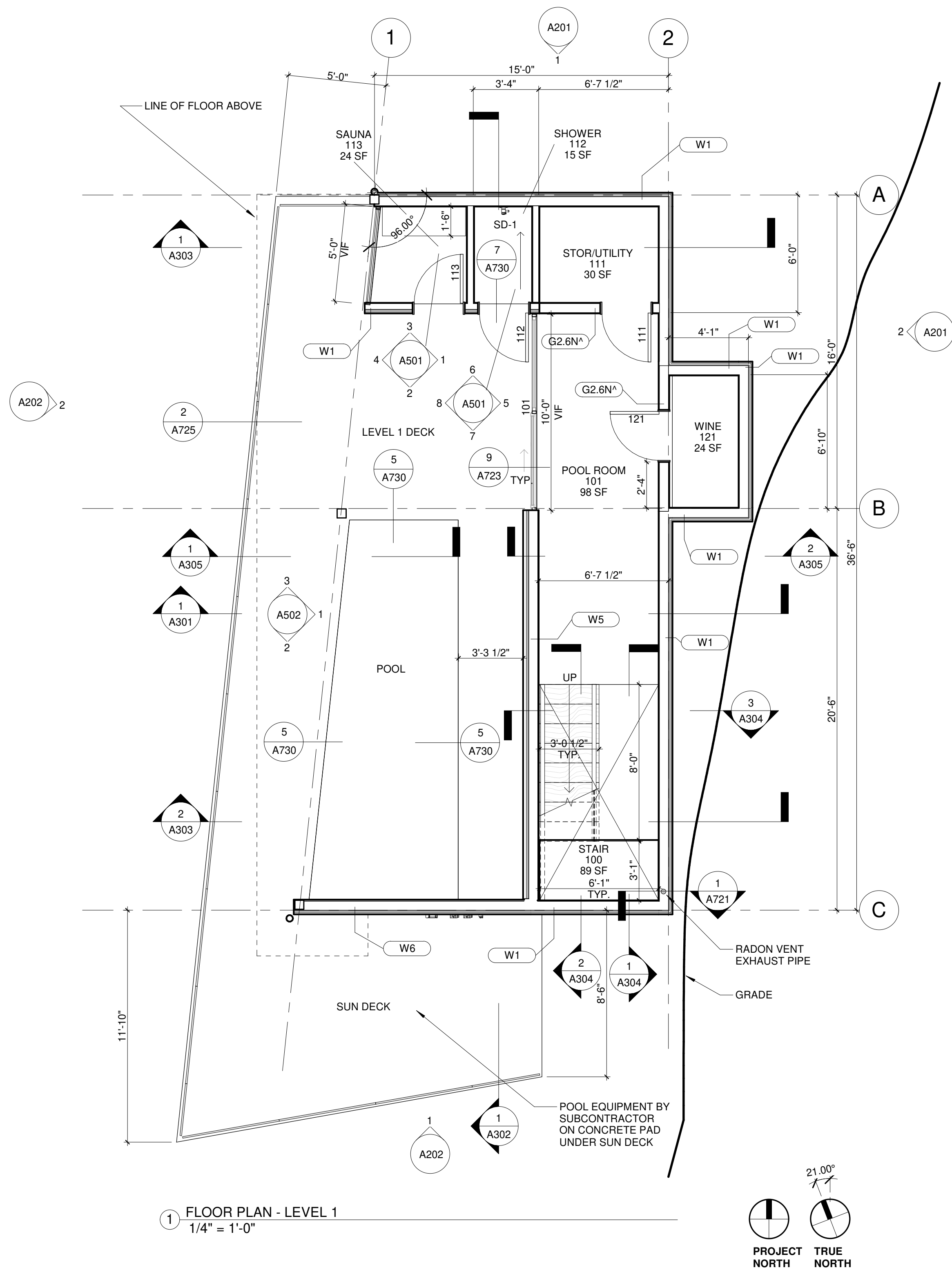
CD DRAFT

FLOOR PLAN NOTES

- PARTITION DIMENSIONS ARE TO FACE OF FRAMING UNLESS OTHERWISE NOTED.
- FURNITURE OFOI UNLESS OTHERWISE NOTED.
- ALL INTERIOR PARTITIONS ARE TYPE G2.4N* UNLESS OTHERWISE NOTED - SEE PARTITION TYPES SHEET FOR PARTITION TYPES AND TAG INFO. ANY SHEAR WALLS SHOWN FOR REFERENCE ONLY - SEE STRUCTURAL.
- SEE ASSEMBLIES SHEET FOR TYPICAL EXTERIOR WALL/ROOF/FLOOR ASSEMBLIES.

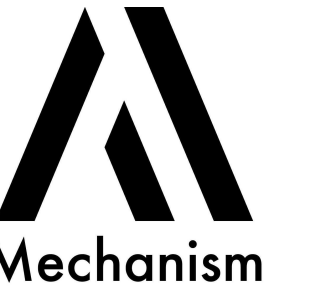
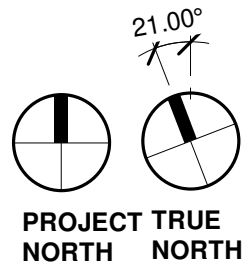
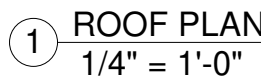
FLOOR PLAN LEGEND

NEW WALL



CD DRAFT

1. CONFIRM LOCATION OF ALL PENETRATIONS PRIOR TO WORK.
2. NOT EVERY PARAPET WALL, COPING, CURB AND FLASHING CONDITION IS ILLUSTRATED OR DETAILED. PROVIDE ROOFING, BLOCKING, FLASHING REGLETS, COPING ETC. TO INSTALL A FULLY WATERPROOFED ASSEMBLY IN ACCORDANCE WITH THE ROOFING MANUFACTURER'S RECOMMENDATIONS AND THE DESIGN AND REFERENCE STANDARDS OF SMACNA'S ARCHITECTURAL SHEET METAL MANUAL; CURRENT ADDITION.
3. PROVIDE TAPERED INSULATION THROUGH OUT ENTIRE ROOF TO MAINTAIN MIN 1/4" / 1'-0" POSITIVE DRAINAGE SLOPE AT ALL AREAS.
4. REFER TO DOCUMENTS OF OTHER TRADES FOR AS NOTED BUT NOT LIMITED TO ADDITIONAL CURBS, HOUSEKEEPING PADS, EQUIPMENT PADS, ROOF DRAINS, CUT-OUTS, BOX-OUTS, BLOCK-OUTS, SLAB OPENINGS, PENETRATIONS NOT SHOWN ON ARCHITECTURAL PLANS. REFER TO ALL DOCUMENTS FOR COORDINATION AND EXTENT OF ADDITIONAL WORK.
5. MAINTAIN 12 INCHES CLEAR BETWEEN ALL ROOF ITEMS TO ALLOW SUFFICIENT ROOM FOR PROPER PENETRATION INSTALLATION.



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

#	REVISION	DATE
---	----------	------

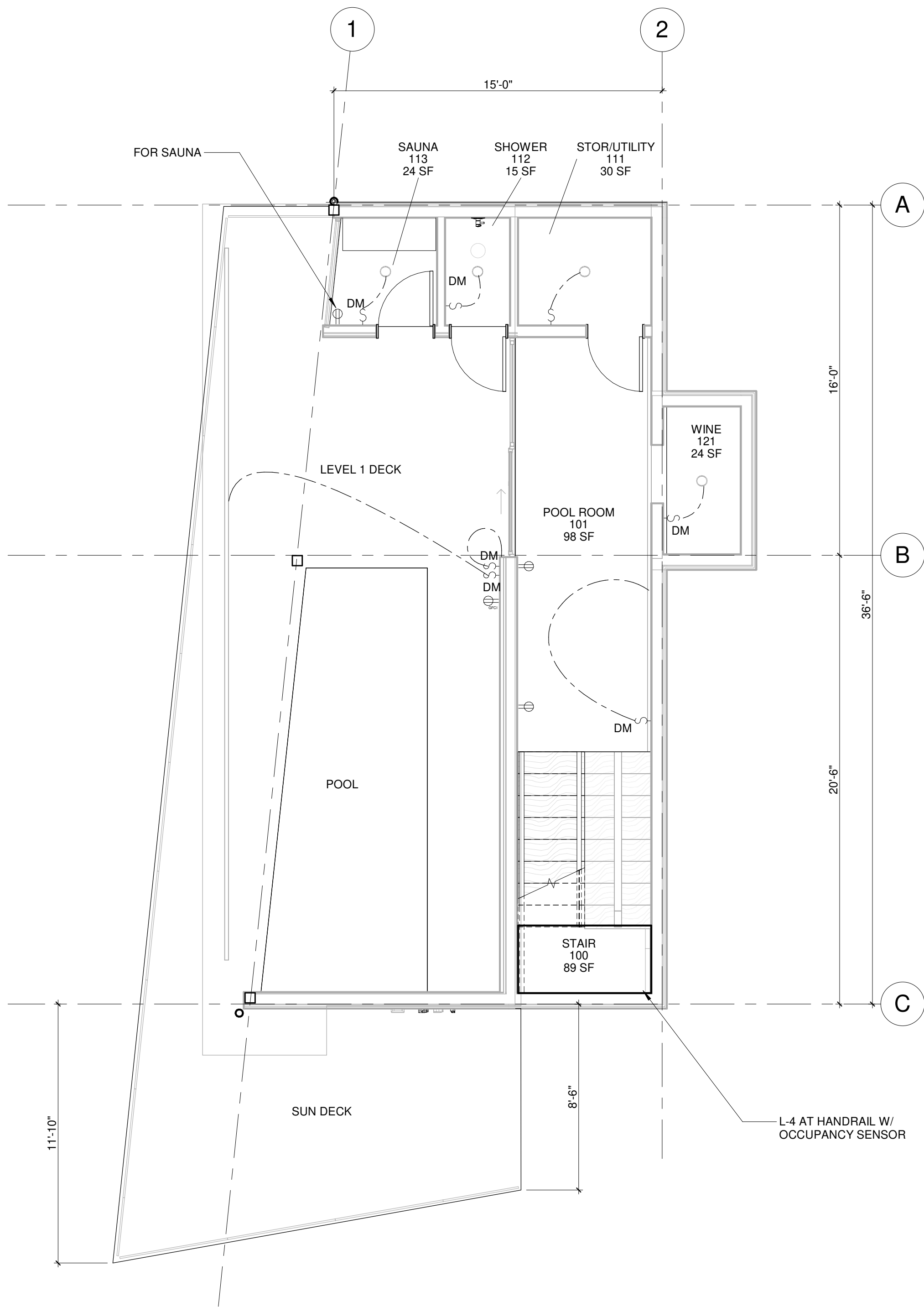


Project Number
20029
WG EXPORTED 2/15/2021 9:52:46 AM
2/15/21

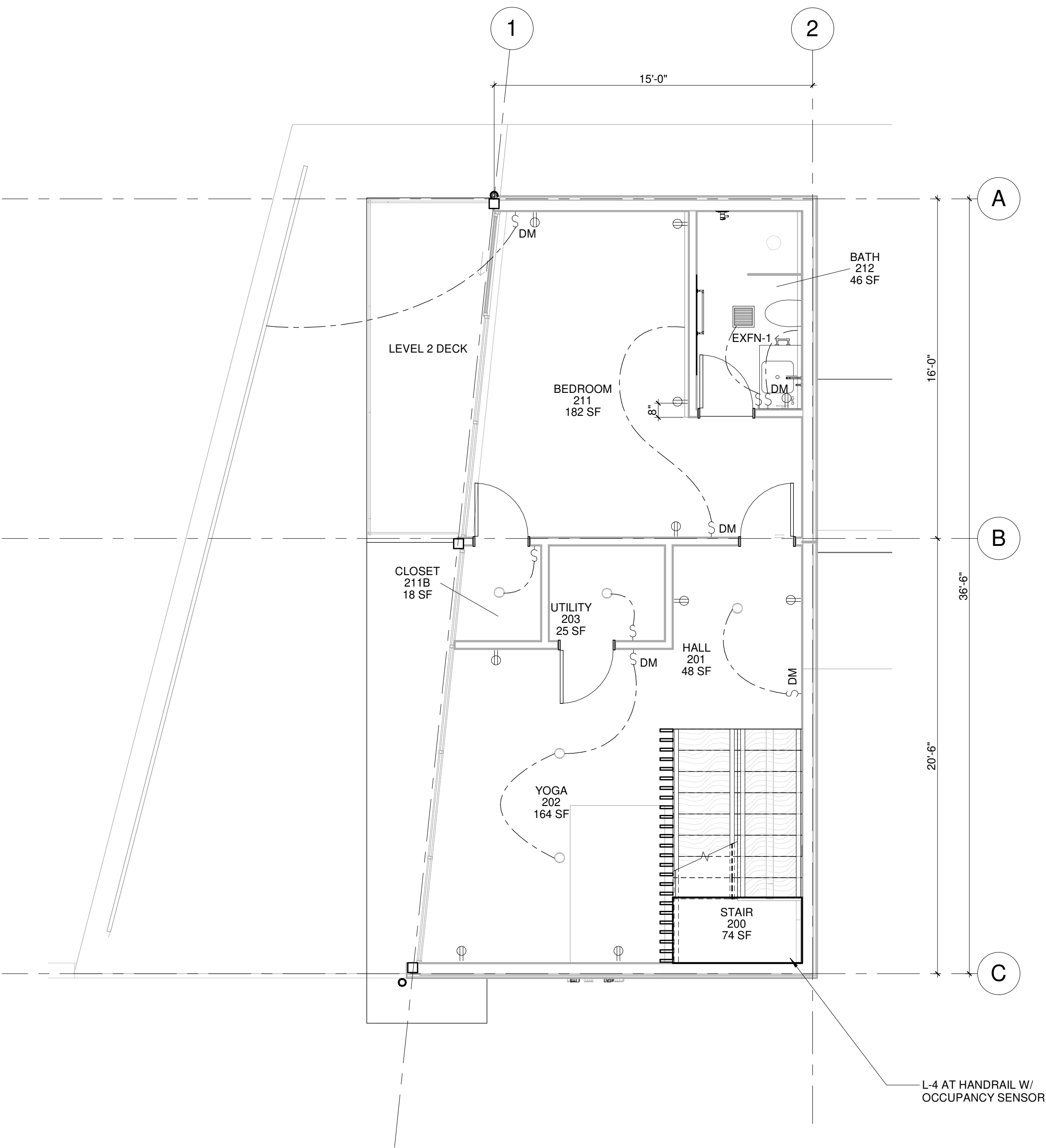
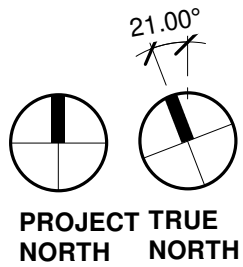
A133

ROOF PLAN

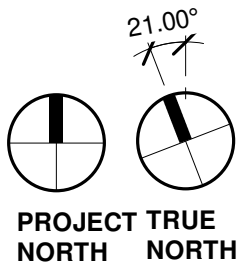
CD DRAFT



1 ELECTRICAL PLAN - LEVEL 1
1/4" = 1'-0"



2 ELECTRICAL PLAN - LEVEL 2
1/4" = 1'-0"



ELECTRICAL PLAN LEGEND

NOTE: NOT ALL ITEMS MAY BE USED

- S SINGLE POLE LIGHT SWITCH
- S 3 POLE LIGHT SWITCH
- DM DIMMER SWITCH
- ⌚ DUPLEX RECEPTACLE OUTLET
- ⌚ GROUND-FAULT CIRCUIT INTERRUPTER RECEPTACLE OUTLET
- ⌚ CLOTHES DRYER OUTLET
- ⌚ SPECIAL-PURPOSE OUTLET - DISHWASHER
- ⌚ EXHAUST FAN
- RECESSED DOWNLIGHT
- PENDANT FIXTURE (VARIES)
- RECESSED LINEAR FIXTURE

ELECTRICAL PLAN NOTES

1. VERIFY WITH ARCHITECT OF ANY FOUND CONFLICT WITH LIGHT FIXTURES AND MECHANICAL OR STRUCTURAL.
2. FOR LIGHTING FIXTURE TYPES SEE REFLECTED CEILING PLAN.
3. FURNITURE SHOWN FOR REFERENCE ONLY.

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER

#	REVISION	DATE
---	----------	------



Project Number
20029
DWG EXPORTED 2/15/2021 9:52:47 AM
2/15/21

A137
ELECTRICAL PLAN
- LEVEL 1 & 2

CD DRAFT



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

#	REVISION	DATE
---	----------	------



Project Number
20029
DWG EXPORTED 2/15/2021 9:52:48 AM
2/15/21

A138
ELECTRICAL PLAN
- LEVEL 3 & 4

CD DRAFT

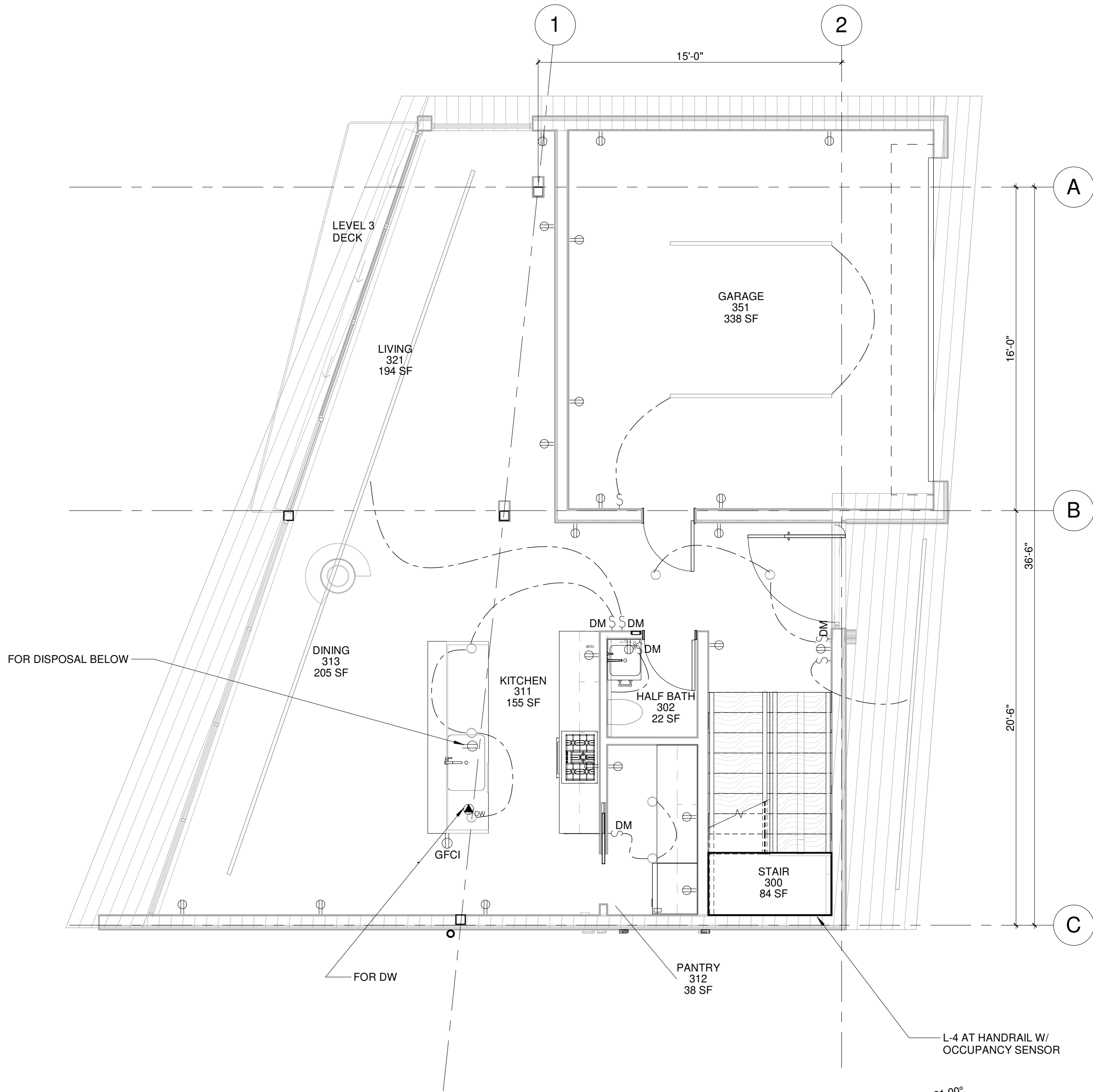
ELECTRICAL PLAN LEGEND

NOTE: NOT ALL ITEMS MAY BE USED

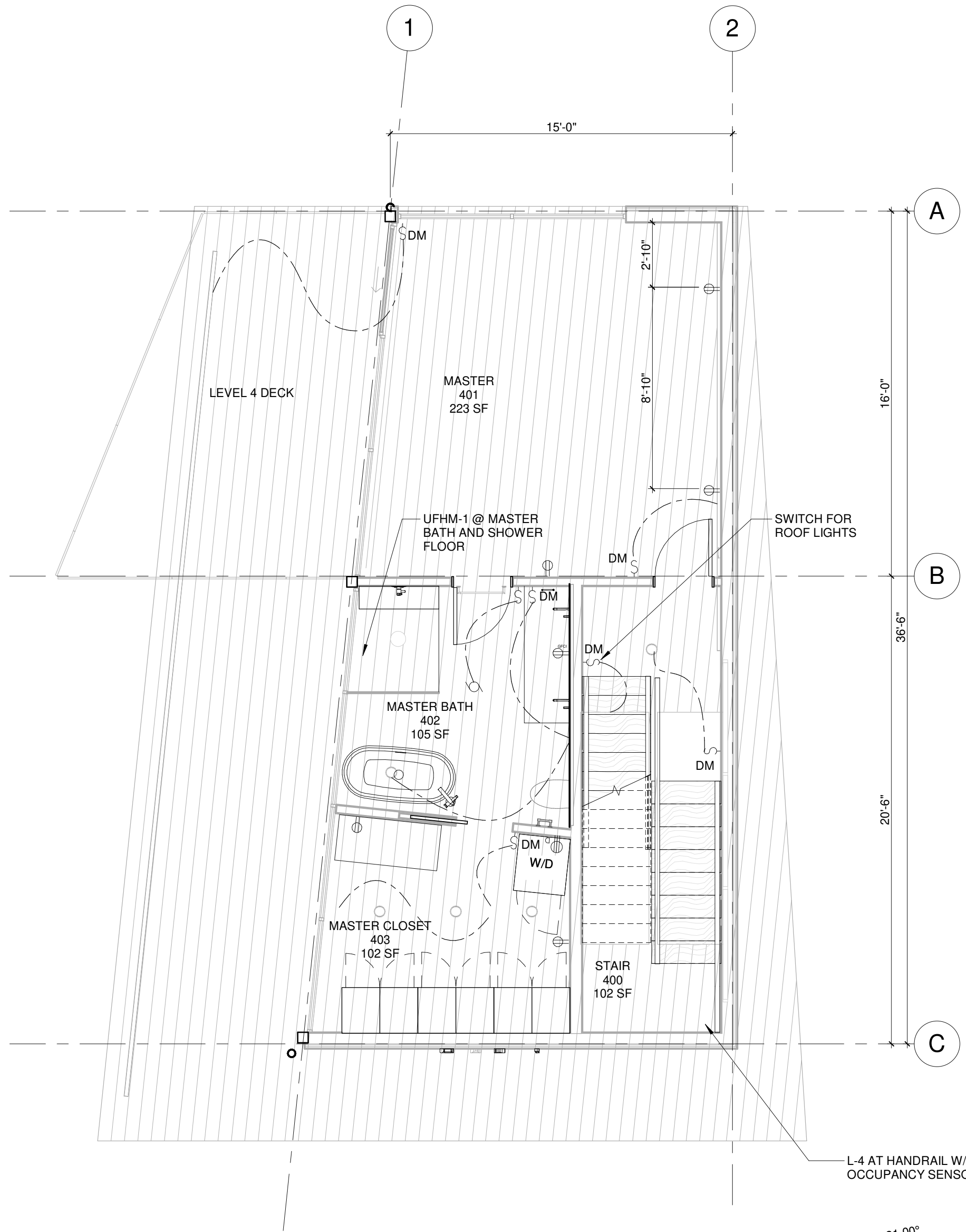
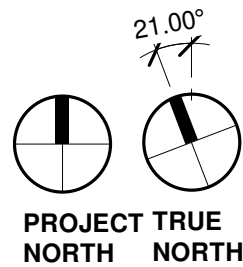
- SINGLE POLE LIGHT SWITCH
- 3 POLE LIGHT SWITCH
- DIMMER SWITCH
- DUPLEX RECEPTACLE OUTLET
- GROUND-FAULT CIRCUIT INTERRUPTER RECEPTACLE OUTLET
- CLOTHES DRYER OUTLET
- SPECIAL-PURPOSE OUTLET - DISHWASHER
- EXHAUST FAN
- RECESSED DOWNLIGHT
- PENDANT FIXTURE (VARIES)
- RECESSED LINEAR FIXTURE

ELECTRICAL PLAN NOTES

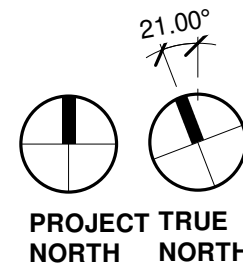
- VERIFY WITH ARCHITECT OF ANY FOUND CONFLICT WITH LIGHT FIXTURES AND MECHANICAL OR STRUCTURAL.
- FOR LIGHTING FIXTURE TYPES SEE REFLECTED CEILING PLAN.
- FURNITURE SHOWN FOR REFERENCE ONLY.

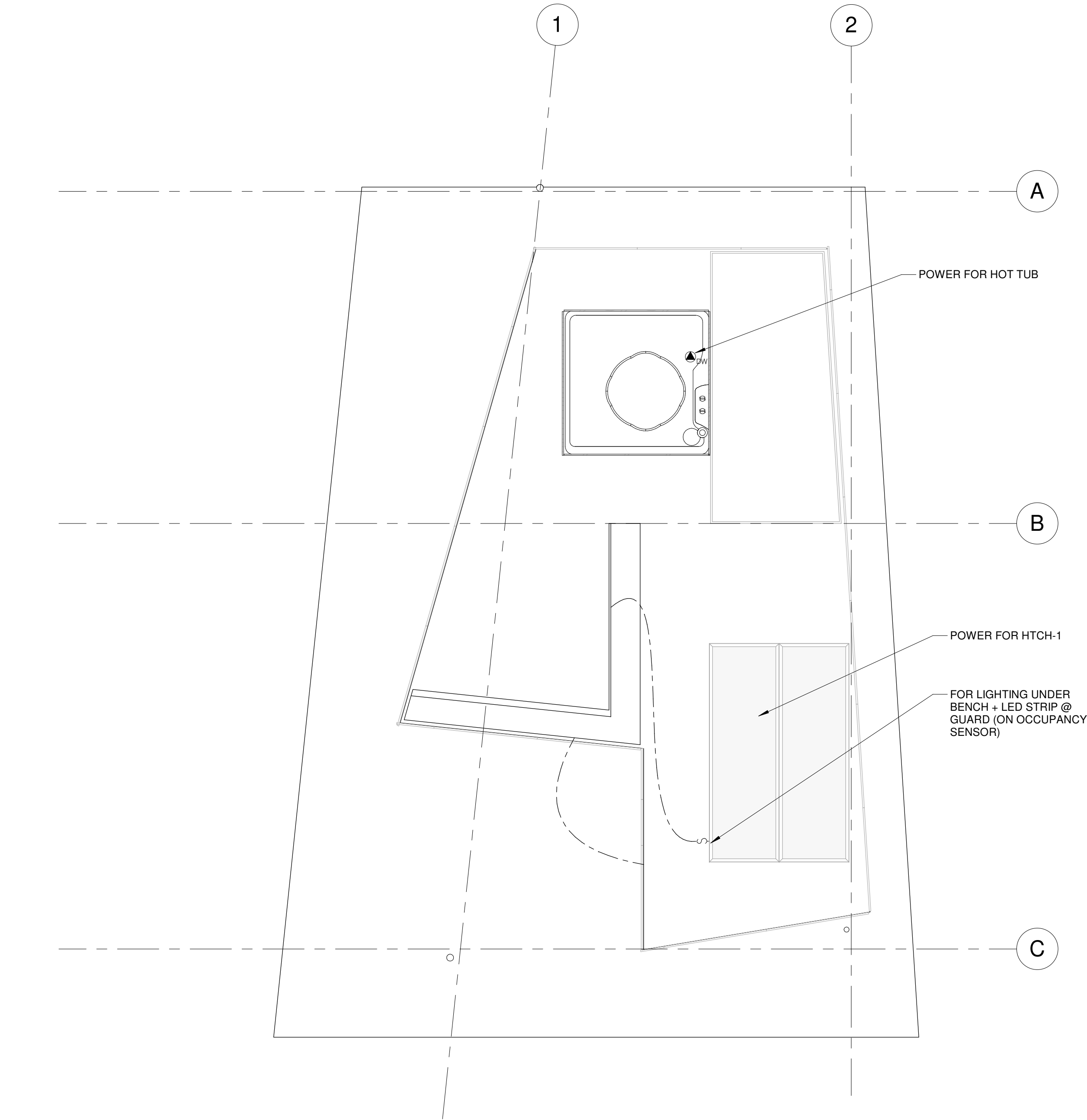


1 ELECTRICAL PLAN - LEVEL 3
1/4" = 1'-0"



2 ELECTRICAL PLAN - LEVEL 4
1/4" = 1'-0"





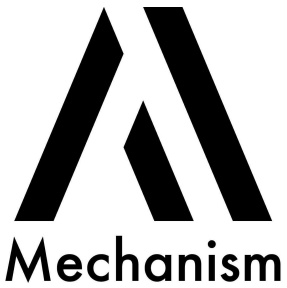
① ELECTRICAL PLAN - ROOF
1/4" = 1'-0"

ELECTRICAL PLAN LEGEND

- NOTE: NOT ALL ITEMS MAY BE USED
- S SINGLE POLE LIGHT SWITCH
 - S3 3 POLE LIGHT SWITCH
 - Sd DIMMER SWITCH
 - ⌚ DUPLEX RECEPTACLE OUTLET
 - ⌚G GROUND-FAULT CIRCUIT INTERRUPTER RECEPTACLE OUTLET
 - ⌚D CLOTHES DRYER OUTLET
 - ⌚DW SPECIAL-PURPOSE OUTLET - DISHWASHER
 - ⌚ EXHAUST FAN
 - RECESSED DOWNLIGHT
 - ⊙ PENDANT FIXTURE (VARIES)
 - RECESSED LINEAR FIXTURE

ELECTRICAL PLAN NOTES

1. VERIFY WITH ARCHITECT OF ANY FOUND CONFLICT WITH LIGHT FIXTURES AND MECHANICAL OR STRUCTURAL.
2. FOR LIGHTING FIXTURE TYPES SEE REFLECTED CEILING PLAN.
3. FURNITURE SHOWN FOR REFERENCE ONLY.



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER

#	REVISION	DATE
---	----------	------



Project Number
20029
DWG EXPORTED 2/15/2021 9:52:49 AM
2/15/21

A139
ELECTRICAL PLAN
- ROOF

CD DRAFT

ABBREVIATIONS: FINISHES

MATERIAL:		
ACP	ACOUSTIC CEILING PANEL	
ACT-#	ACOUSTIC CEILING TILE	
AWC	ACOUSTIC WOOD CEILING	
AWP	ACOUSTIC WALL PANEL	
B	RUBBER BASE	
CONC	CONCRETE	
CMU-#	CONCRETE MASONRY UNIT	
CPT-#	CARPET	
EFG	ENTRANCE FLOOR GRID	
F-#	FELT WALL COVERING	
FRP	FIBERGLASS REINFORCED PLASTIC WALL PANEL	
G	GROUT	
M-#	METAL BASE	
MB	MARKER BOARD	
OTS	OPEN TO STRUCTURE	
PLAM-#	PLASTIC LAMINATE	
P-#	PAINT	
PW-#	PLYWOOD	
QT	QUARRY TILE	
SOS-#	SOLID SURFACE	
SS	STAINLESS STEEL	
T-#	TILE	
TC	TOILET COMPARTMENTS	
TS-#	TRANSITION STRIPS	
VNL	RESILIENT VINYL SHEET - FOODSERVICE GRADE	
W	WALL COVERING	
WB	WOOD BASE	
WC-#	WINDOW COVERINGS	
WD	WOOD	
WOM	WALK OFF MAT	
#	DENOTES TYPE	

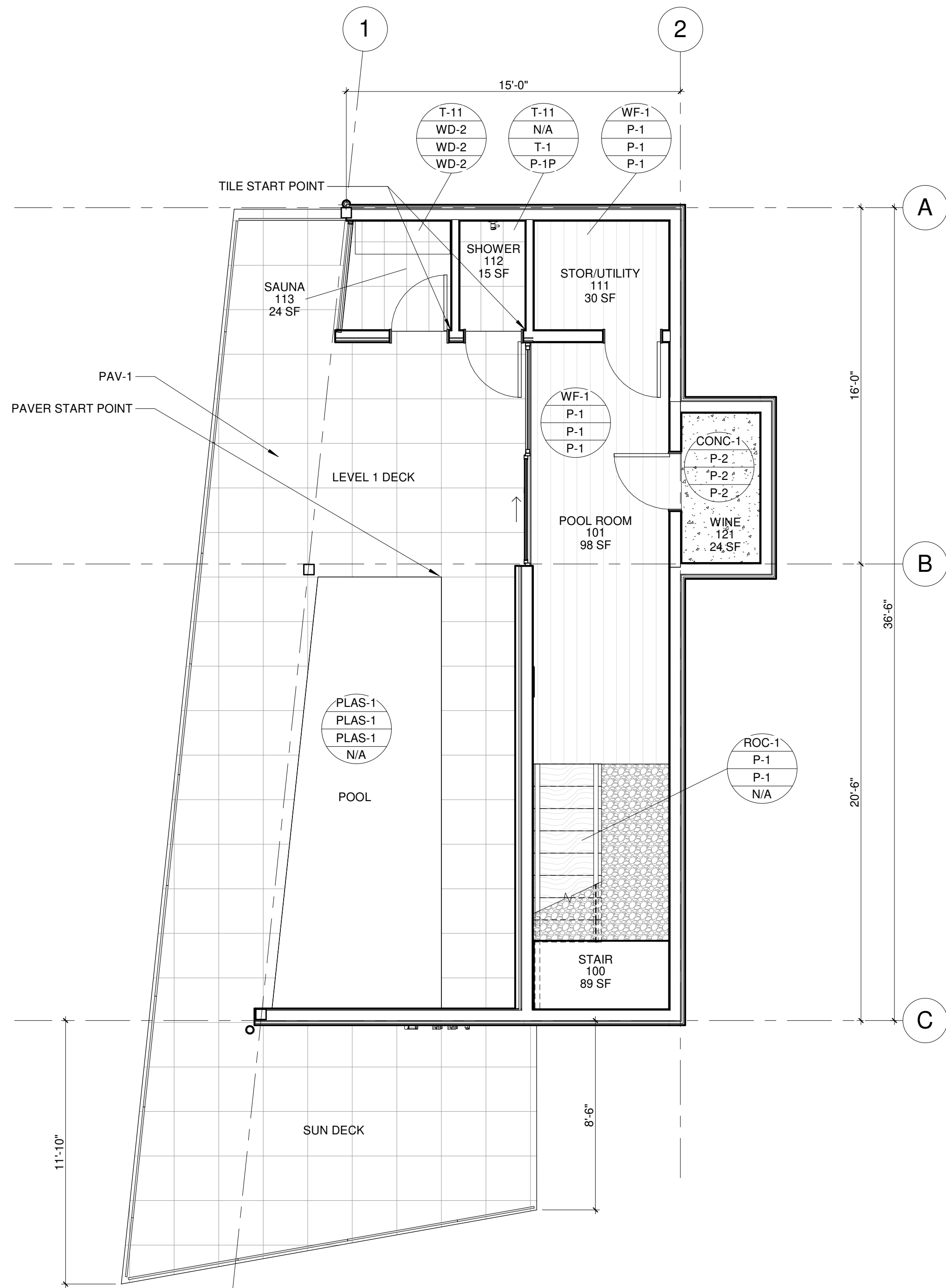
FINISH:		
CLR	CLEAR FINISH	
GRD	GROUND	
OL	CEMENT OVERLAY	
PNT	PAINT	
SLR	SEALER	
		REFER TO MAIN ABBREVIATION LIST FOR ADDITIONAL ABBREVIATIONS.

FINISH PLAN NOTES

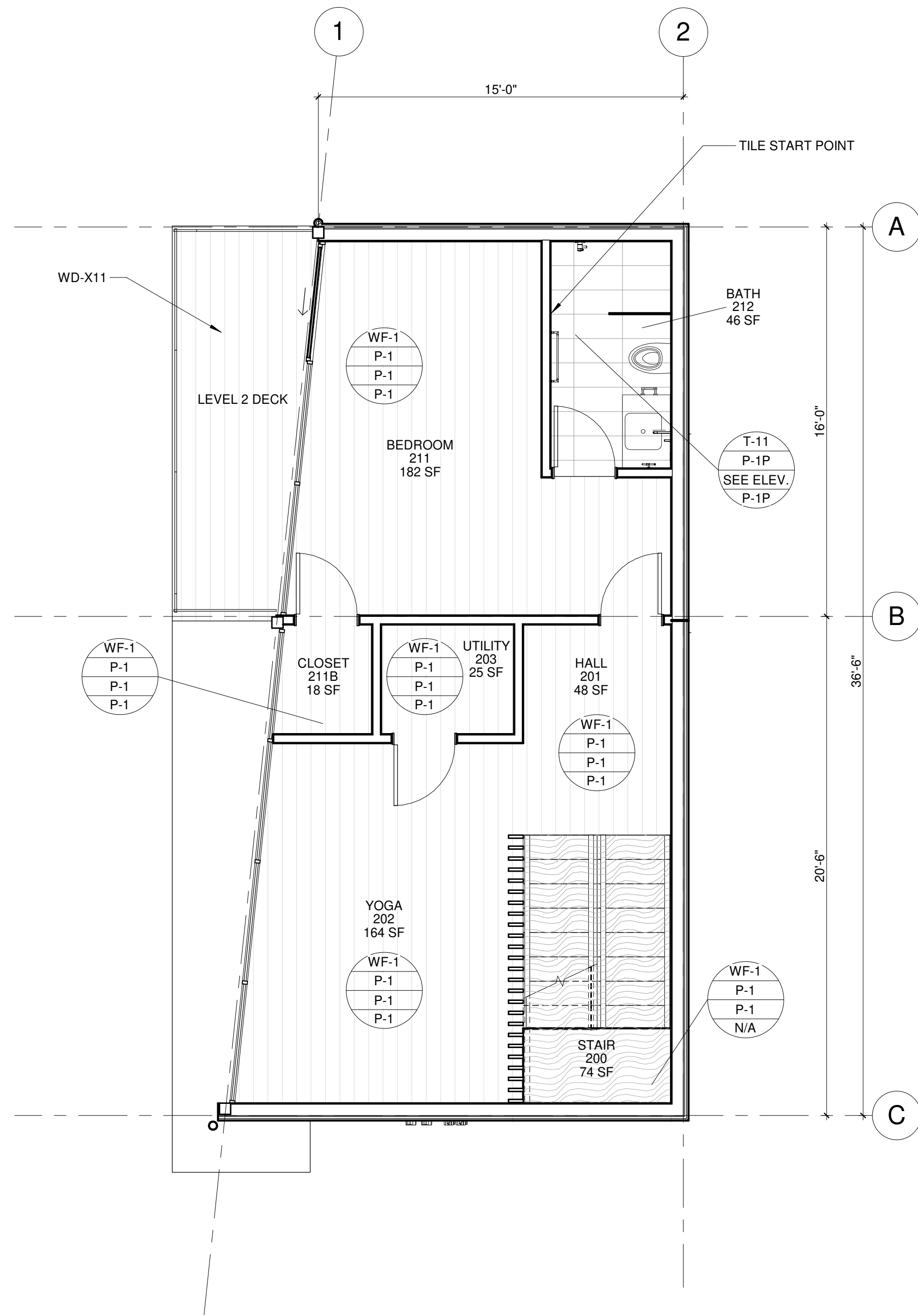
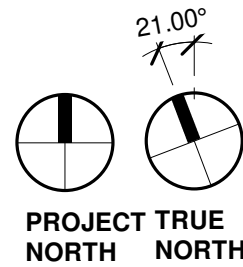
- SEE GENERAL NOTES SHEET FOR ALL GENERAL NOTES.
- REFER TO OTHER ARCHITECTURAL DOCUMENTS FOR ADDITIONAL FINISH & MATERIAL REQUIREMENTS. ANY DISCREPANCY BETWEEN THE FINISH PLANS AND OTHER CONTRACT DOCUMENTS SHOULD BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT.
- SEE A751 FOR TYPICAL WALL BASE DETAIL.
- SEE WINDOW DETAILS FOR TYPICAL WINDOW CASING DETAILS.

LEGEND: FINISH PLANS

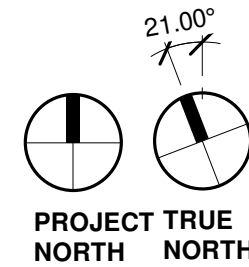
XXX	INDICATES OVERALL FLOOR TREATMENT
XXX	INDICATES OVERALL BASE TREATMENT
XXX	INDICATES OVERALL WALL TREATMENT
XXX	INDICATES OVERALL CEILING TREATMENT



1 FINISH PLAN - LEVEL 1
1/4" = 1'-0"



2 FINISH PLAN - LEVEL 2
1/4" = 1'-0"



NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER

UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

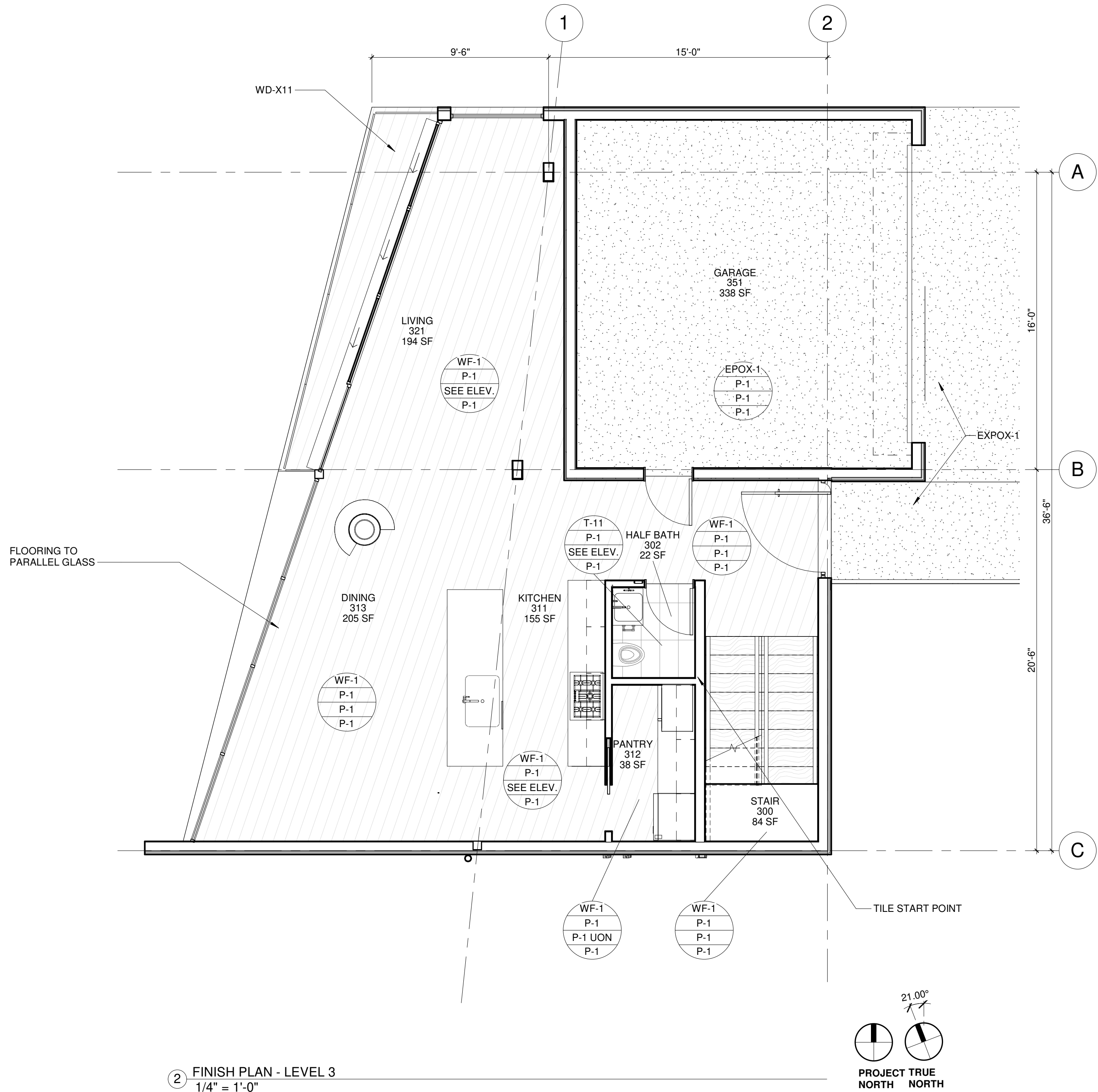
#	REVISION	DATE
---	----------	------



Project Number
20029
DWG EXPORTED 2/15/2021 9:52:50 AM
2/15/21

A141
FINISH PLAN -
LEVEL 1 & 2

CD DRAFT



ABBREVIATIONS: FINISHES

MATERIAL:		FINISH:	
ACP	ACOUSTIC CEILING PANEL	CLR	CLEAR FINISH
ACT-#	ACOUSTIC CEILING TILE	GRD	GROUND
AWC	ACOUSTIC WOOD CEILING	OL	CEMENT OVERLAY
AWP	ACOUSTIC WALL PANEL	PNT	PAINT
B	RUBBER BASE	SLR	SEALER
CONC	CONCRETE		
CMU-#	CONCRETE MASONRY UNIT		
CPT-#	CARPET		
EFG	ENTRANCE FLOOR GRID		
F-#	FELT WALL COVERING		
FRP	FIBERGLASS REINFORCED PLASTIC WALL PANEL		
G	GROUT		
M-#	METAL BASE		
MB	MARKER BOARD		
OTS	OPEN TO STRUCTURE		
PLAM-#	PLASTIC LAMINATE		
P-#	PAINT		
PW-#	PLYWOOD		
QT	QUARRY TILE		
SOS-#	SOLID SURFACE		
SS	STAINLESS STEEL		
T-#	TILE		
TC	TOILET COMPARTMENTS		
TS-#	TRANSITION STRIPS		
VNL	RESILIENT VINYL SHEET - FOODSERVICE GRADE		
W	WALL COVERING		
WB	WOOD BASE		
WC-#	WINDOW COVERINGS		
WD	WOOD		
WOM	WALK OFF MAT		
#	DENOTES TYPE		

REFER TO MAIN ABBREVIATION LIST FOR ADDITIONAL ABBREVIATIONS.

FINISH PLAN NOTES

- SEE GENERAL NOTES SHEET FOR ALL GENERAL NOTES.
- REFER TO OTHER ARCHITECTURAL DOCUMENTS FOR ADDITIONAL FINISH & MATERIAL REQUIREMENTS. ANY DISCREPANCY BETWEEN THE FINISH PLANS AND OTHER CONTRACT DOCUMENTS SHOULD BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT.
- SEE A751 FOR TYPICAL WALL BASE DETAIL.
- SEE WINDOW DETAILS FOR TYPICAL WINDOW CASING DETAILS.

LEGEND: FINISH PLANS

- XXX
- INDICATES OVERALL FLOOR TREATMENT
- XXX
- INDICATES OVERALL BASE TREATMENT
- XXX
- INDICATES OVERALL WALL TREATMENT
- XXX
- INDICATES OVERALL CEILING TREATMENT

UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

#	REVISION	DATE
---	----------	------

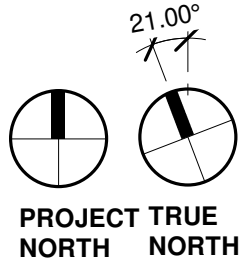
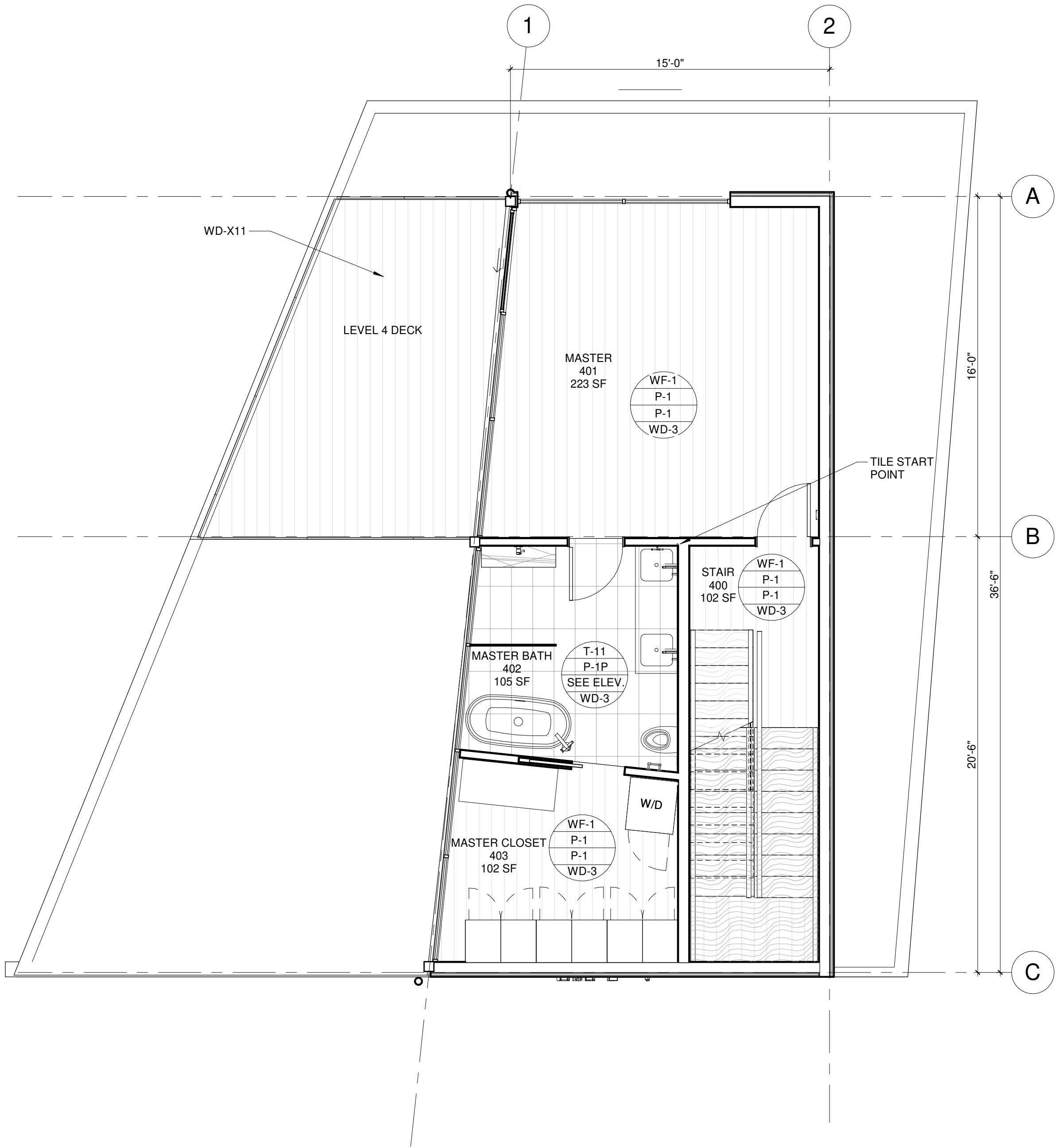


Project Number
20029
DWG EXPORTED 2/15/2021 9:52:51 AM
2/15/21

A142
FINISH PLAN -
LEVEL 3

CD DRAFT

① FINISH PLAN - LEVEL 4
1/4" = 1'-0"



ABBREVIATIONS: FINISHES

MATERIAL:		
ACP	ACOUSTIC CEILING PANEL	
ACT-#	ACOUSTIC CEILING TILE	
AWC	ACOUSTIC WOOD CEILING	
AWP	ACOUSTIC WALL PANEL	
B	RUBBER BASE	
CONC	CONCRETE	
CMU-#	CONCRETE MASONRY UNIT	
CPT-#	CARPET	
EFG	ENTRANCE FLOOR GRID	
F-#	FELT WALL COVERING	
FRP	FIBERGLASS REINFORCED PLASTIC WALL PANEL	
G	GROUT	
M-#	METAL BASE	
MB	MARKER BOARD	
OTS	OPEN TO STRUCTURE	
PLAM-#	PLASTIC LAMINATE	
P-#	PAINT	
PW-#	PLYWOOD	
QT	QUARRY TILE	
SOS-#	SOLID SURFACE	
SS	STAINLESS STEEL	
T-#	TILE	
TC	TOILET COMPARTMENTS	
TS-#	TRANSITION STRIPS	
VNL	RESILIENT VINYL SHEET - FOODSERVICE GRADE	
W	WALL COVERING	
WB	WOOD BASE	
WC-#	WINDOW COVERINGS	
WD	WOOD	
WOM	WALK OFF MAT	
#	DENOTES TYPE	

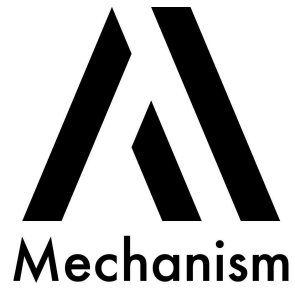
FINISH:		
CLR	CLEAR FINISH	
GRD	GROUND	
OL	CEMENT OVERLAY	
PNT	PAINT	
SLR	SEALER	
		REFER TO MAIN ABBREVIATION LIST FOR ADDITIONAL ABBREVIATIONS.

FINISH PLAN NOTES

- SEE GENERAL NOTES SHEET FOR ALL GENERAL NOTES.
- REFER TO OTHER ARCHITECTURAL DOCUMENTS FOR ADDITIONAL FINISH & MATERIAL REQUIREMENTS. ANY DISCREPANCY BETWEEN THE FINISH PLANS AND OTHER CONTRACT DOCUMENTS SHOULD BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT.
- SEE A751 FOR TYPICAL WALL BASE DETAIL.
- SEE WINDOW DETAILS FOR TYPICAL WINDOW CASING DETAILS.

LEGEND: FINISH PLANS

XXX	INDICATES OVERALL FLOOR TREATMENT
XXX	INDICATES OVERALL BASE TREATMENT
XXX	INDICATES OVERALL WALL TREATMENT
XXX	INDICATES OVERALL CEILING TREATMENT



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER

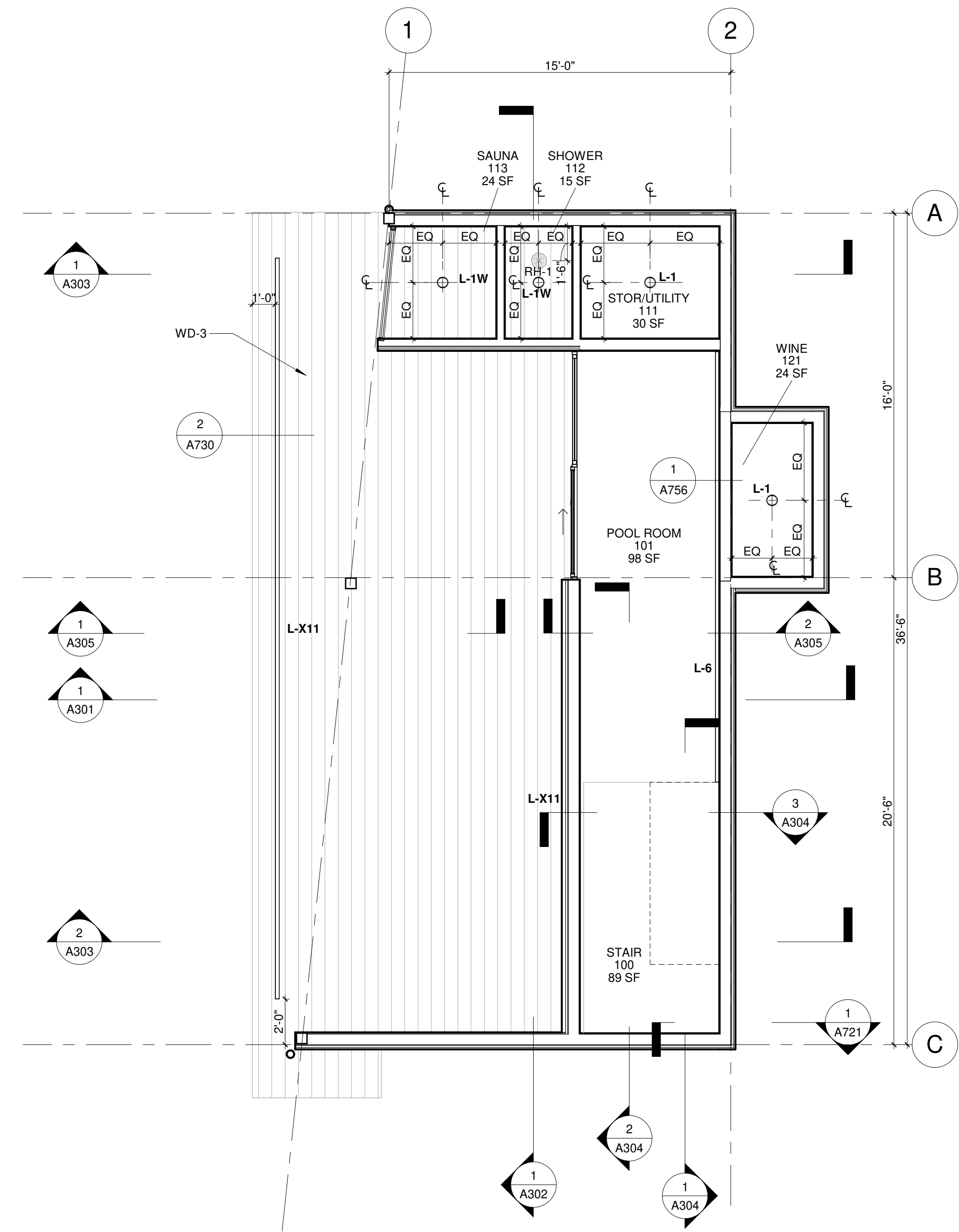
#	REVISION	DATE
---	----------	------



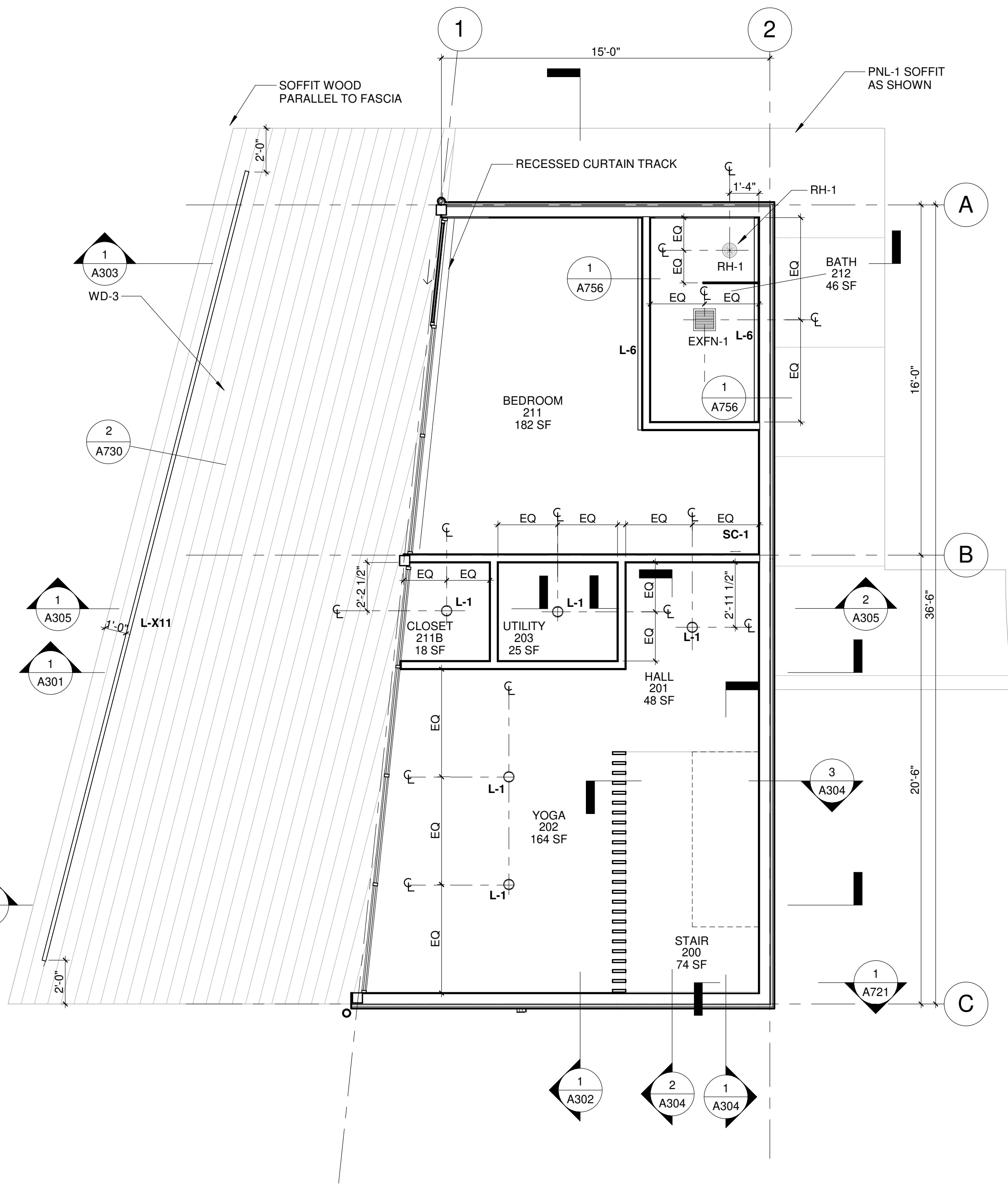
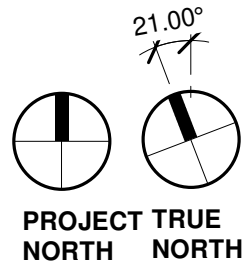
Project Number
20029
DWG EXPORTED 2/15/2021 9:52:52 AM
2/15/21

A143
FINISH PLAN -
LEVEL 4

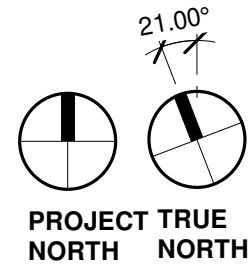
CD DRAFT



1 REFLECTED CEILING PLAN - LEVEL 1
1/4" = 1'-0"



2 REFLECTED CEILING PLAN - LEVEL 2
1/4" = 1'-0"



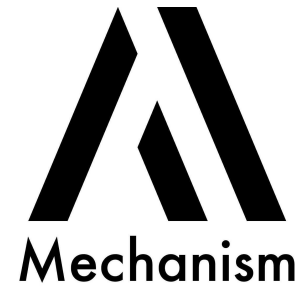
REFLECTED CEILING PLAN LEGEND

NOTE: NOT ALL ITEMS MAY BE USED

- GYPSUM BOARD CEILING, PAINTED
- RECESSED DOWNLIGHT
- BATHROOM EXHAUST FAN
- LINEAR RECESSED LIGHT

REFLECTED CEILING PLAN NOTES

1. LIGHTING DIMENSIONS ARE TO FACE OF FINISH UNLESS OTHERWISE NOTED.



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER

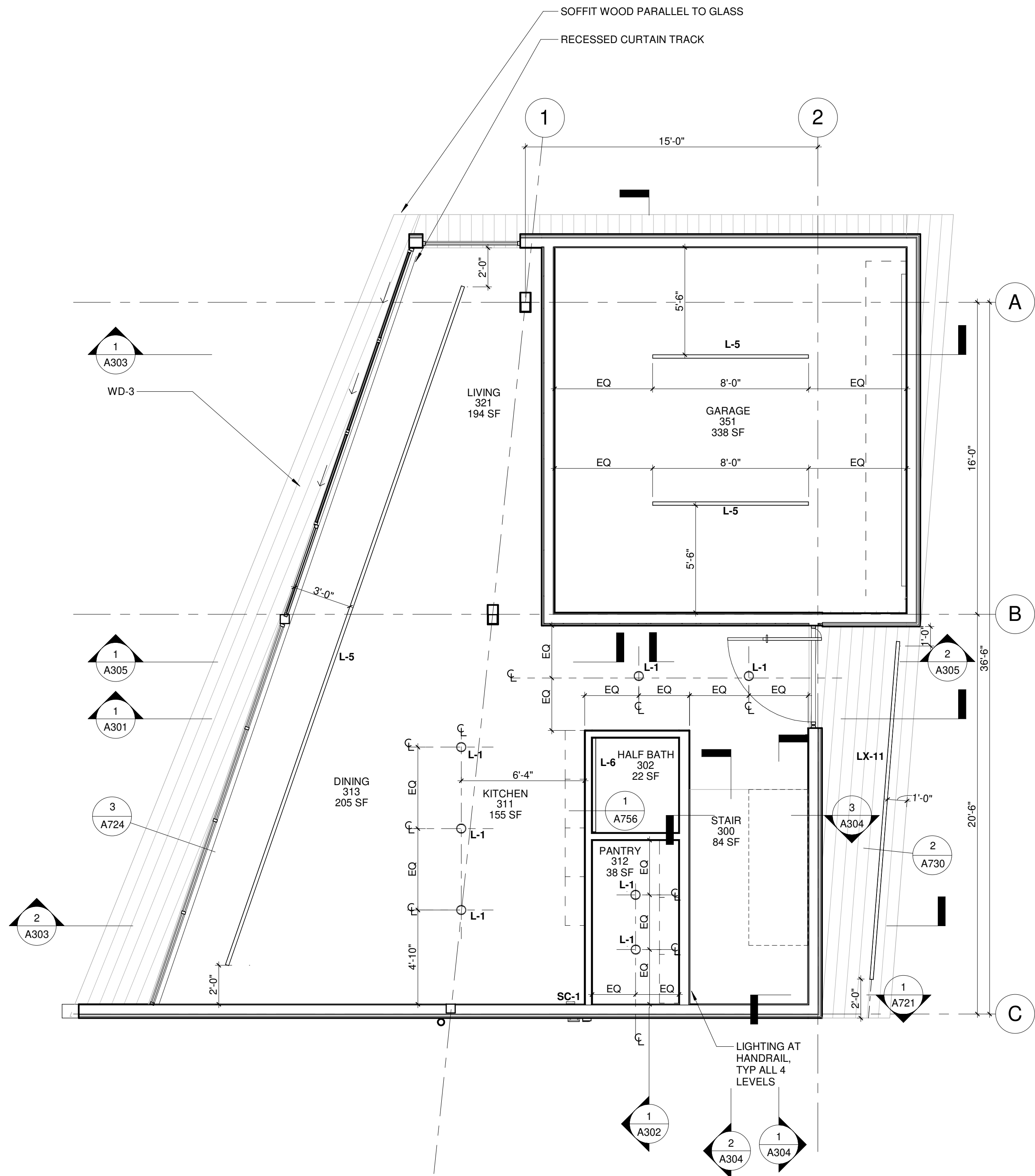
#	REVISION	DATE
---	----------	------



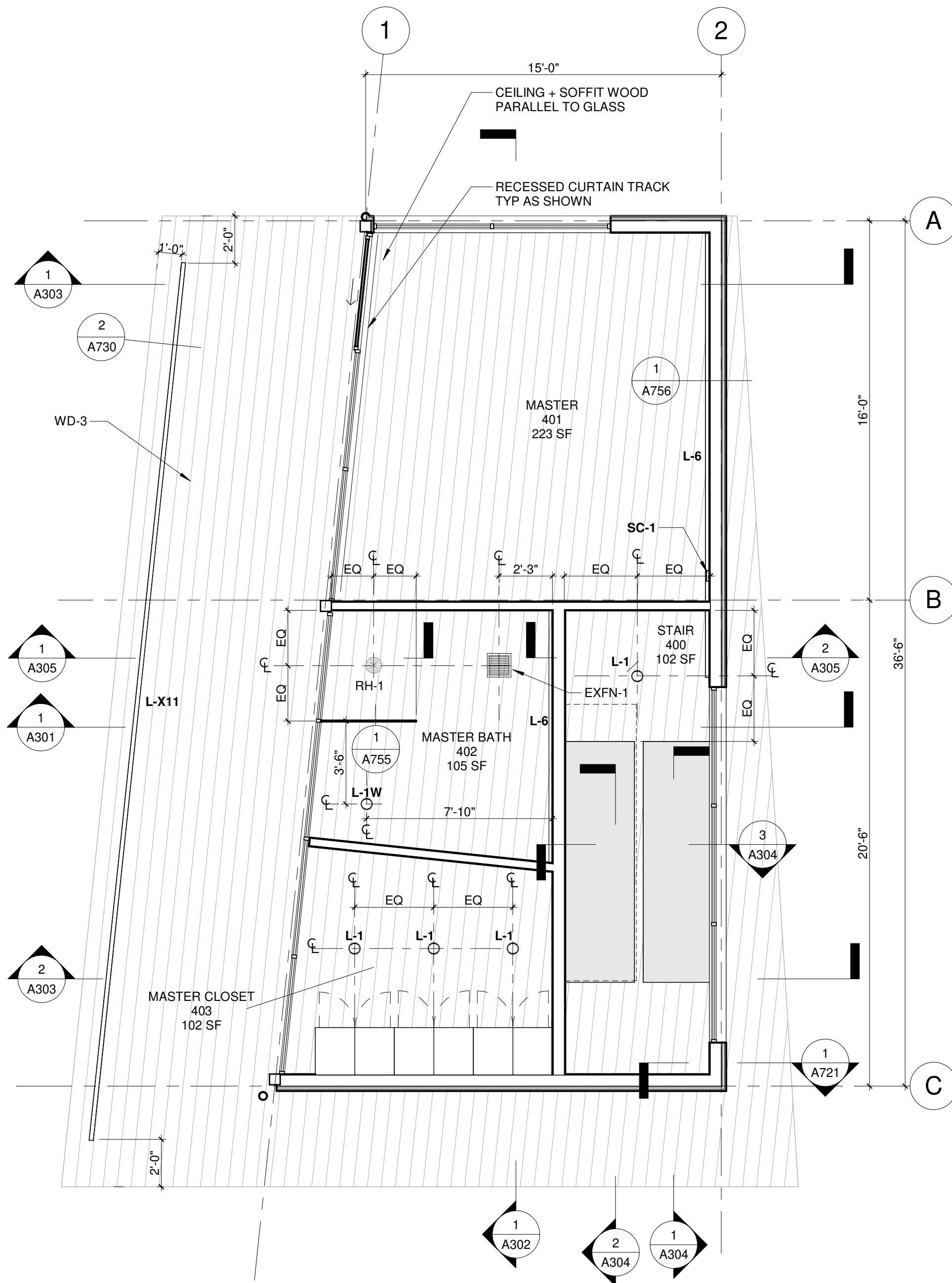
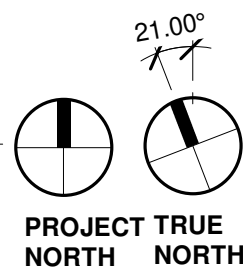
Project Number
20029
DWG EXPORTED 2/15/2021 9:52:53 AM
2/15/21

A151
REFLECTED
CEILING PLAN -
LEVEL 1 & 2

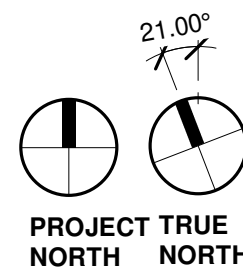
CD DRAFT



1 REFLECTED CEILING PLAN - LEVEL 3
1/4" = 1'-0"



2 REFLECTED CEILING PLAN - LEVEL 4
1/4" = 1'-0"



REFLECTED CEILING PLAN LEGEND

NOTE: NOT ALL ITEMS MAY BE USED

- GYPSUM BOARD CEILING, PAINTED
- RECESSED DOWNLIGHT
- BATHROOM EXHAUST FAN
- LINEAR RECESSED LIGHT

REFLECTED CEILING PLAN NOTES

1. LIGHTING DIMENSIONS ARE TO FACE OF FINISH UNLESS OTHERWISE NOTED.

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER

#	REVISION	DATE
---	----------	------

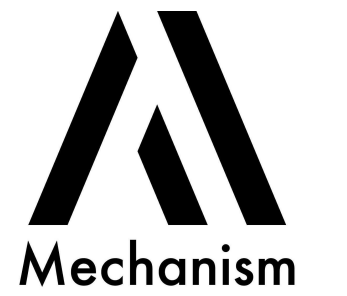


Project Number
20029
DWG EXPORTED 2/15/2021 9:52:54 AM
2/15/21

A152
REFLECTED
CEILING PLAN -
LEVEL 3 & 4

CD DRAFT

UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI





UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI



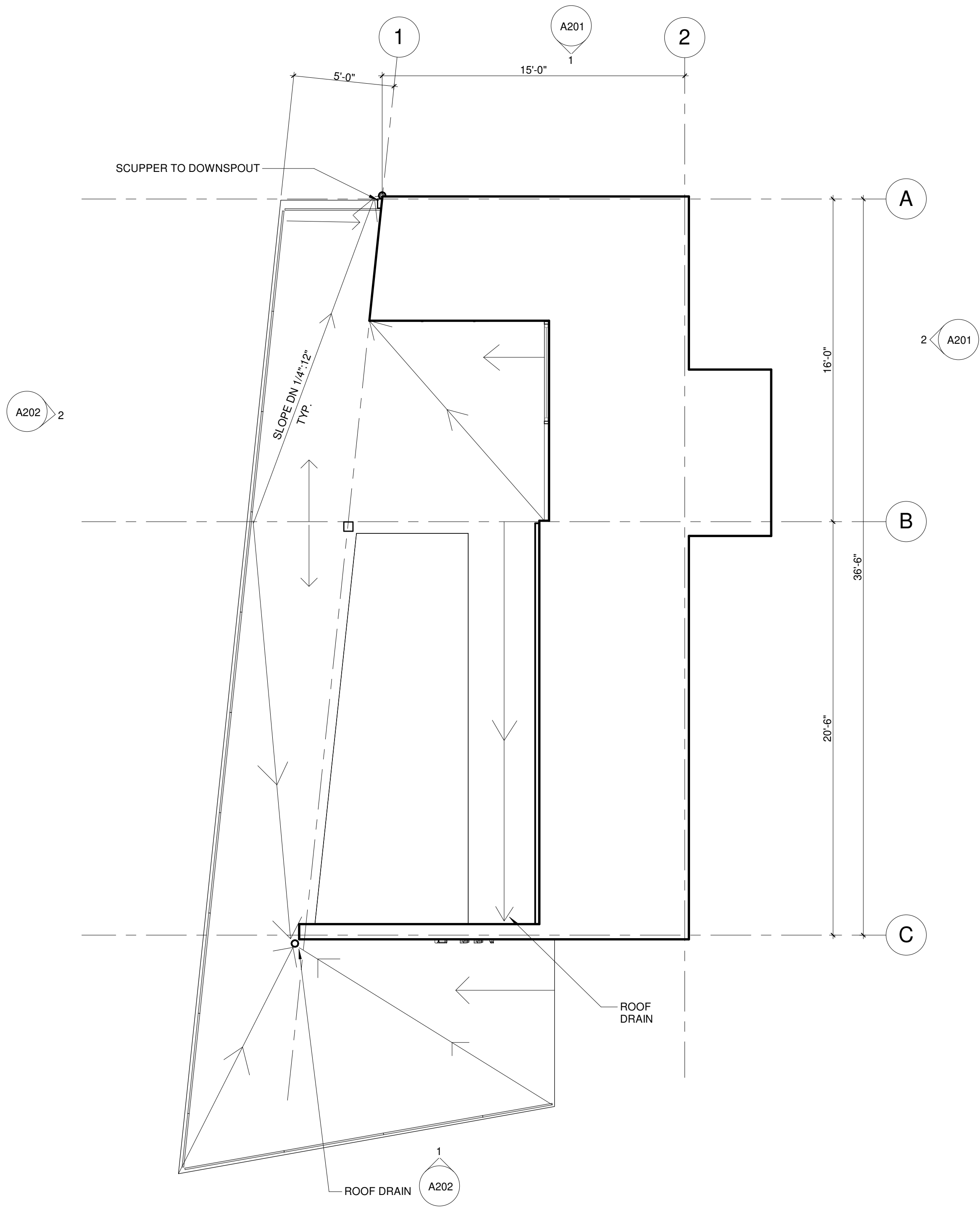
Project Number
20029
DWG EXPORTED 2/15/2021 9:52:55 AM
2/15/21

A161
CRICKET PLAN
DIAGRAM - LEVEL
1 & 2

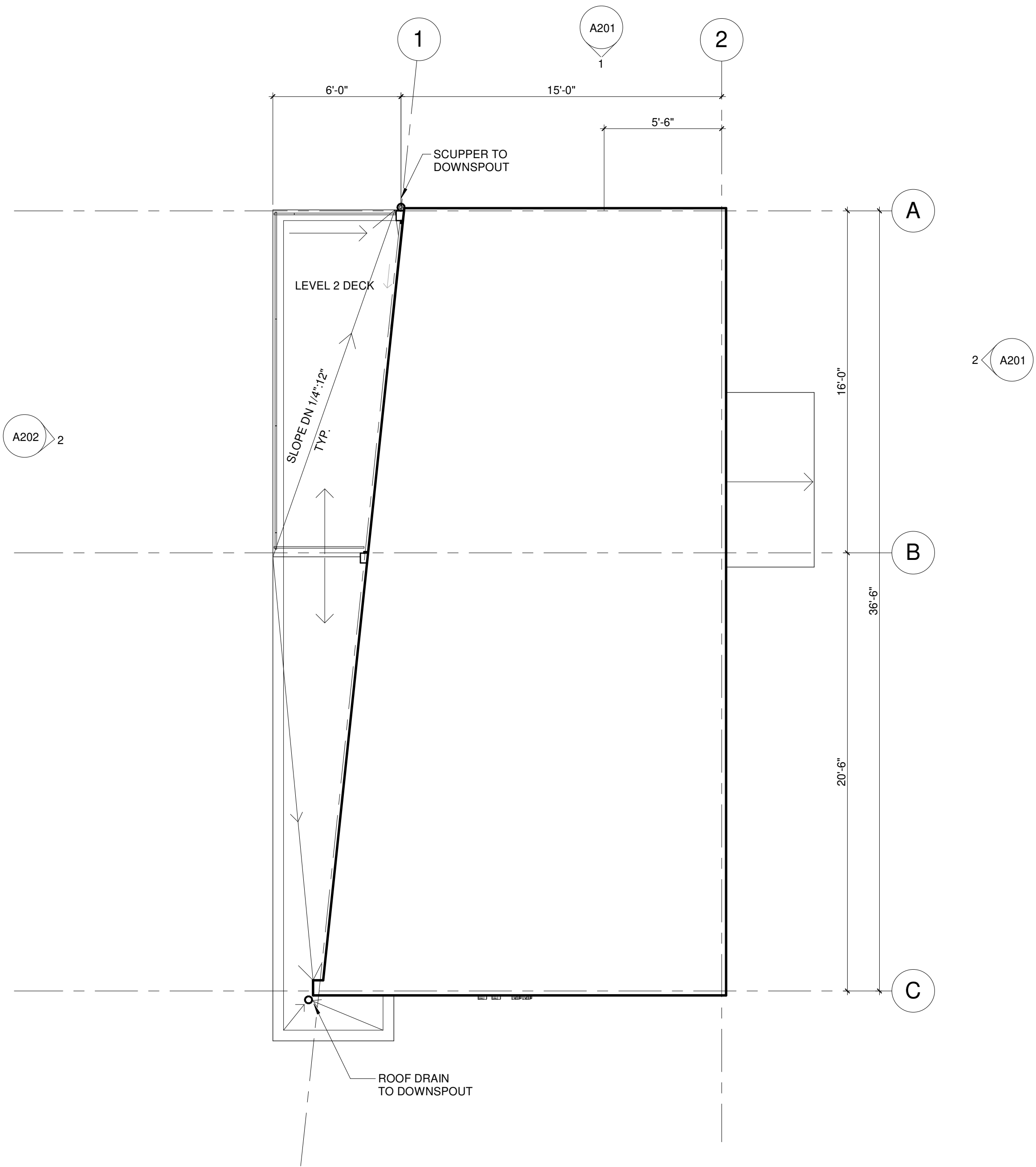
CD DRAFT

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER

#	REVISION	DATE
---	----------	------



1 CRICKET PLAN - LEVEL 1
1/4" = 1'-0"



2 CRICKET PLAN - LEVEL 2
1/4" = 1'-0"



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI



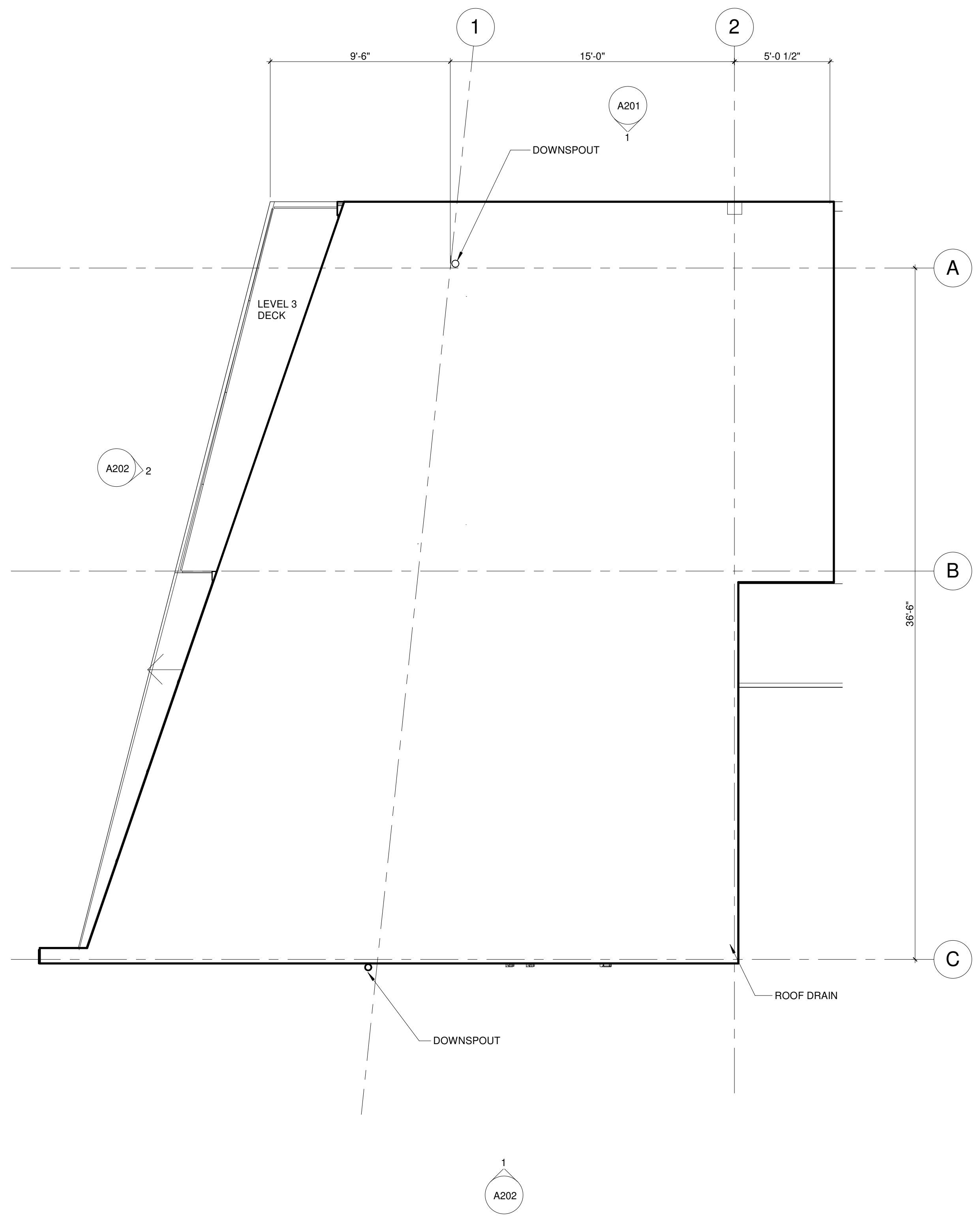
Project Number
20029
DWG EXPORTED 2/15/2021 9:52:56 AM
2/15/21

A162
CRICKET PLAN
DIAGRAM - LEVEL
3 & 4

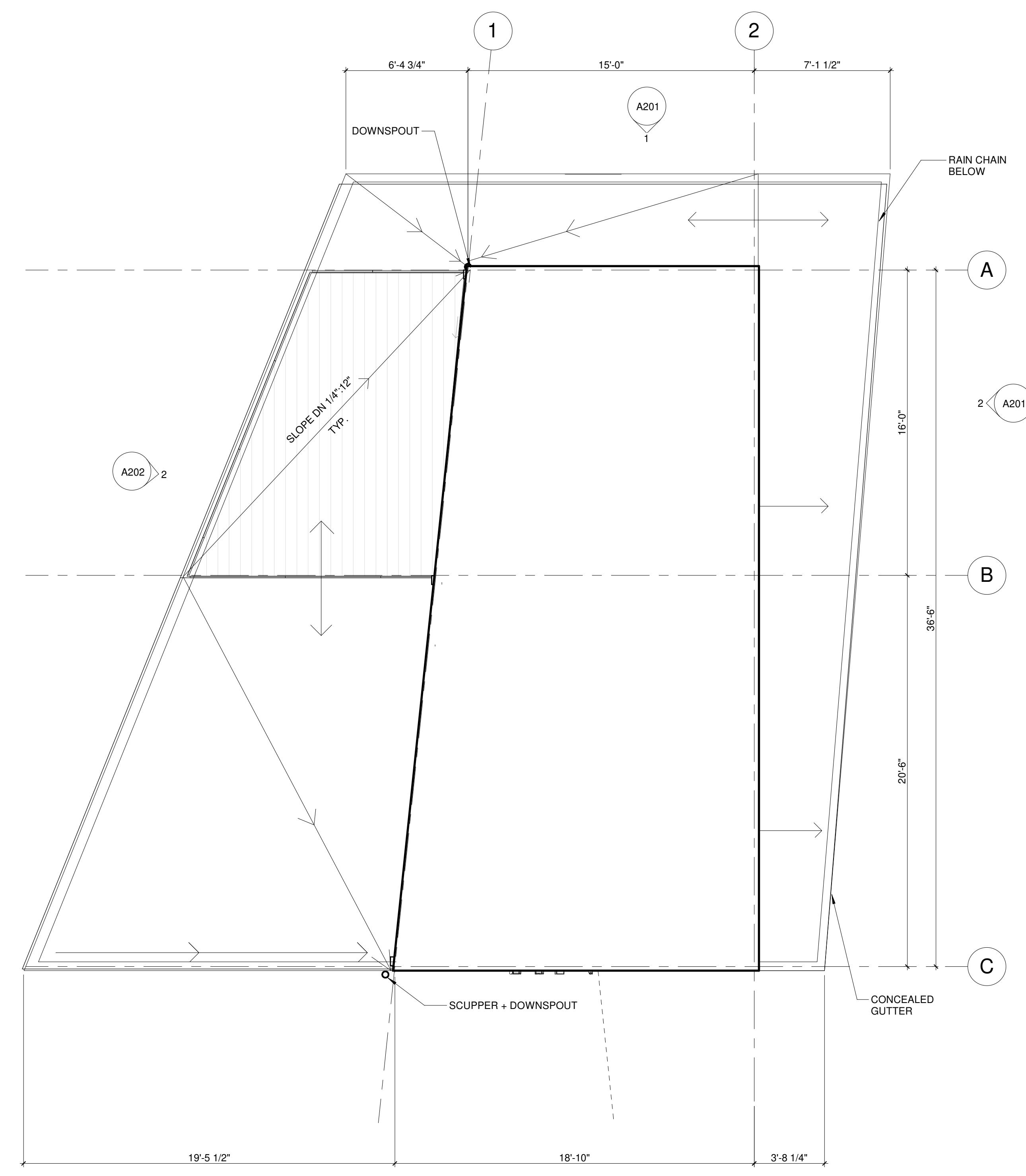
CD DRAFT

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x22" PAPER

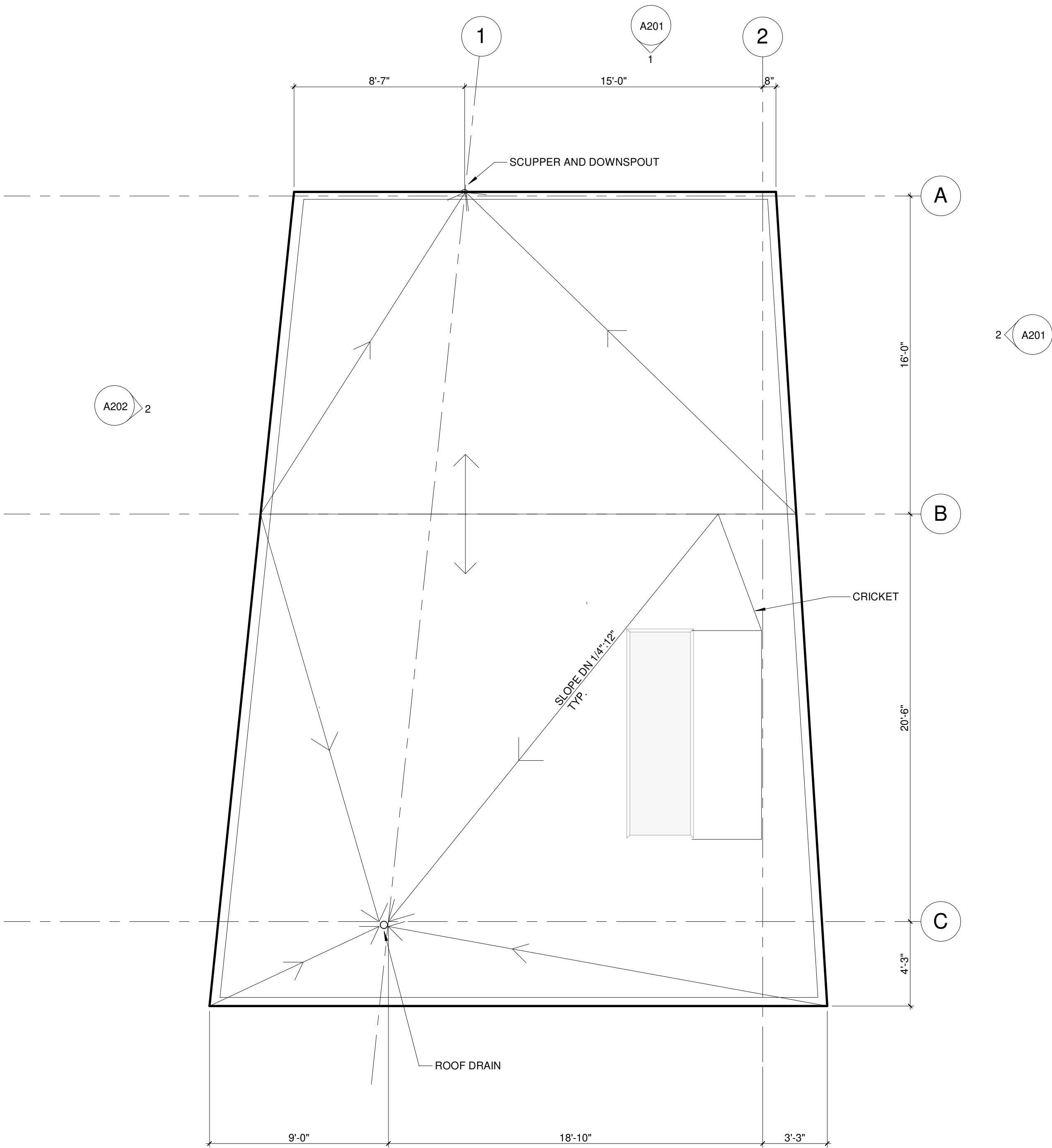
#	REVISION	DATE
---	----------	------



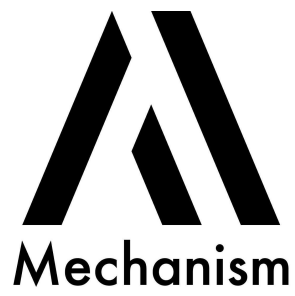
① CRICKET PLAN - LEVEL 3
1/4" = 1'-0"



② CRICKET PLAN - LEVEL 4
1/4" = 1'-0"



① CRICKET PLAN - ROOF
1/4" = 1'-0"



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER

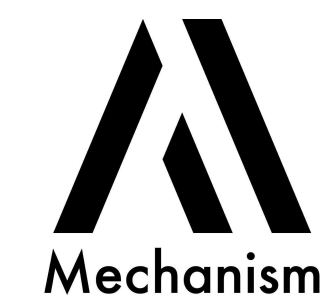
#	REVISION	DATE
---	----------	------



Project Number
20029
DWG EXPORTED 2/15/2021 9:52:57 AM
2/15/21

A163
CRICKET PLAN -
ROOF

CD DRAFT



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

#	REVISION	DATE
---	----------	------

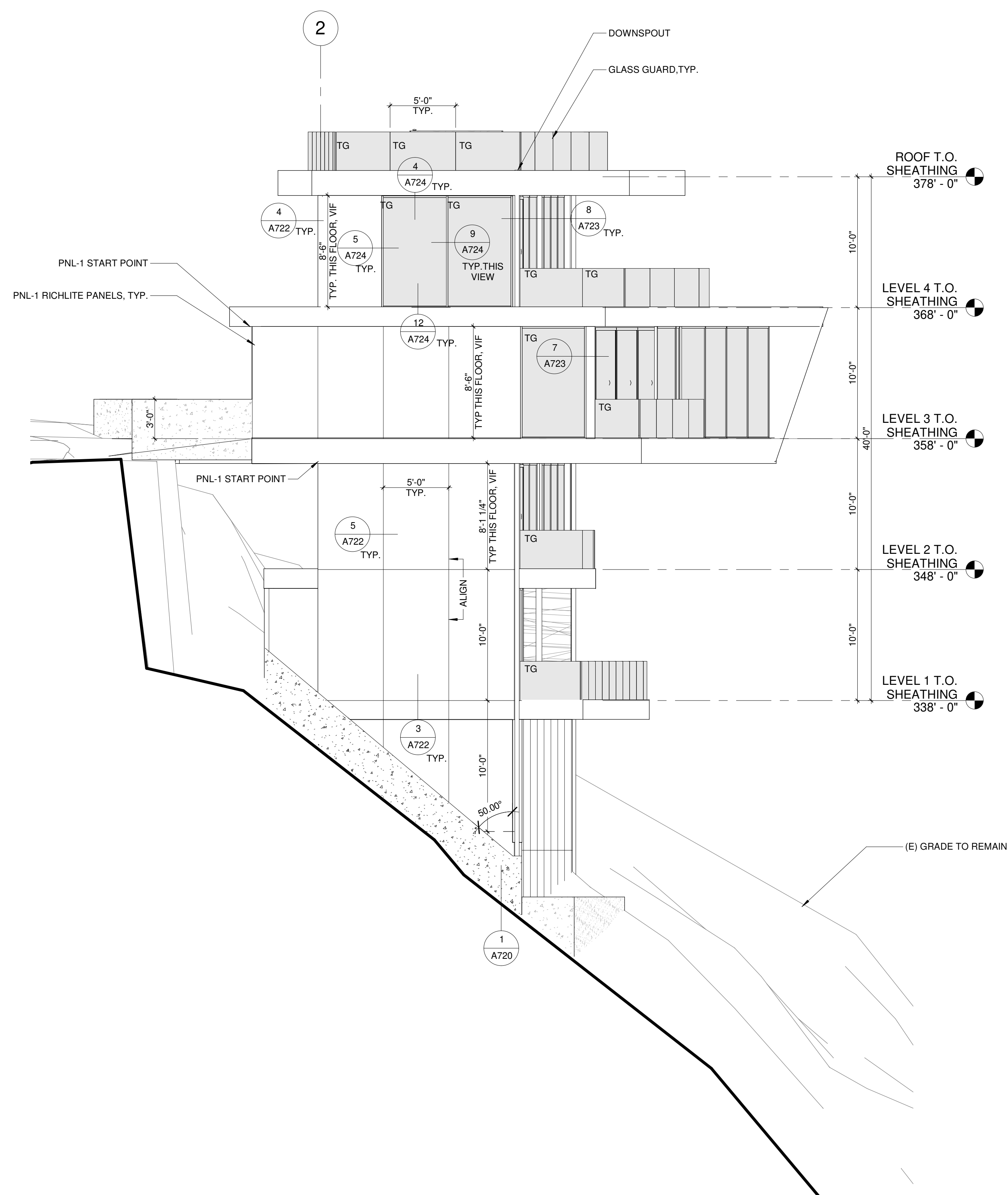


Project Number
20029
DWG EXPORTED 2/15/2021 9:52:59 AM
2/15/21

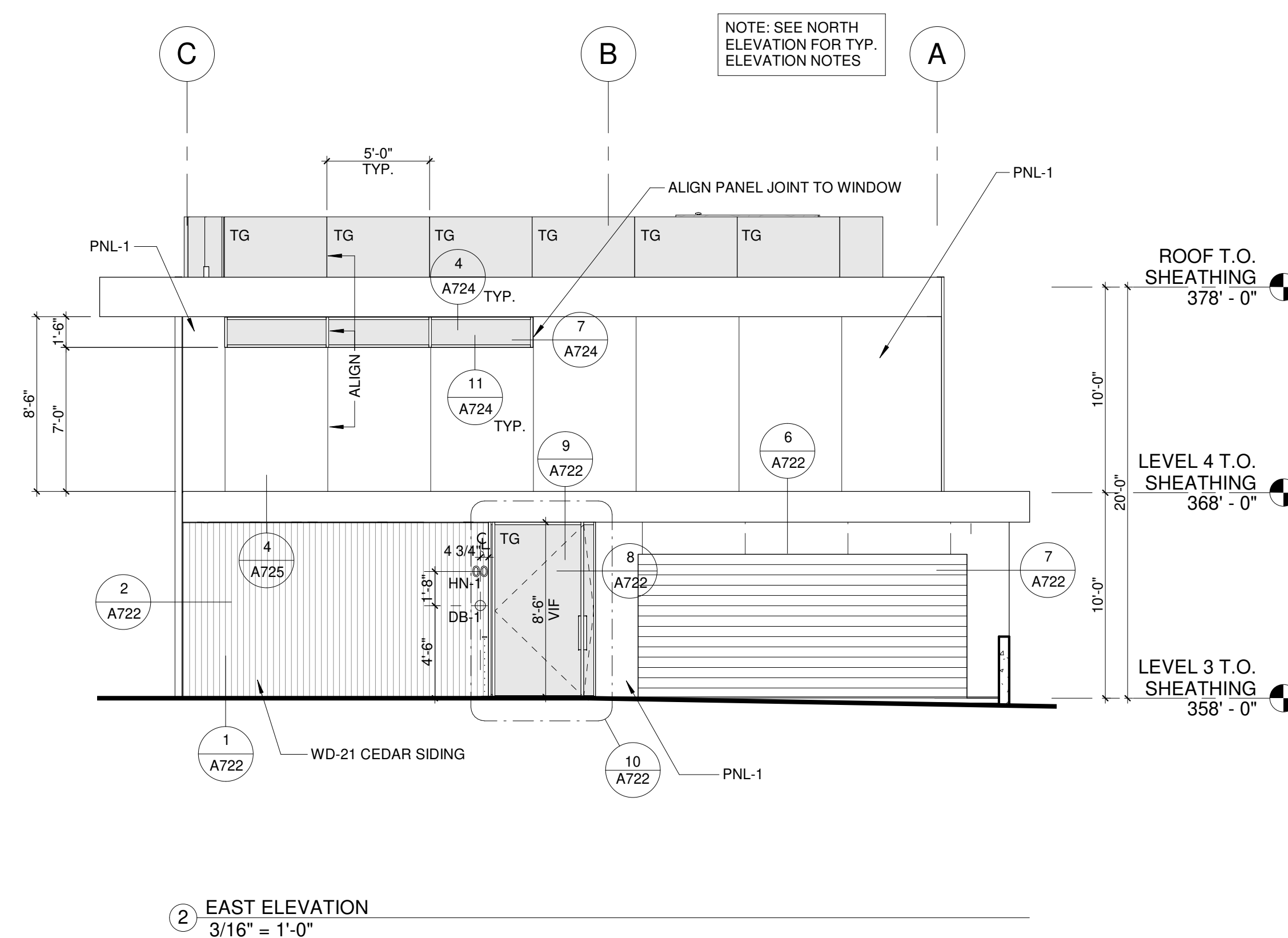
A201

EXTERIOR
ELEVATIONS

CD DRAFT

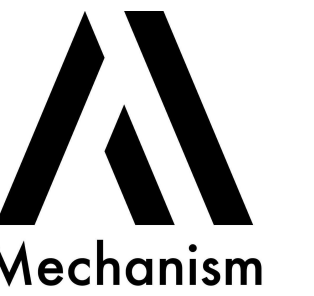


① NORTH ELEVATION
3/16" = 1'-0"



② EAST ELEVATION
3/16" = 1'-0"

NOTE: SEE NORTH
ELEVATION FOR TYPE
ELEVATION NOTES



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

	REVISION	DATE
--	----------	------

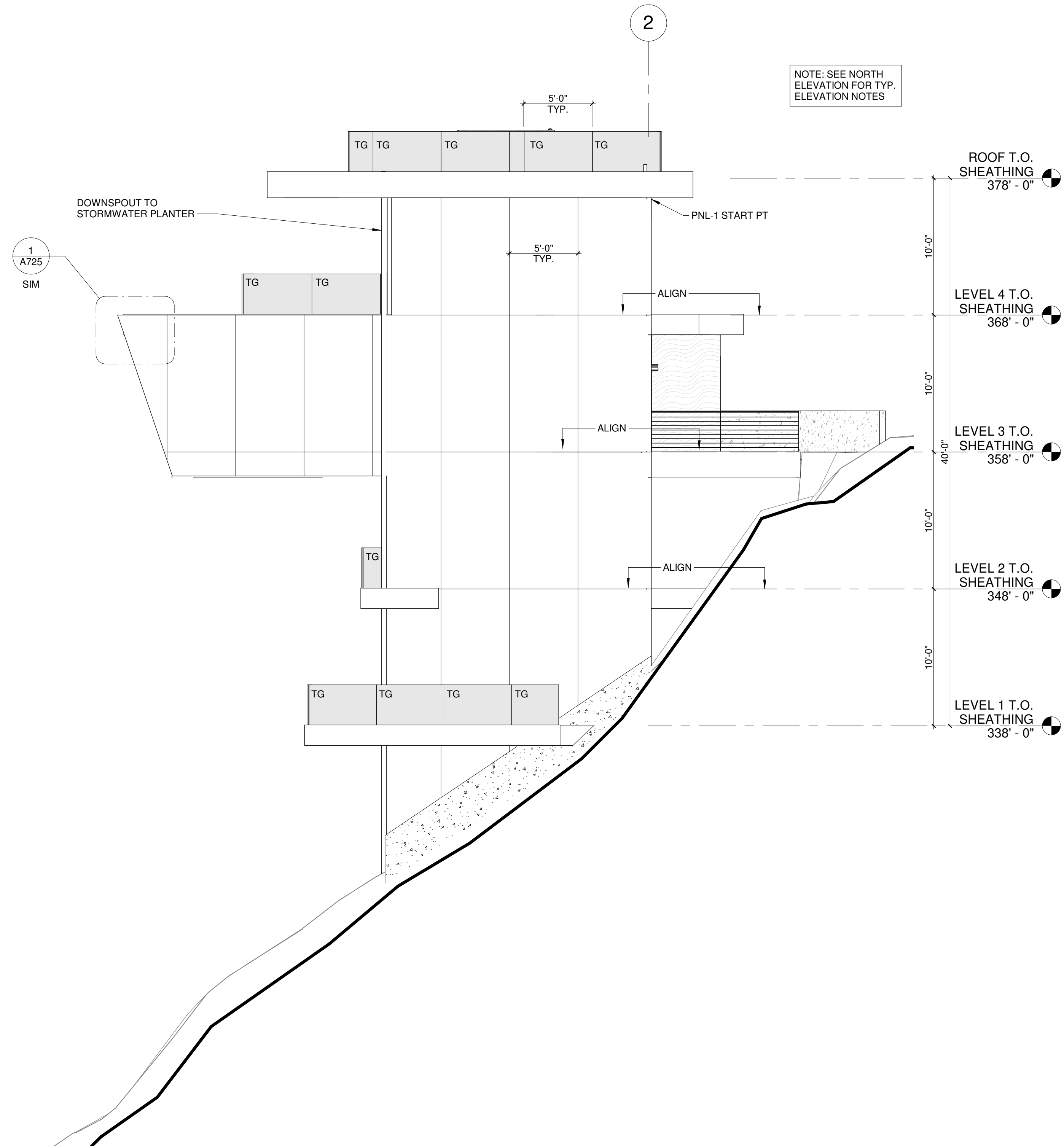


Project Number
20029
WG EXPORTED 2/15/2021 9:53:00 AM
2/15/21

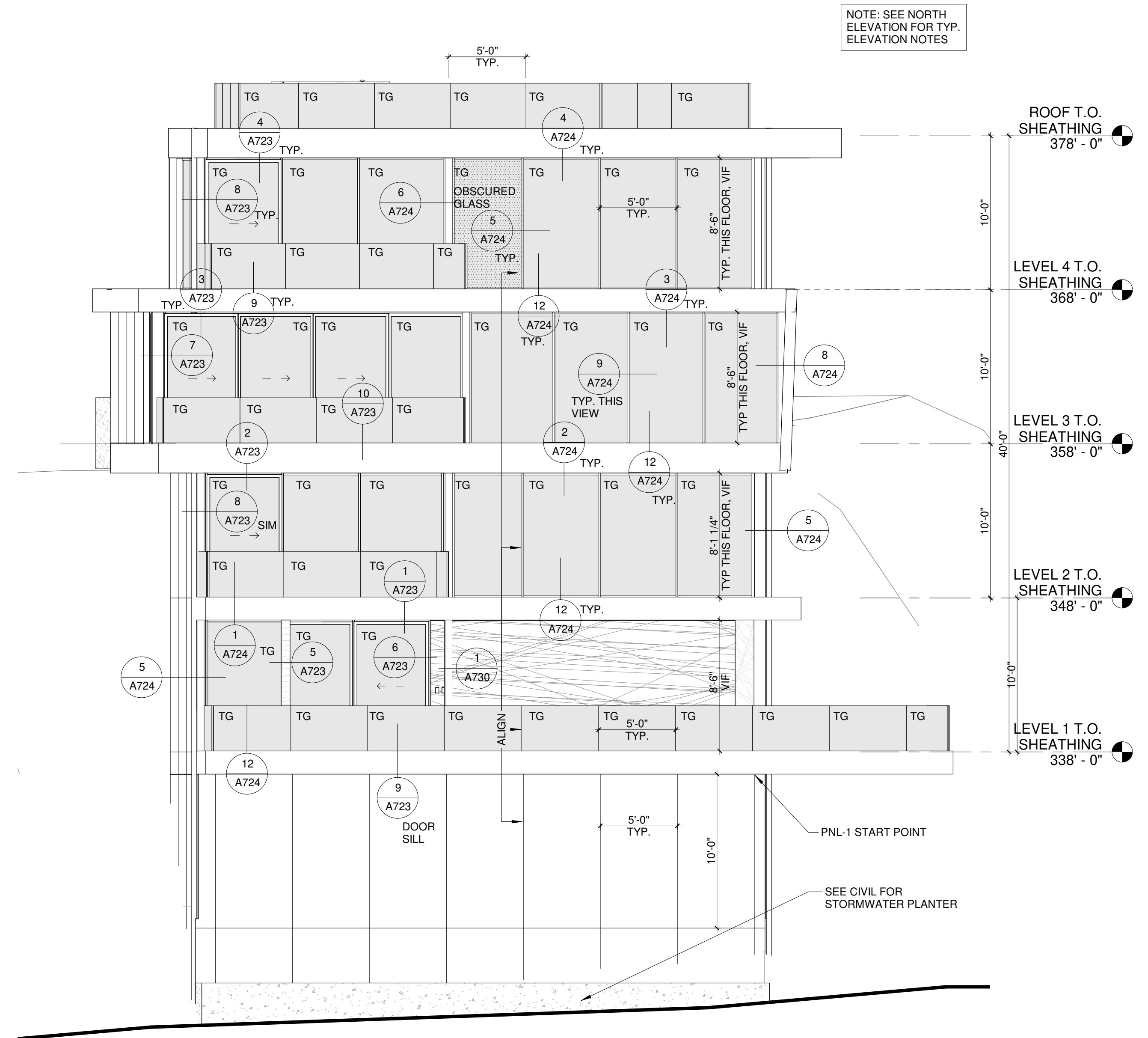
A202

EXTERIOR ELEVATIONS

CD DRAFT

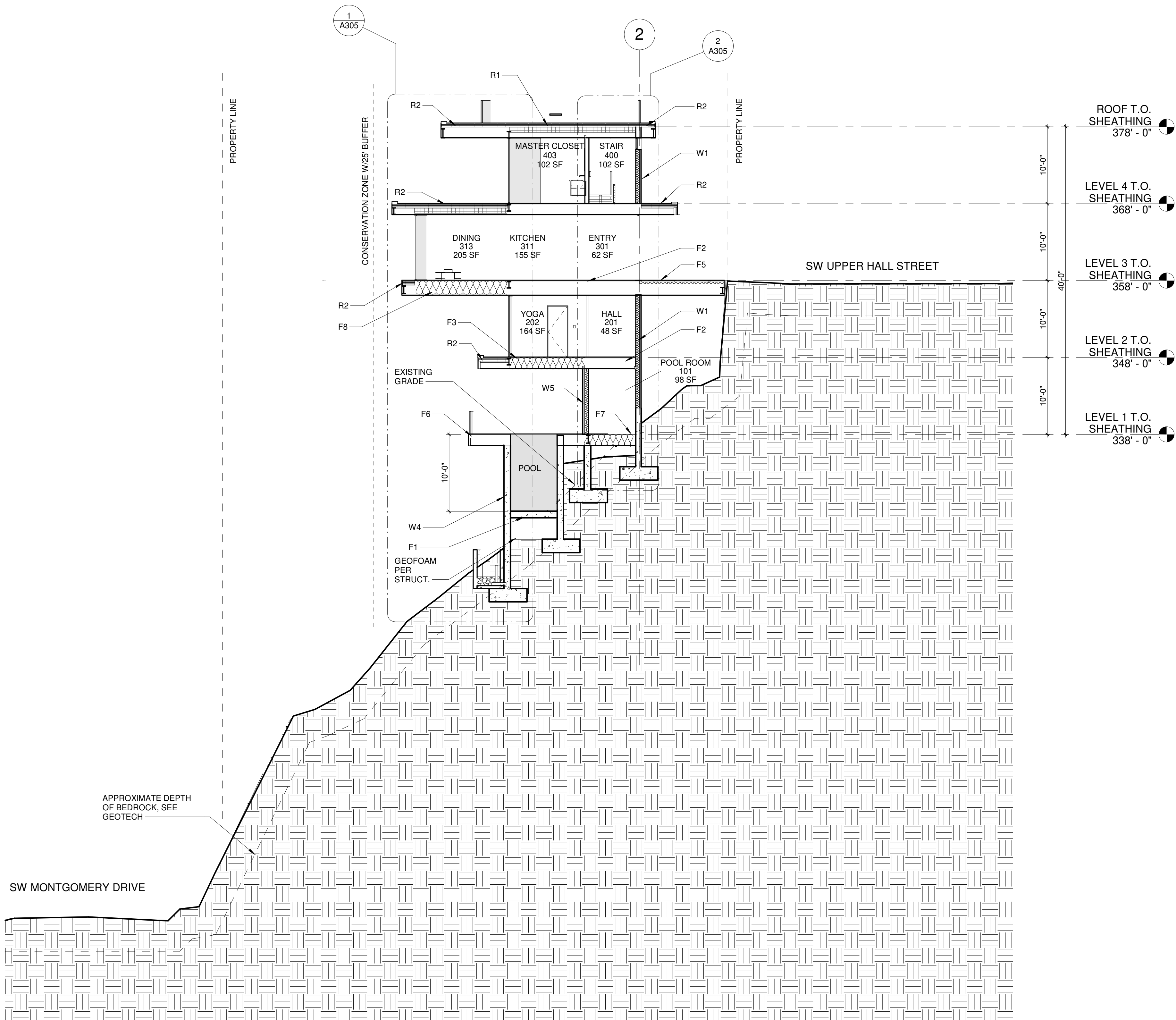


① SOUTH ELEVATION
3/16" = 1'-0"

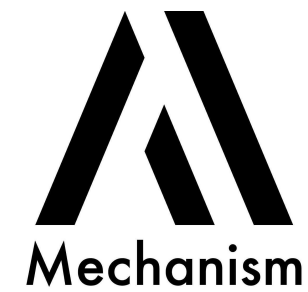


② WEST ELEVATION
3/16" = 1'-0"

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34" X 22" PAPER



1 SITE SECTION 1
1/8" = 1'-0"



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER

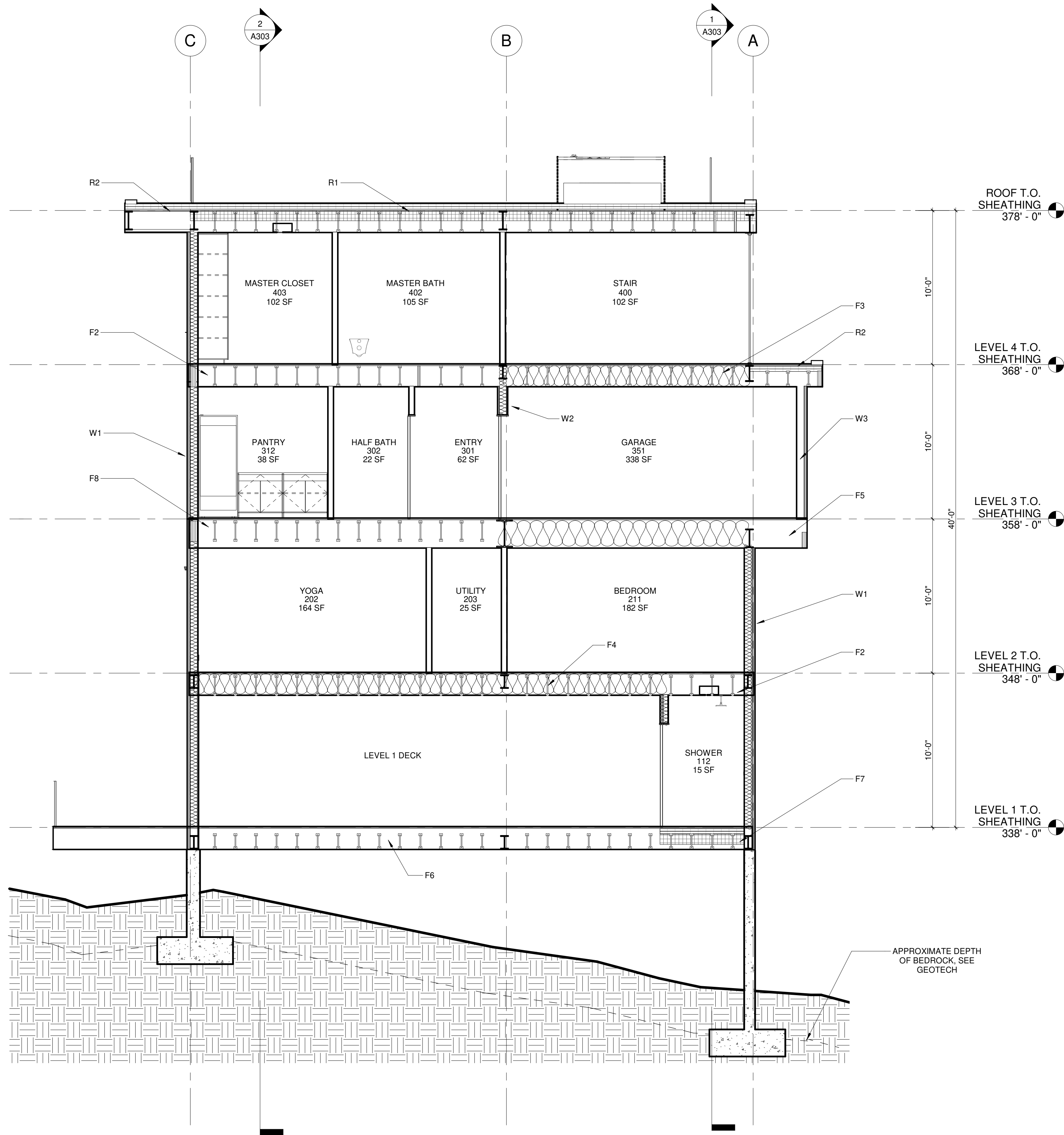
#	REVISION	DATE
---	----------	------



Project Number
20029
DWG EXPORTED 2/15/2021 9:53:01 AM
2/15/21

A301
BUILDING
SECTIONS

CD DRAFT



1 BUILDING SECTION 2
1/4" = 1'-0"



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER

#	REVISION	DATE
---	----------	------



Project Number
20029
DWG EXPORTED 2/15/2021 9:53:02 AM
2/15/21

A302
BUILDING
SECTIONS

CD DRAFT



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER

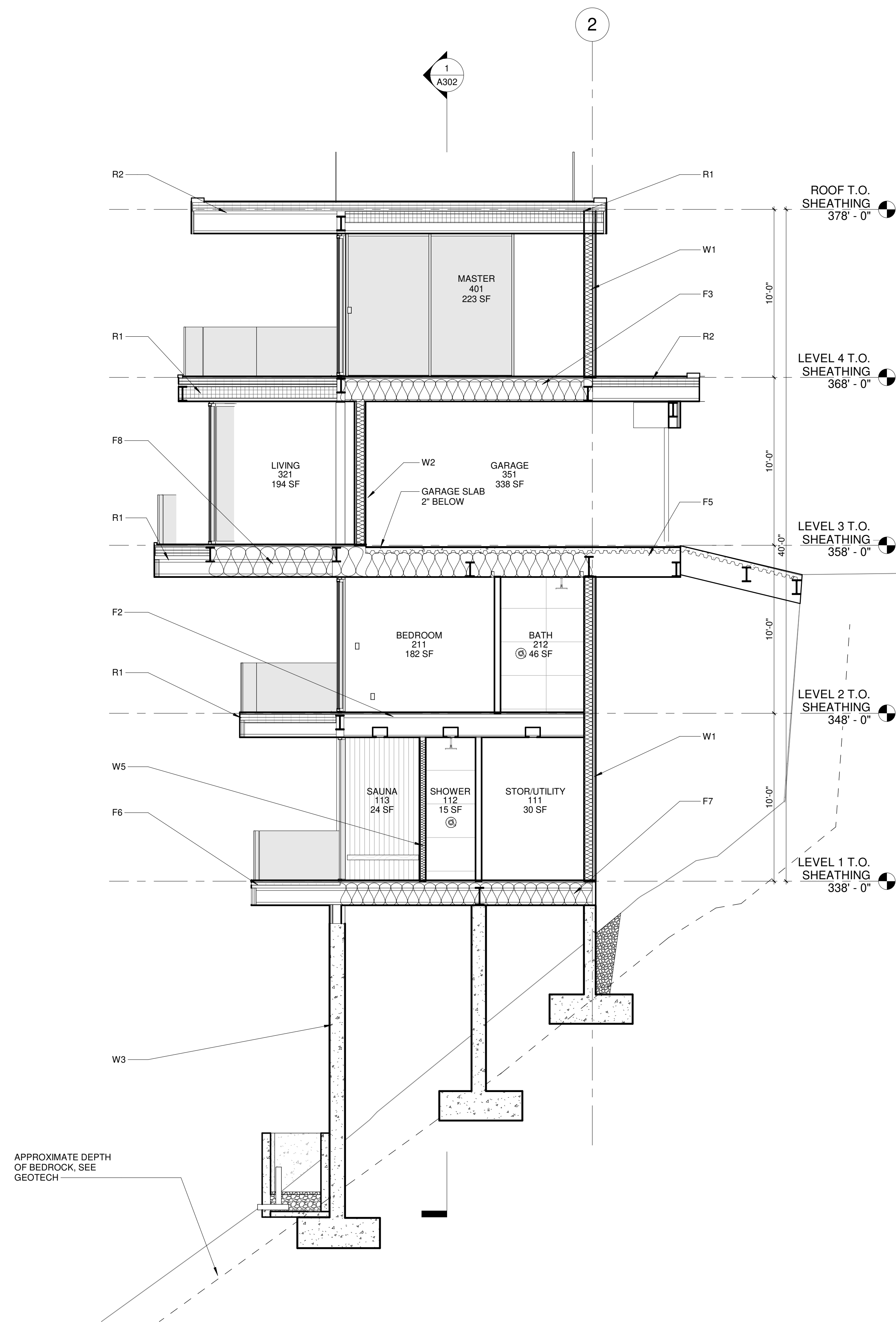
#	REVISION	DATE
---	----------	------



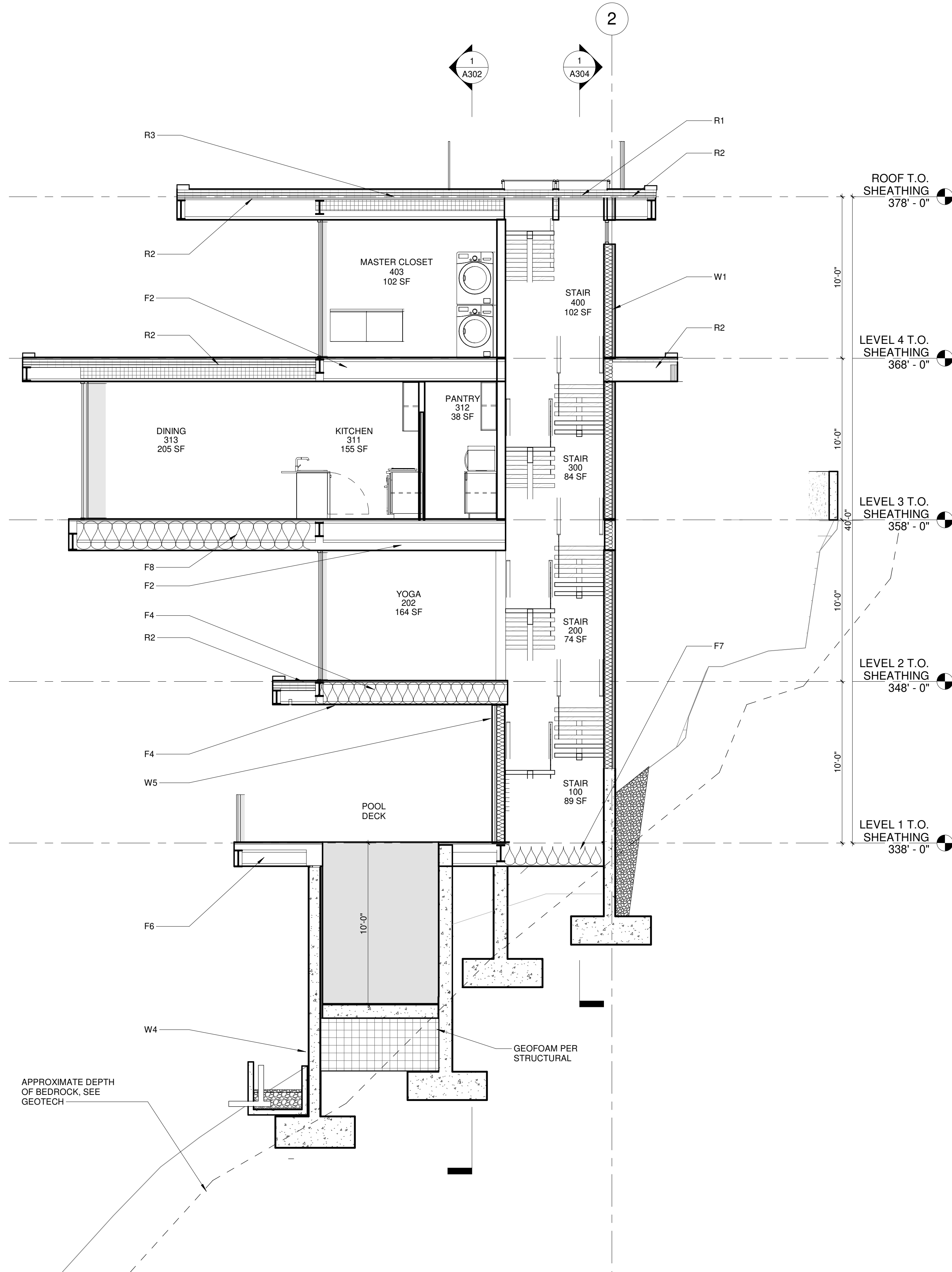
Project Number
20029
DWG EXPORTED 2/15/2021 9:53:03 AM
2/15/21

A303
BUILDING
SECTIONS

CD DRAFT



① BUILDING SECTION 3
1/4" = 1'-0"



② BUILDING SECTION 4
1/4" = 1'-0"



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER

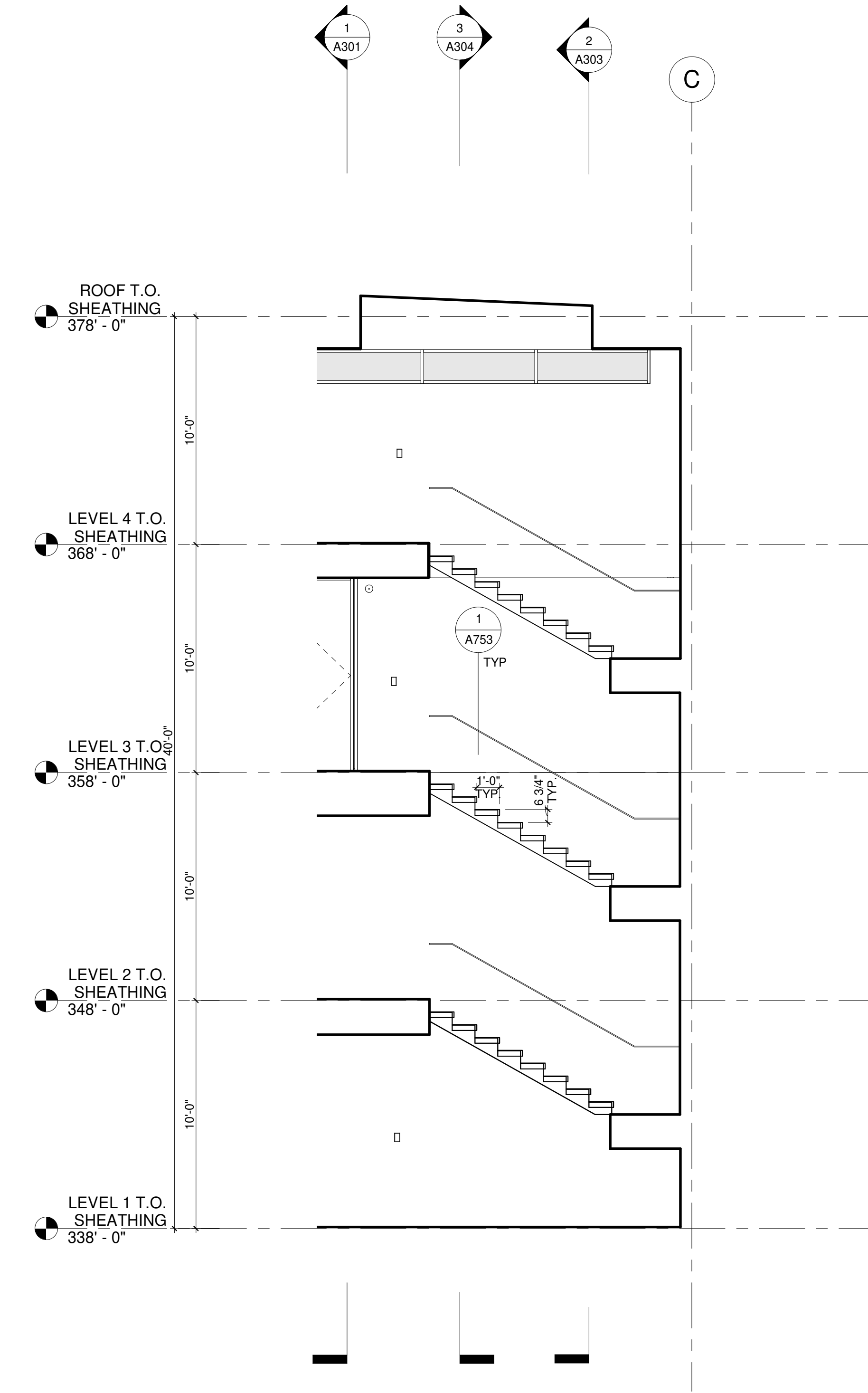
#	REVISION	DATE
---	----------	------



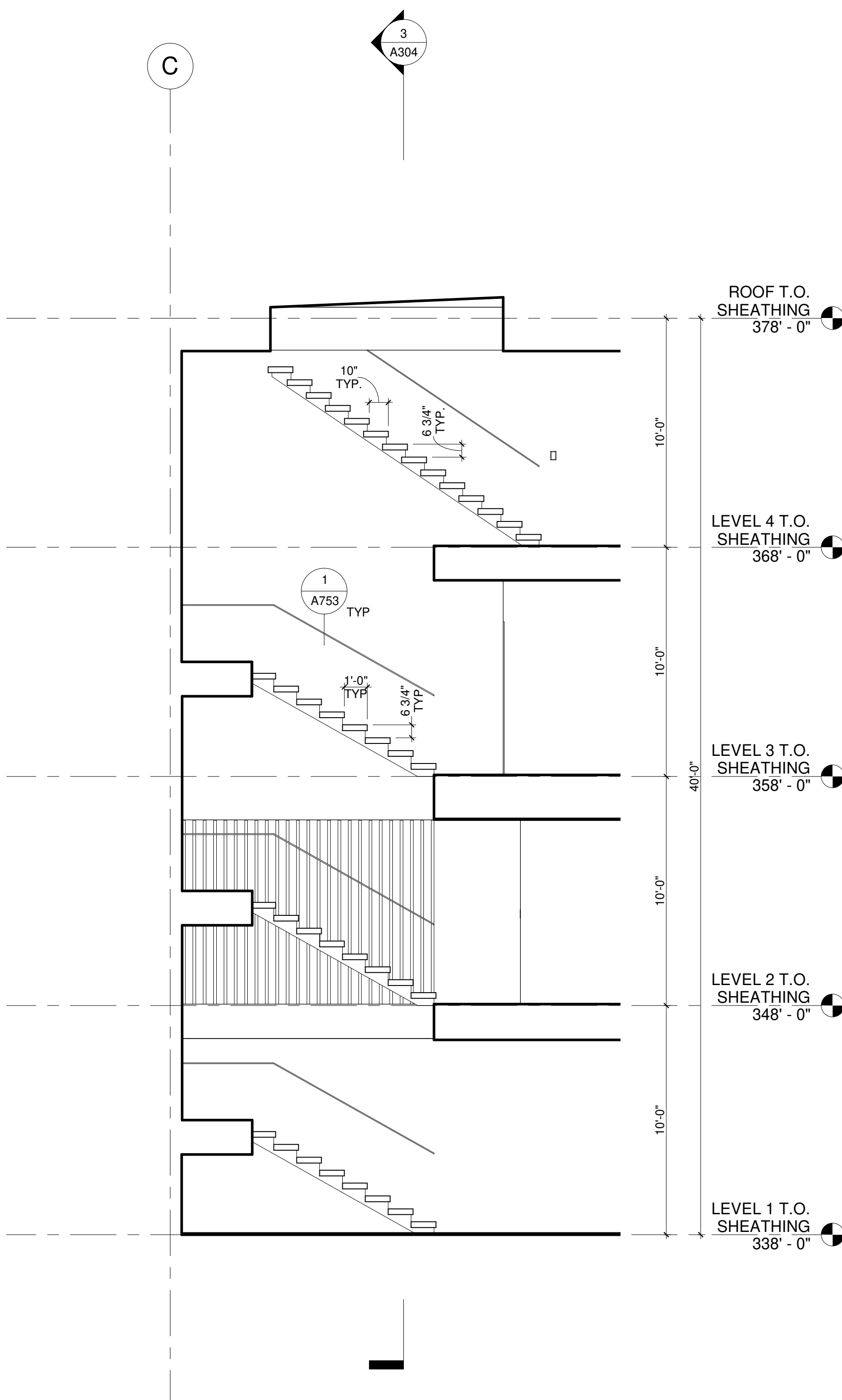
Project Number
20029
DWG EXPORTED 2/15/2021 9:53:05 AM
2/15/21

A304
BUILDING
SECTIONS - STAIR

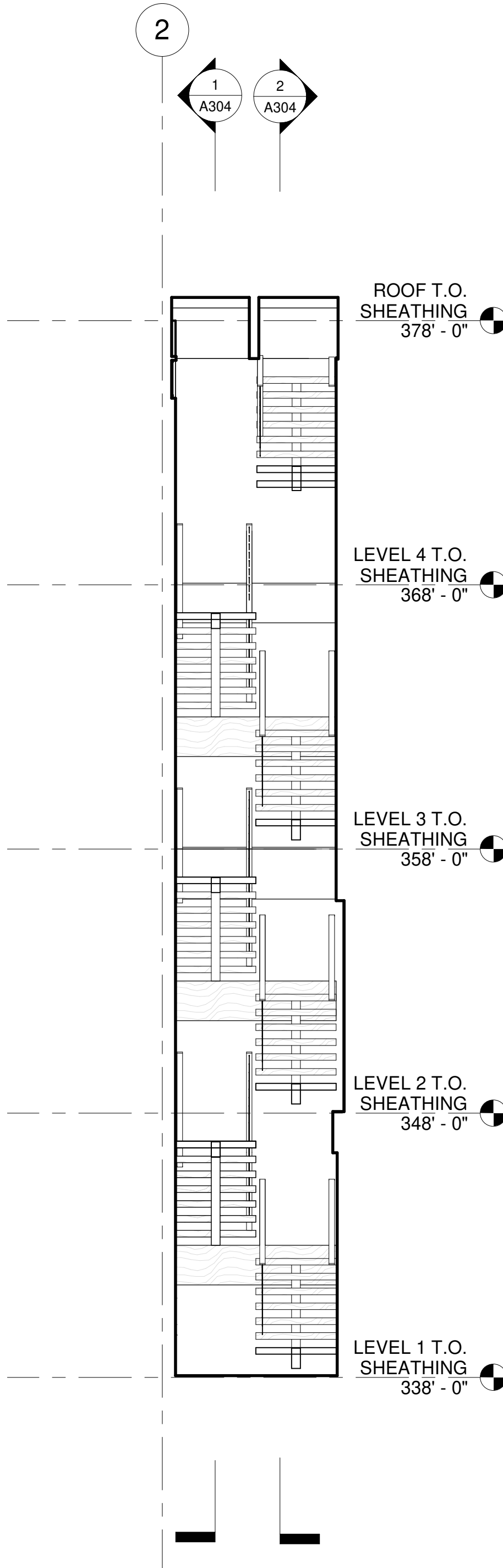
CD DRAFT



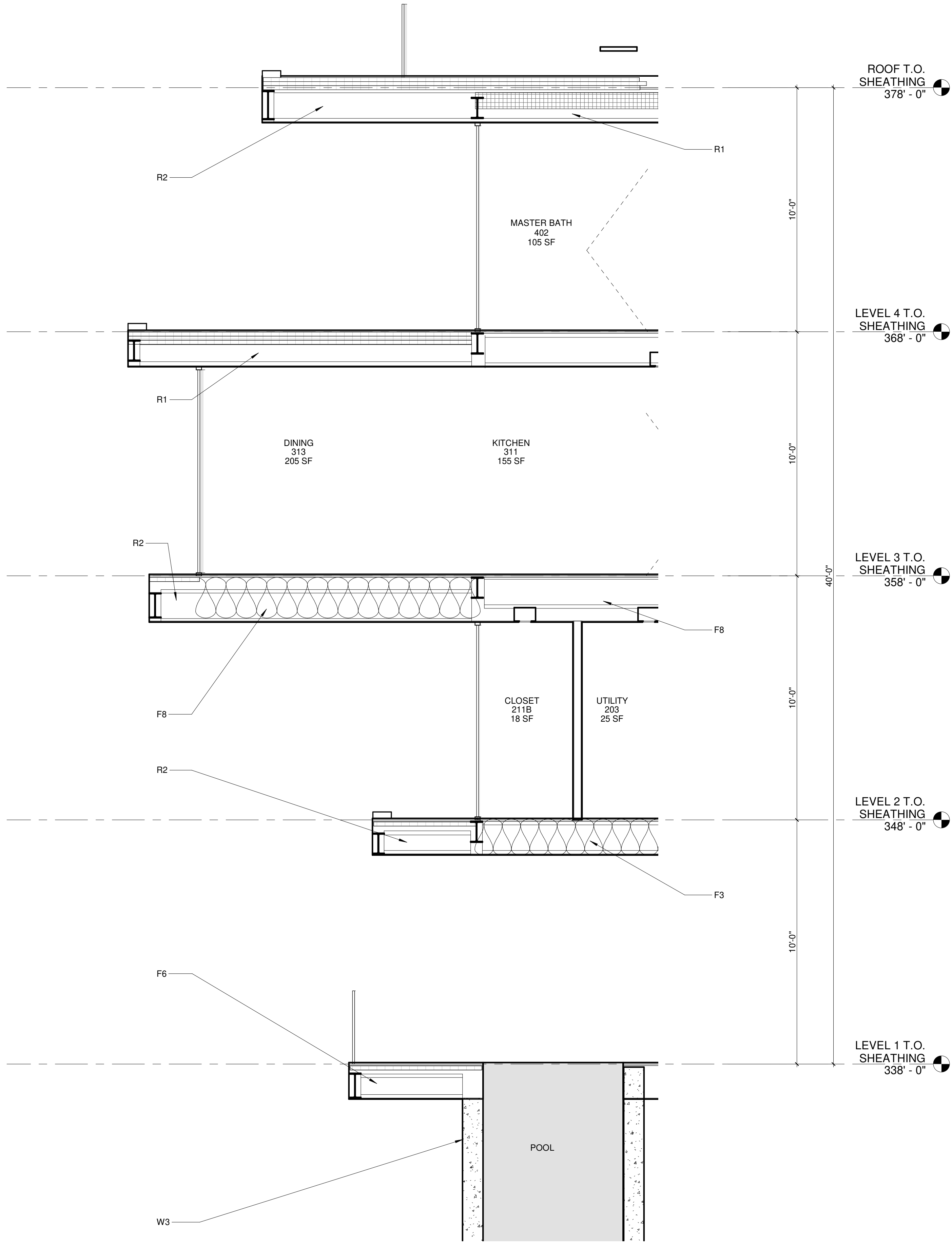
1 SECTION AT STAIR 1
1/4" = 1'-0"



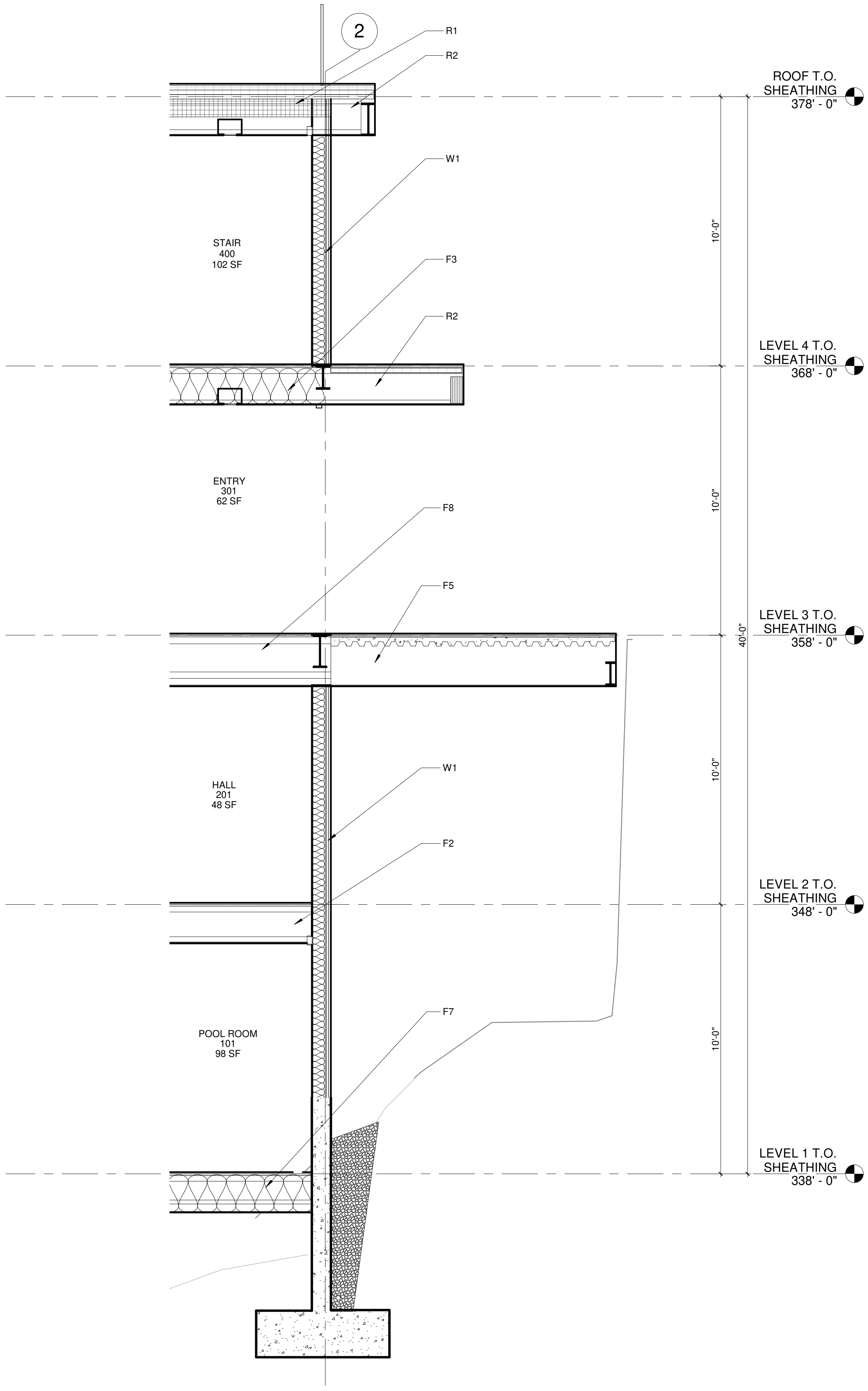
2 SECTION AT STAIR 2
1/4" = 1'-0"



3 SECTION AT STAIR 3
1/4" = 1'-0"



① WALL SECTION 1
3/8" = 1'-0"



② WALL SECTION 2
3/8" = 1'-0"



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER

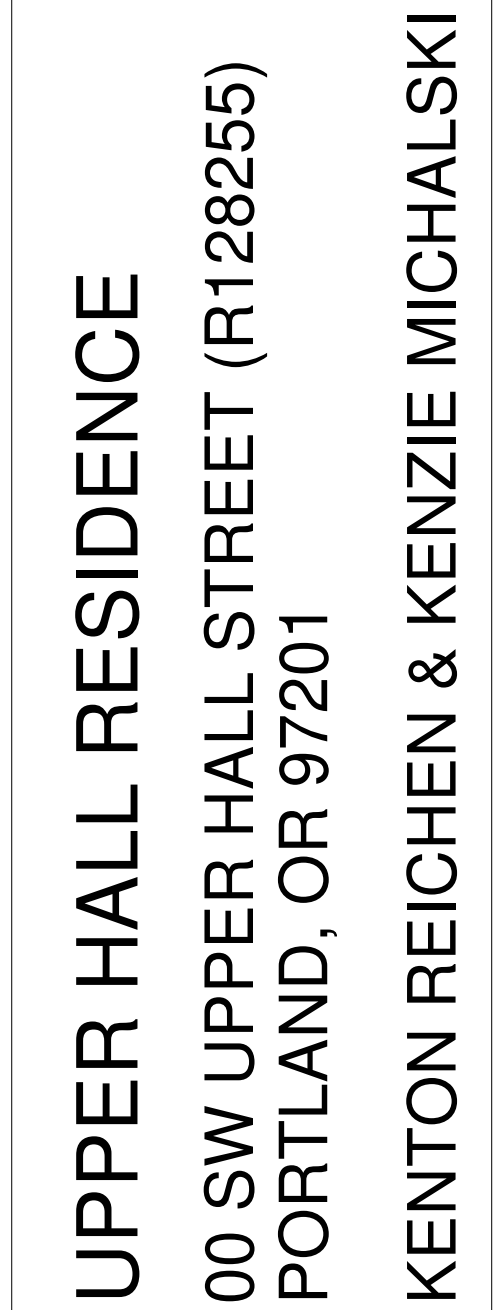
#	REVISION	DATE
---	----------	------



Project Number
20029
DWG EXPORTED 2/15/2021 9:53:06 AM
2/15/21

A305
WALL SECTIONS

CD DRAFT



NOT FOR CONSTRUCTION

2/15/21

CD DRAFT



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI



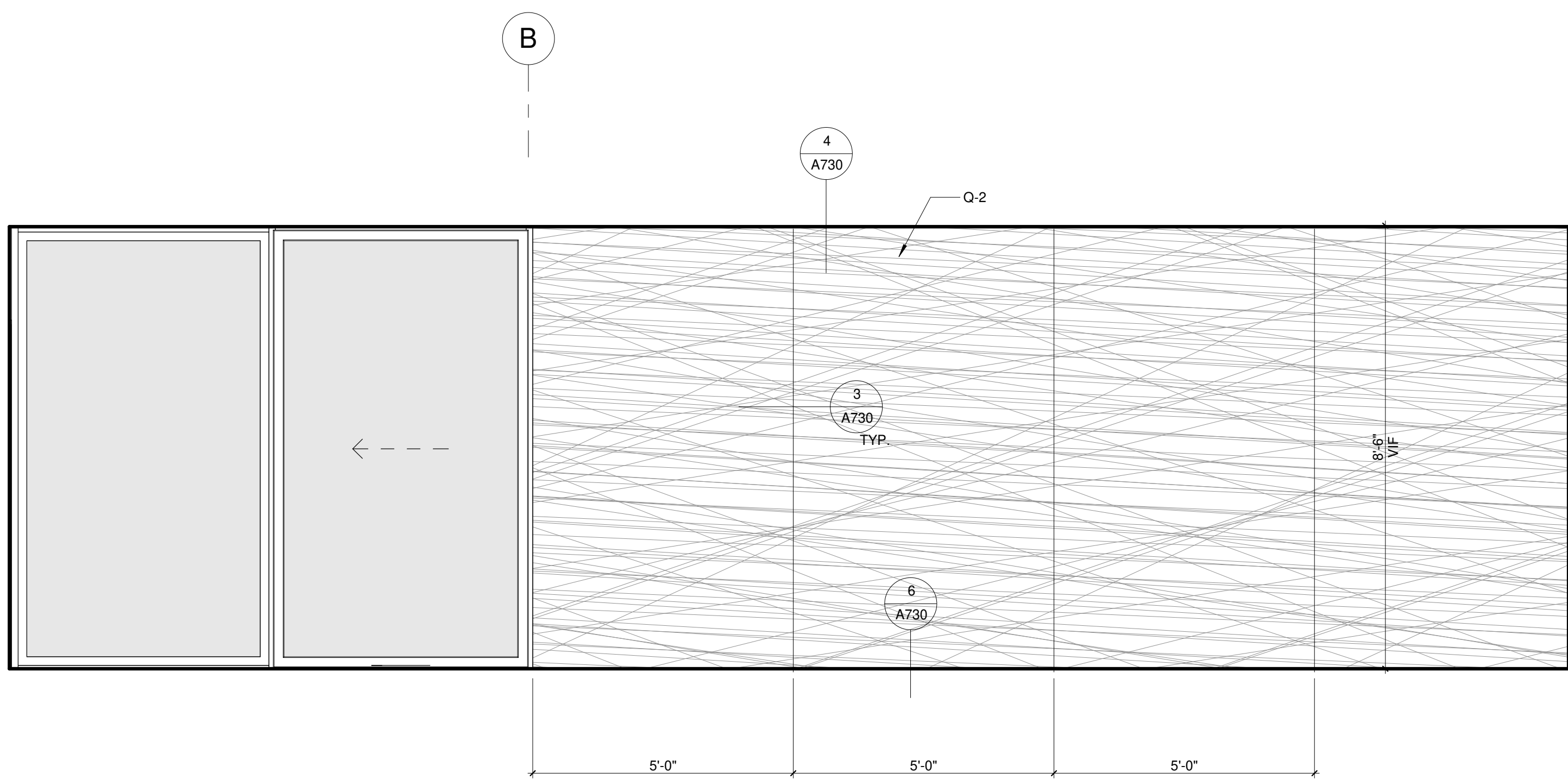
Project Number
20029
DWG EXPORTED 2/15/2021 9:53:08 AM
2/15/21

A502
INTERIOR
ELEVATIONS -
LEVEL 1

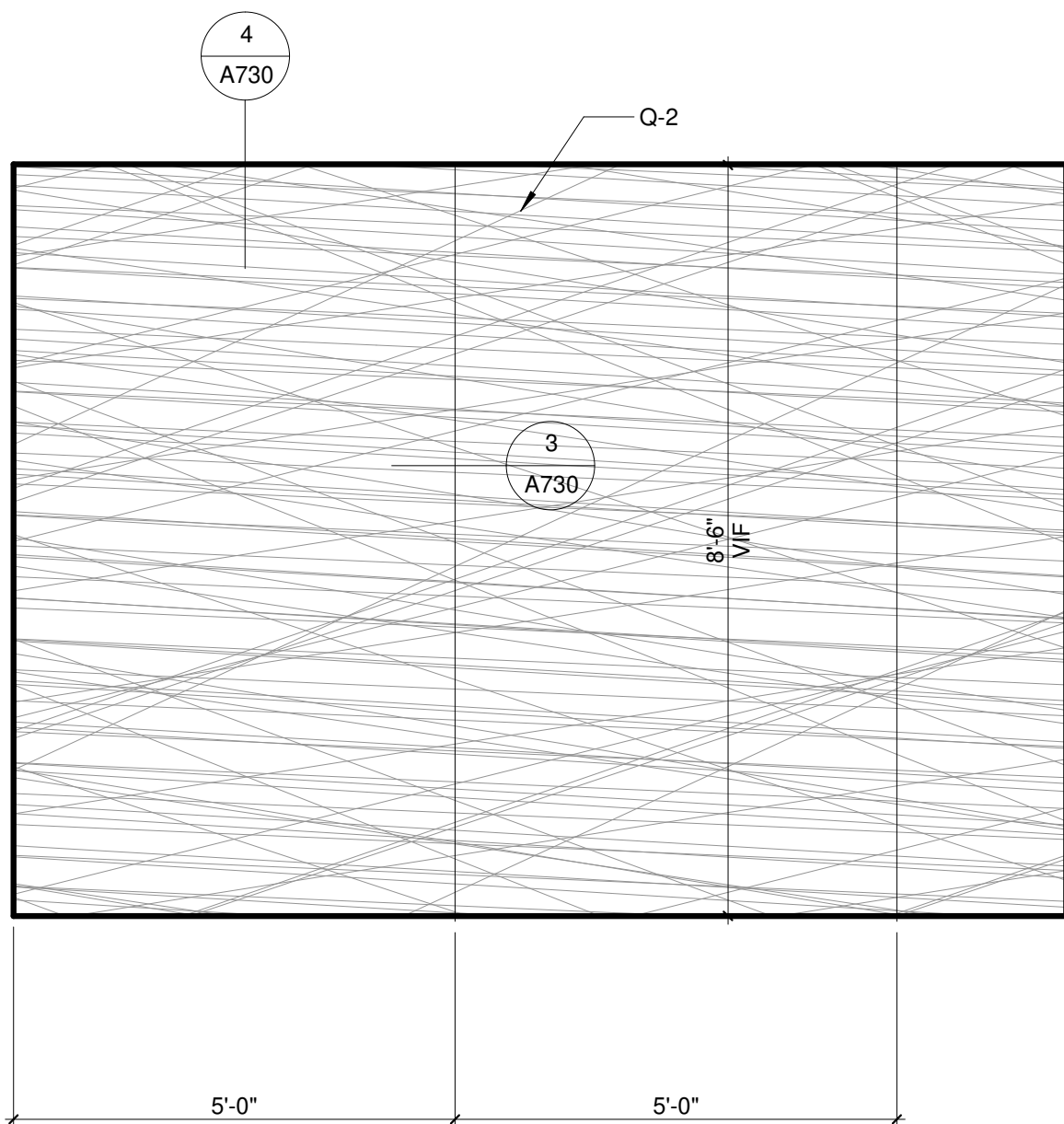
CD DRAFT

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"X42" PAPER

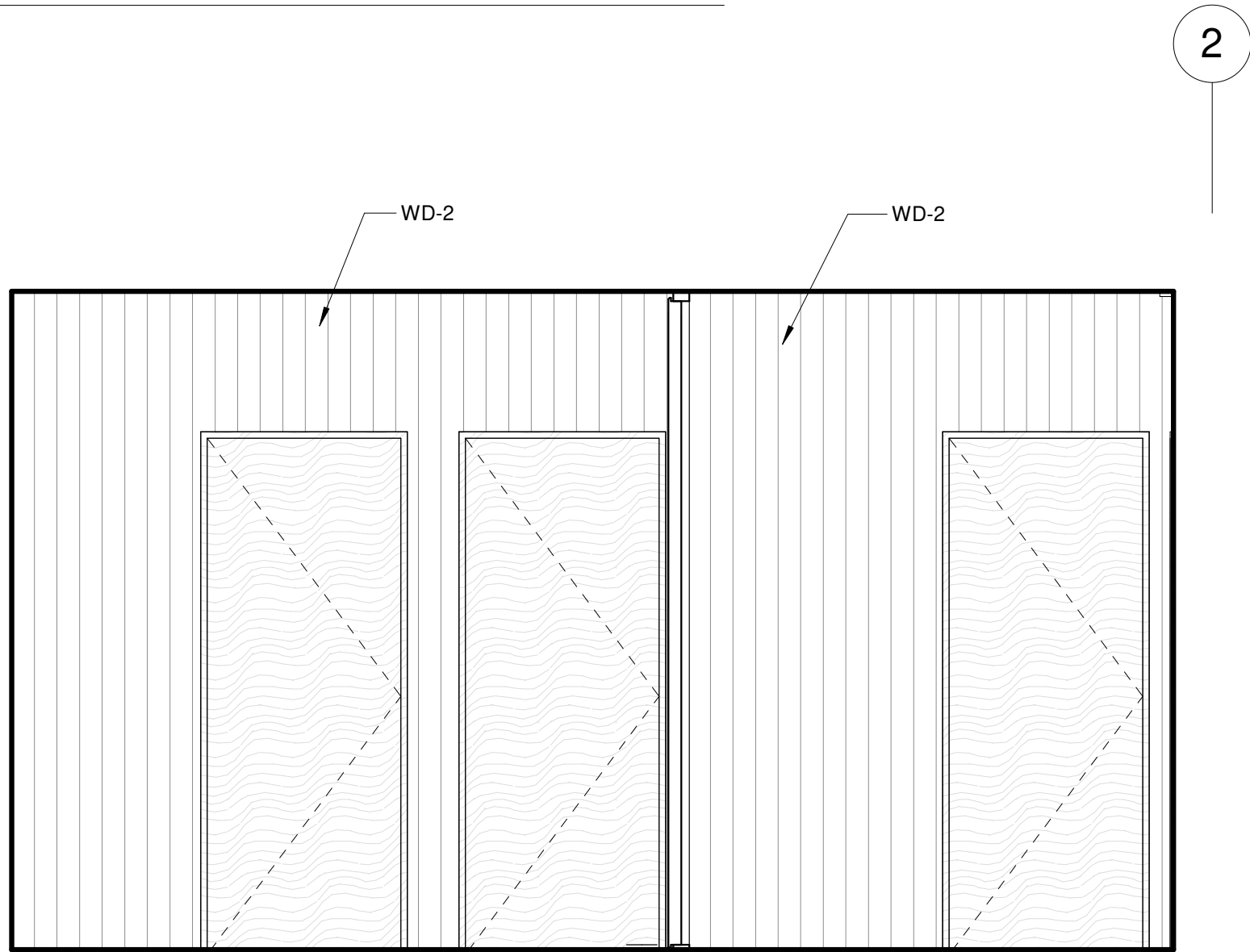
#	REVISION	DATE
---	----------	------



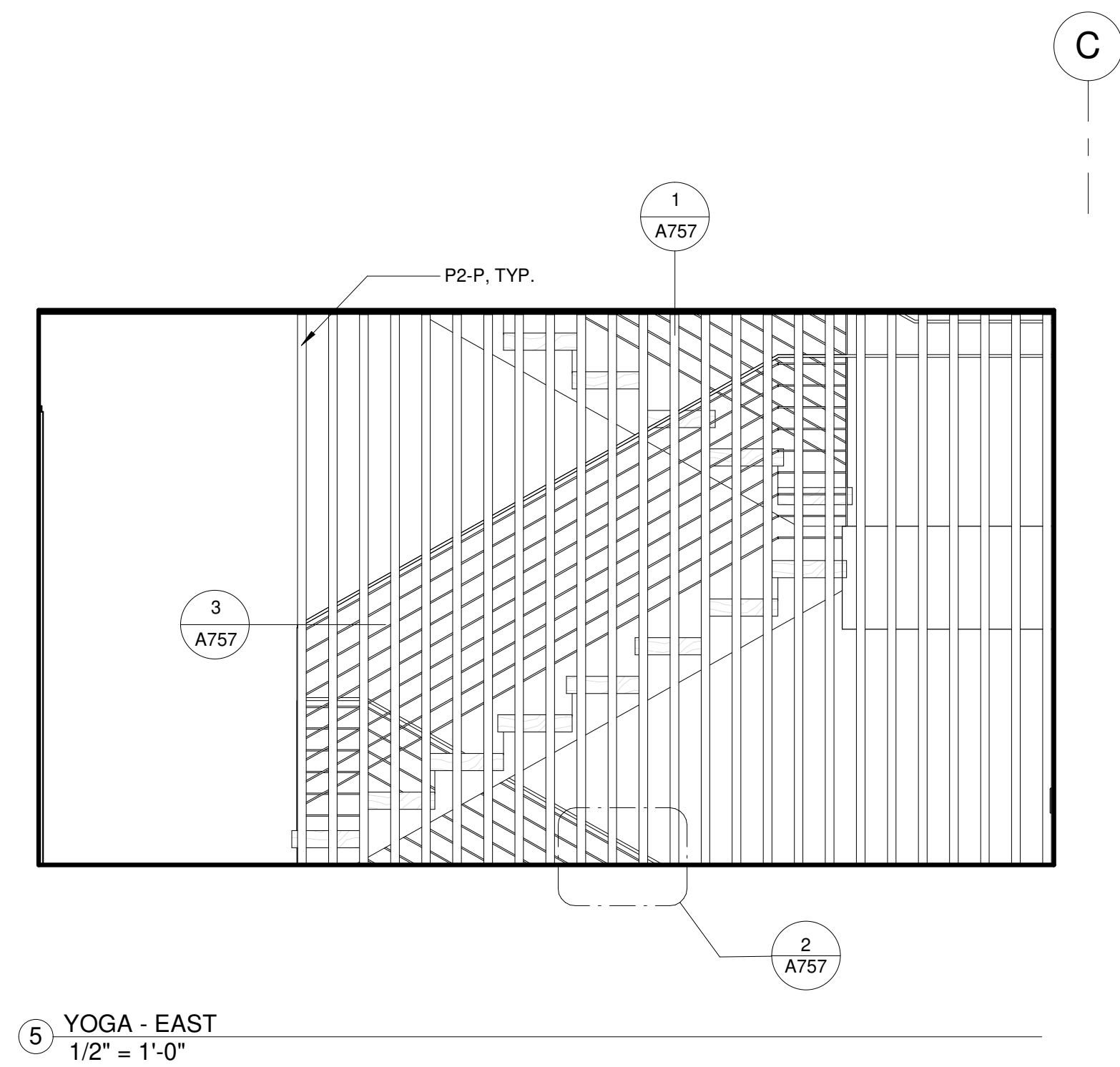
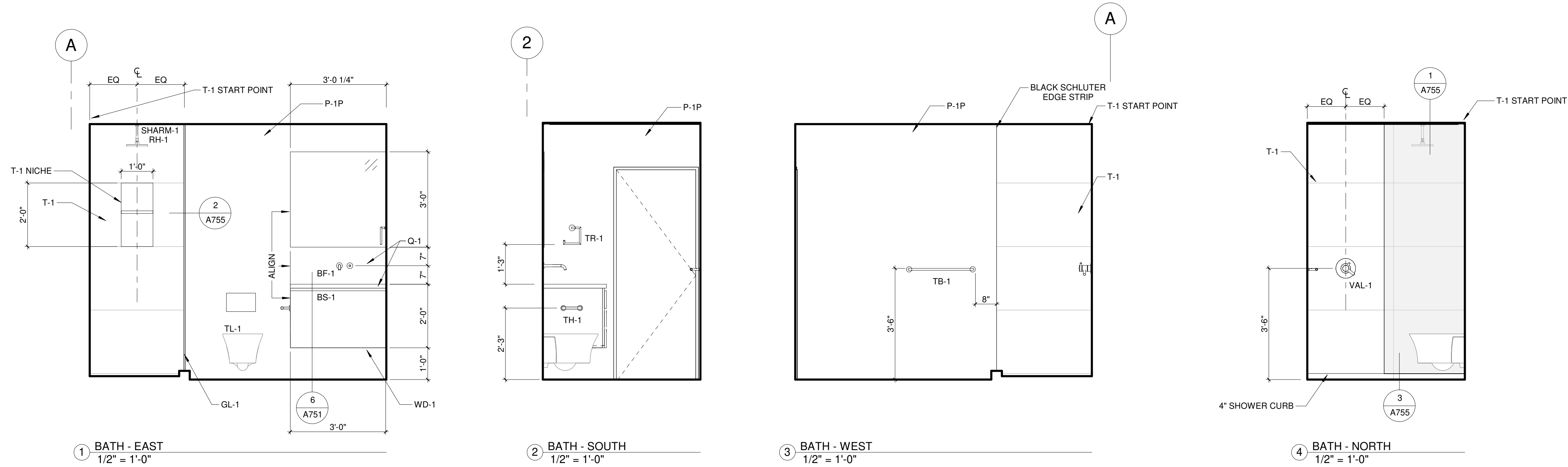
1 POOL - EAST
1/2" = 1'-0"



2 POOL - SOUTH
1/2" = 1'-0"



3 POOL - NORTH
1/2" = 1'-0"



NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER

UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

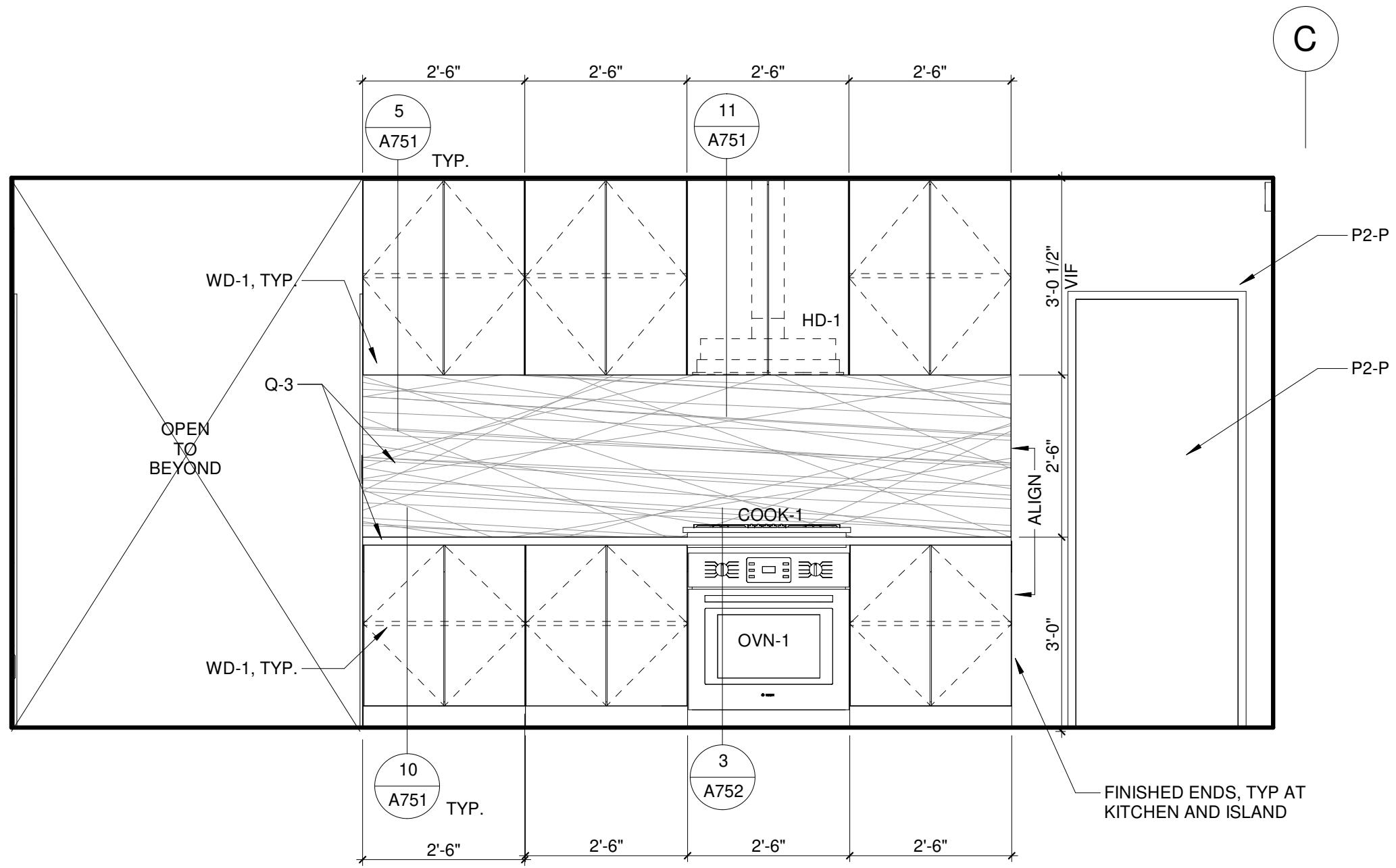
#	REVISION	DATE
---	----------	------



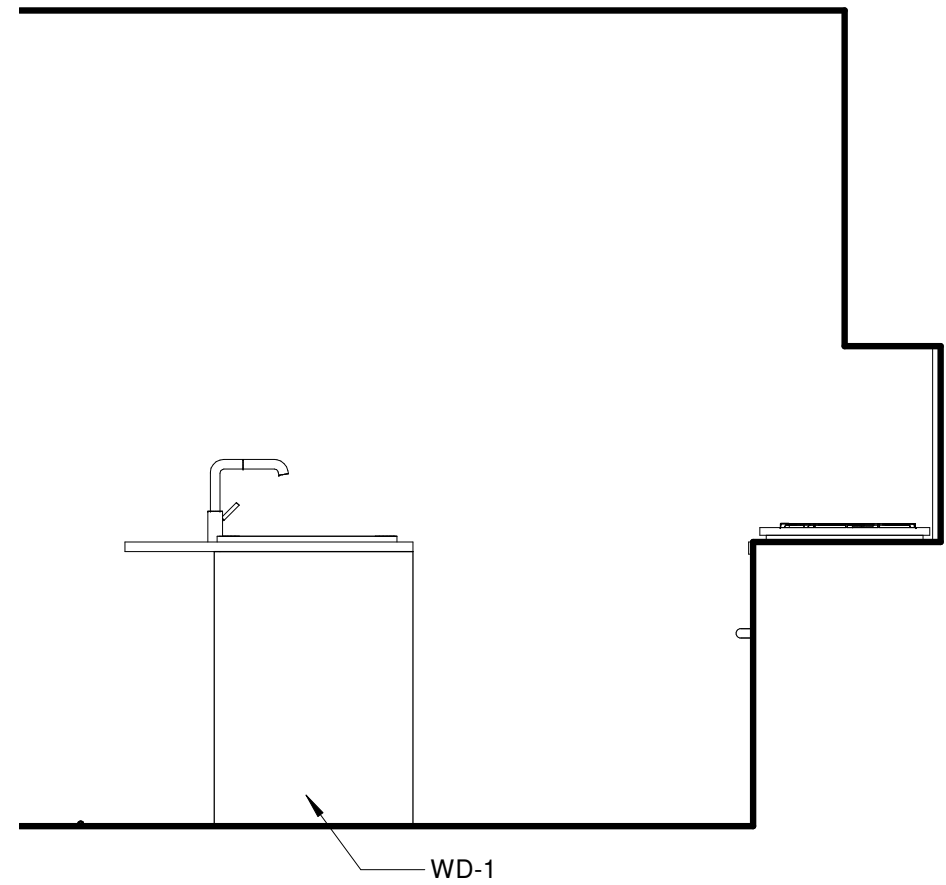
Project Number
20029
DWG EXPORTED 2/15/2021 9:53:09 AM
2/15/21

A503
INTERIOR
ELEVATIONS -
LEVEL 2

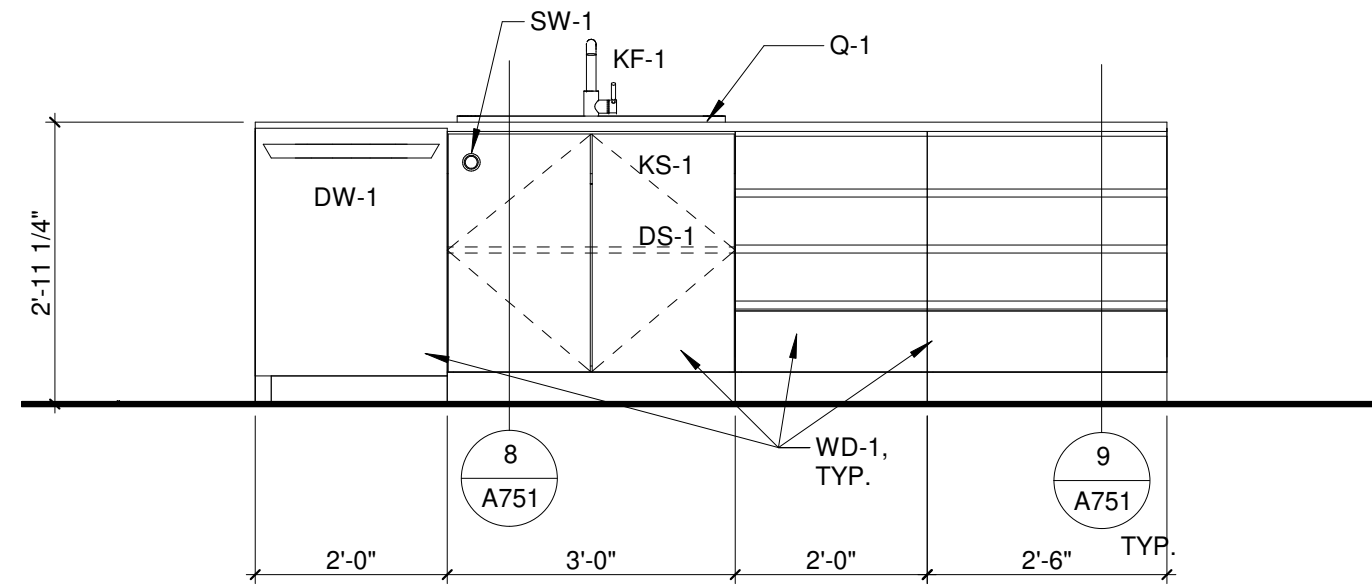
CD DRAFT



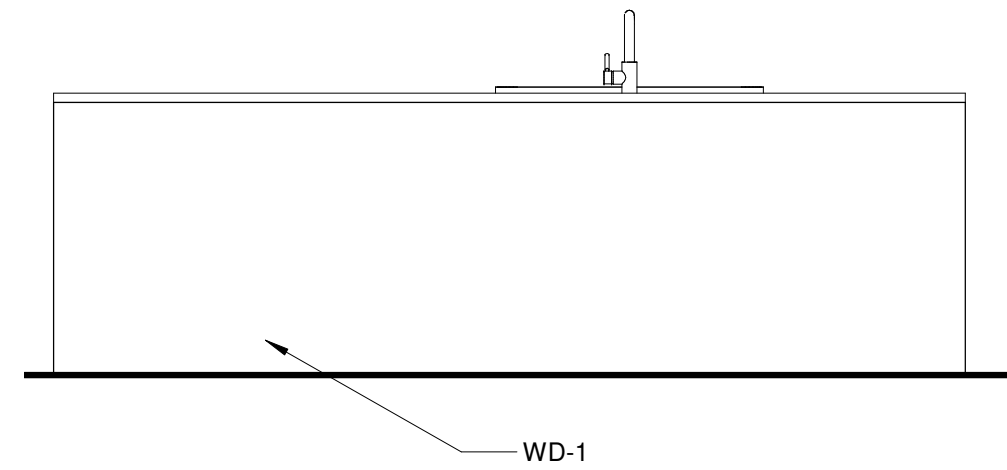
1 KITCHEN - WEST
1/2" = 1'-0"



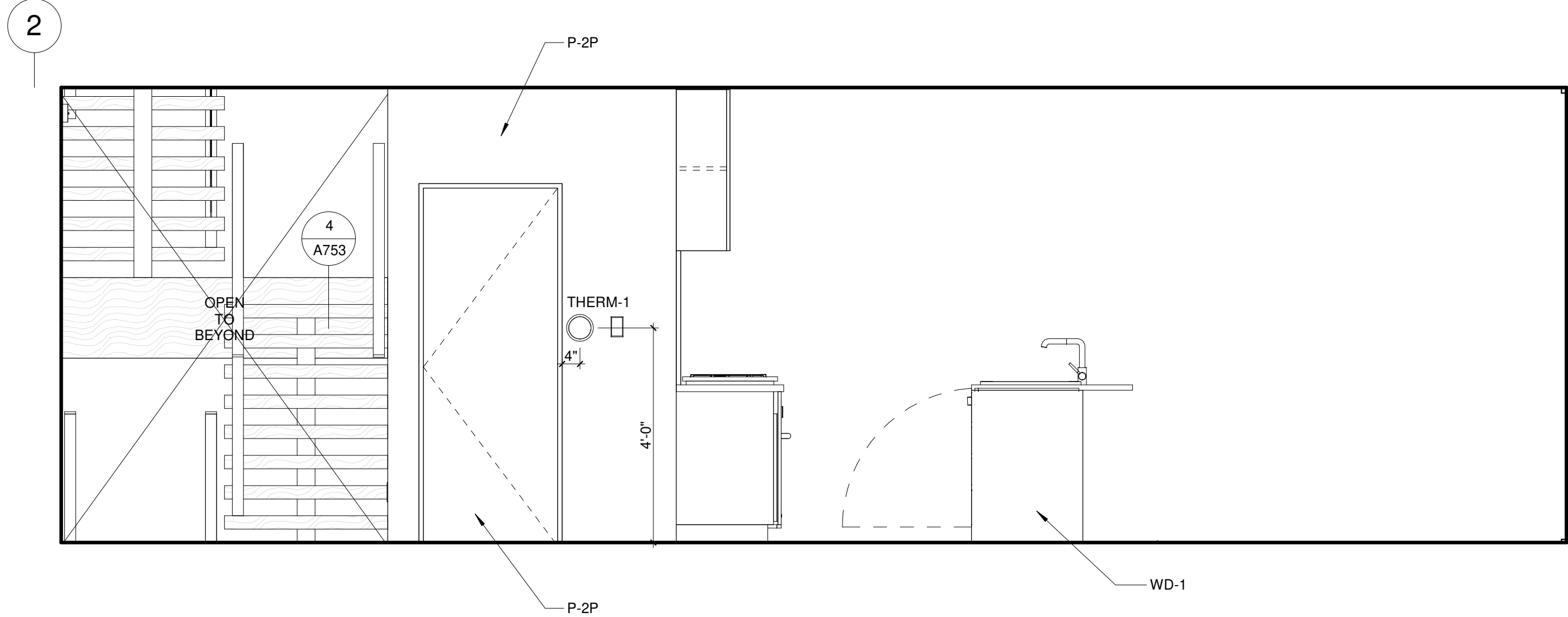
4 KITCHEN - SOUTH
1/2" = 1'-0"



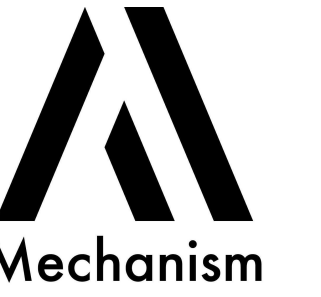
2 ISLAND - EAST
1/2" = 1'-0"



3 ISLAND - WEST
1/2" = 1'-0"



5 KITCHEN - NORTH
1/2" = 1'-0"



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

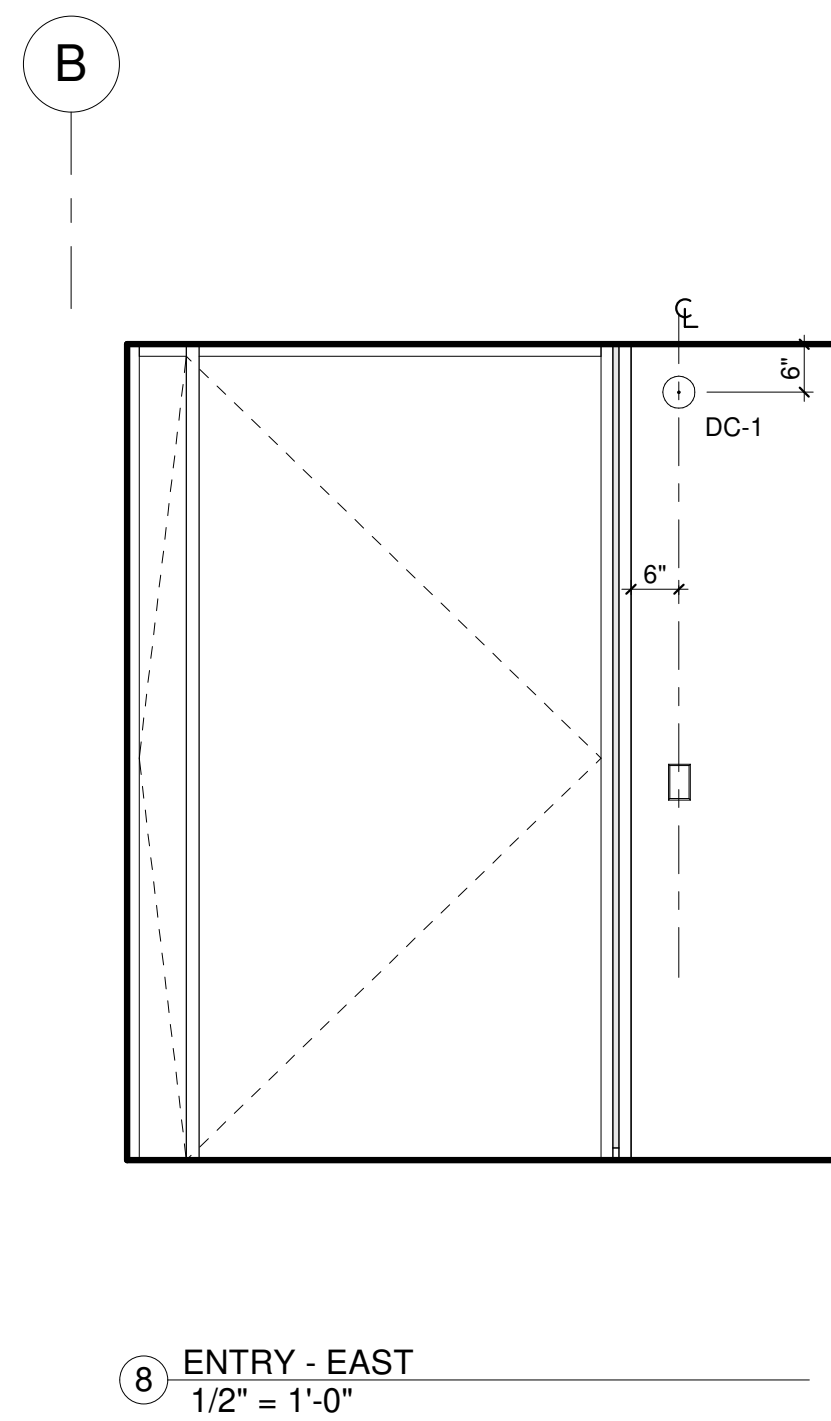
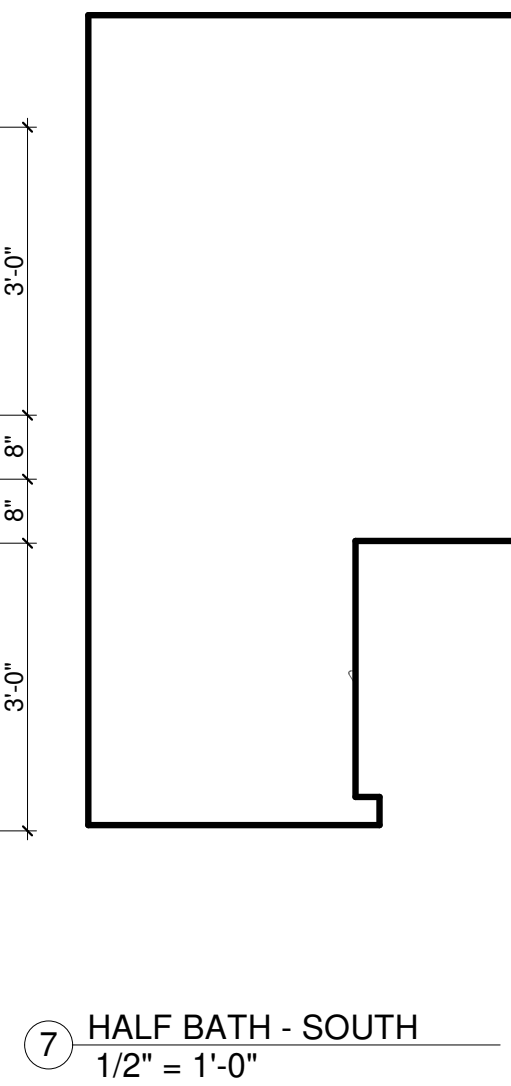
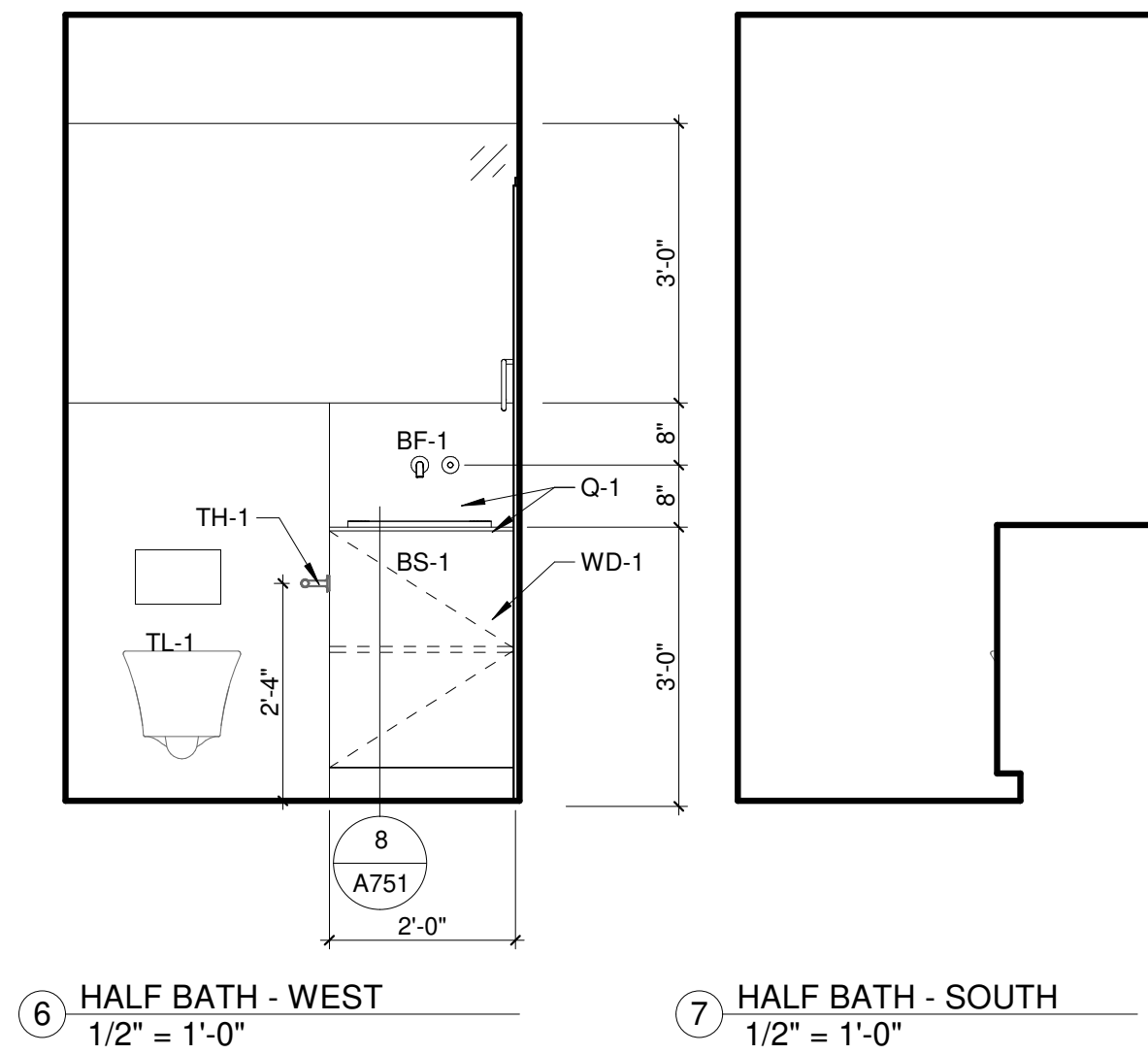
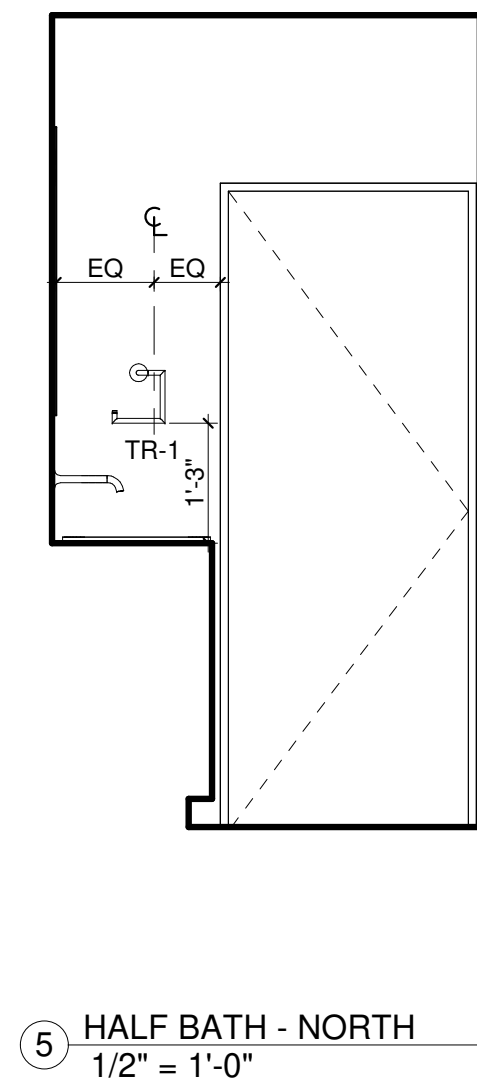
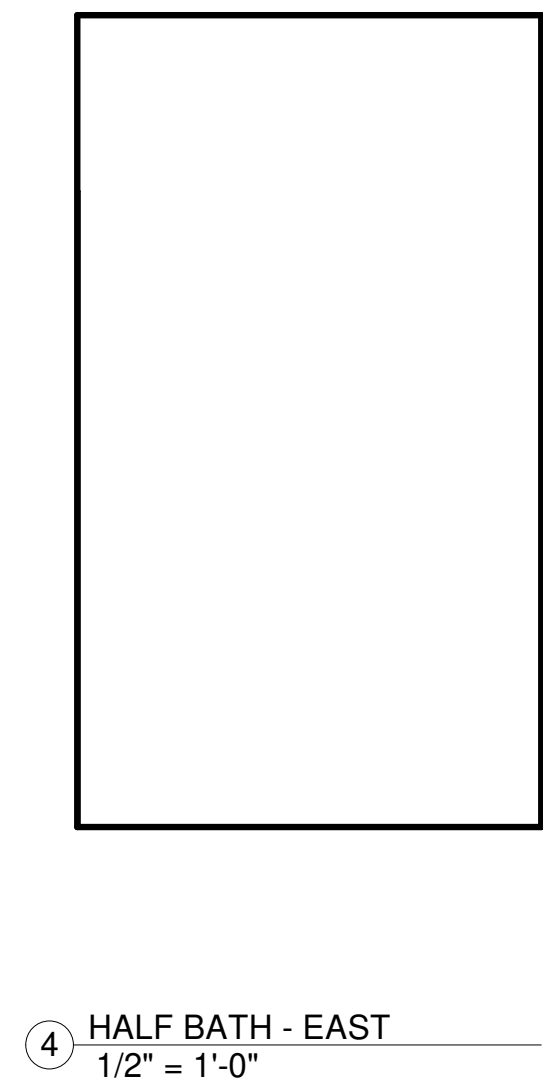
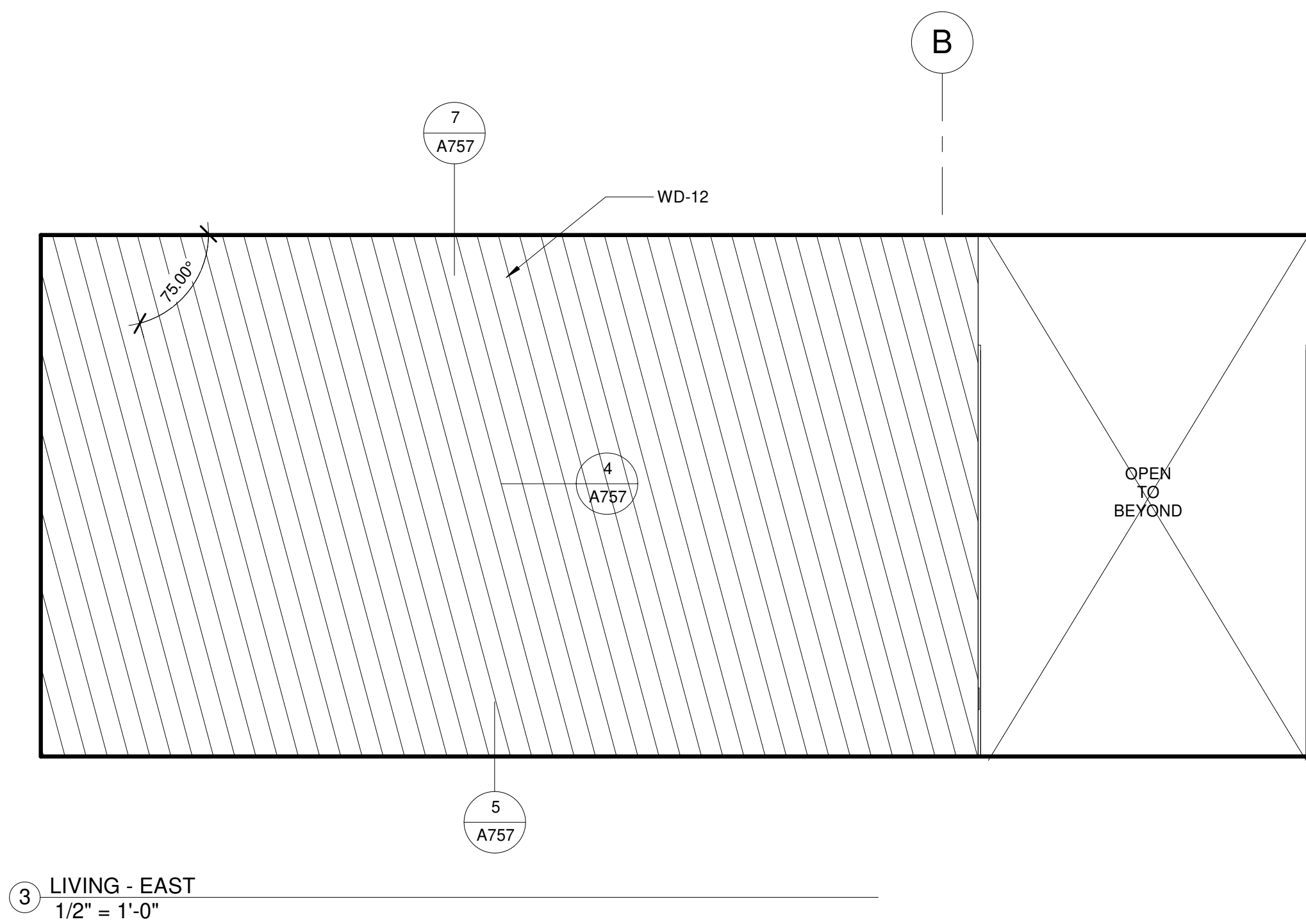
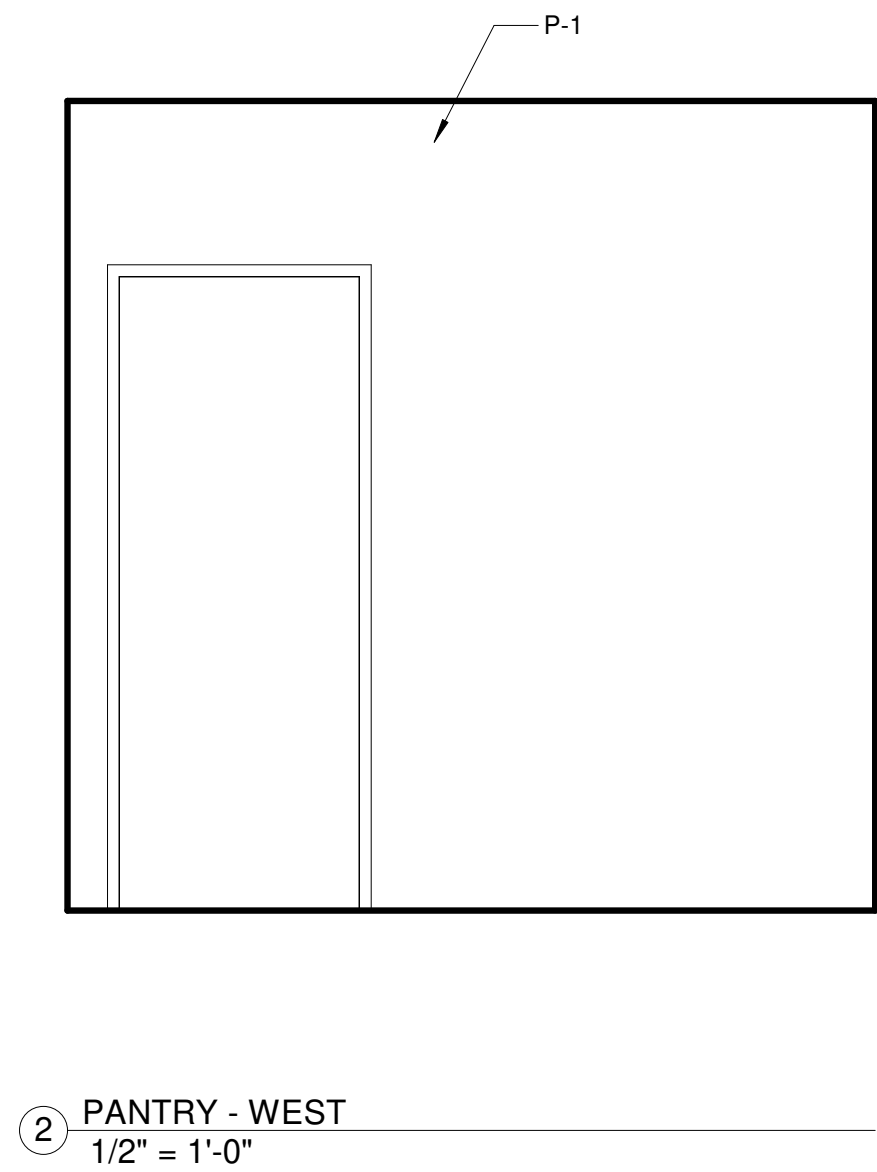
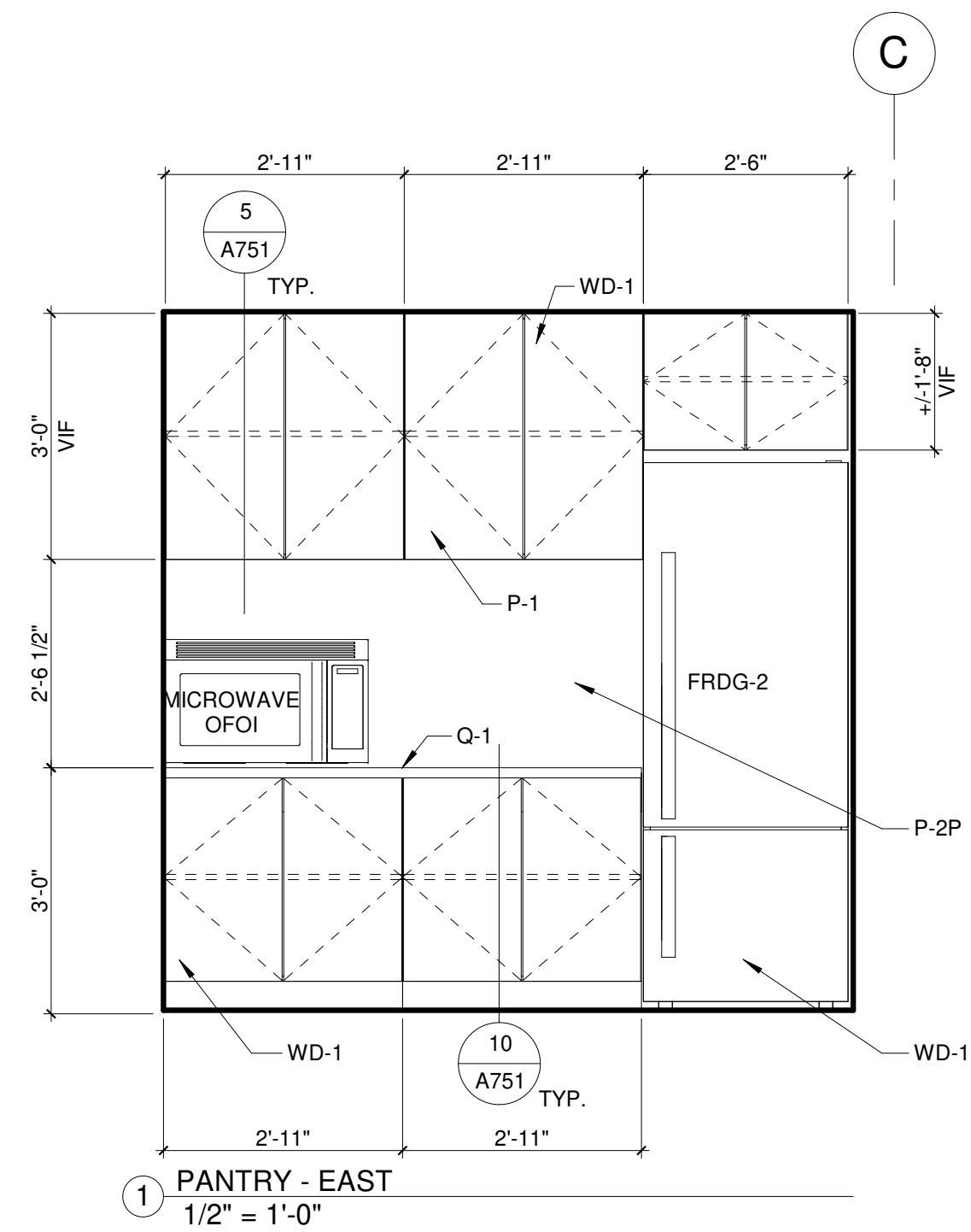
#	REVISION	DATE
---	----------	------



Project Number
20029
DWG EXPORTED 2/15/2021 9:53:11 AM
2/15/21

A504
INTERIOR
ELEVATIONS-
LEVEL 3

CD DRAFT



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER

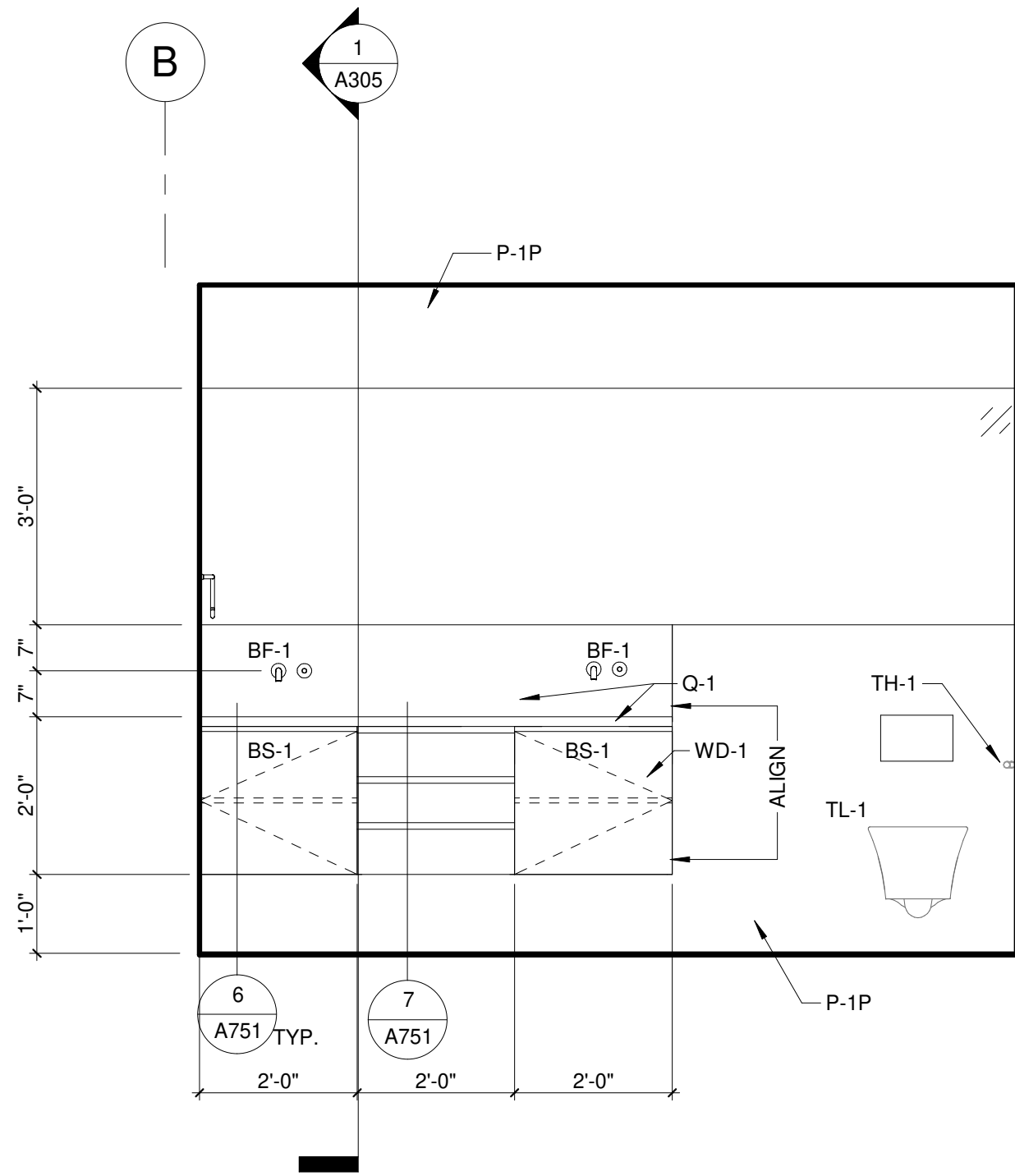
#	REVISION	DATE
---	----------	------



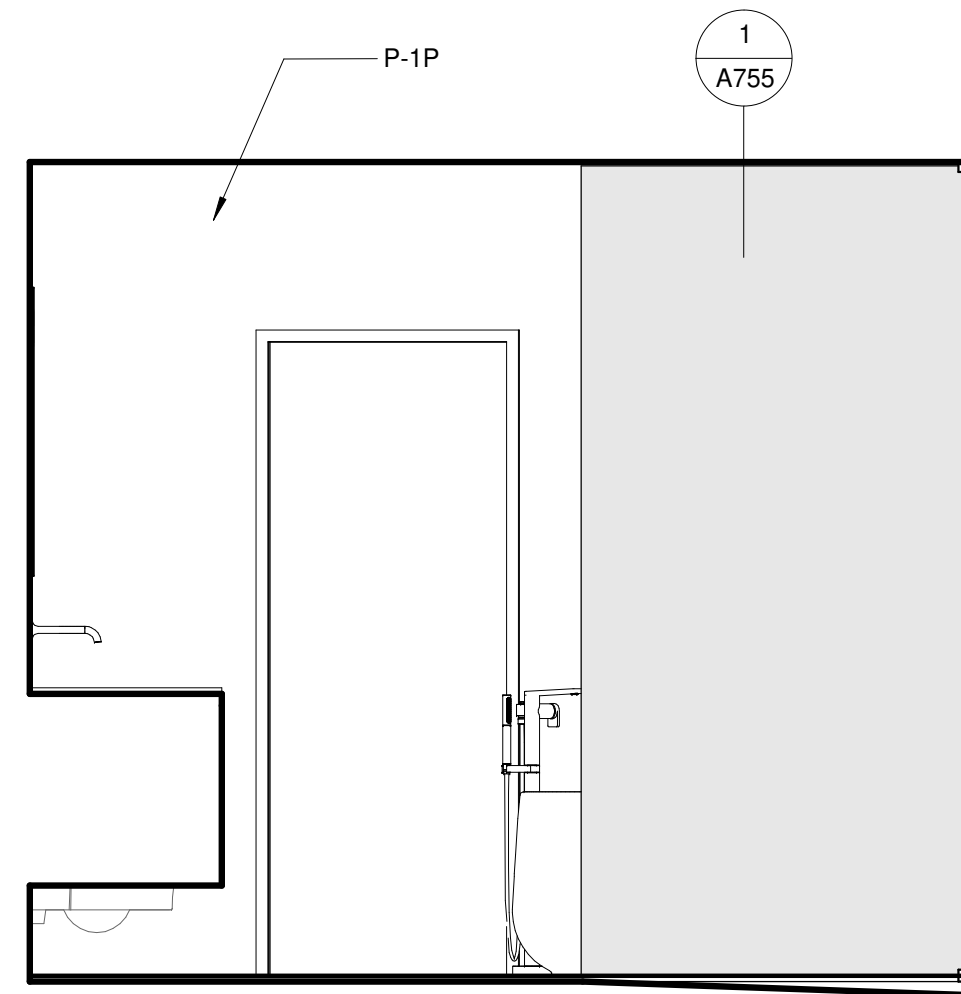
Project Number
20029
DWG EXPORTED 2/15/2021 9:53:12 AM
2/15/21

A505
INTERIOR
ELEVATIONS -
LEVEL 3

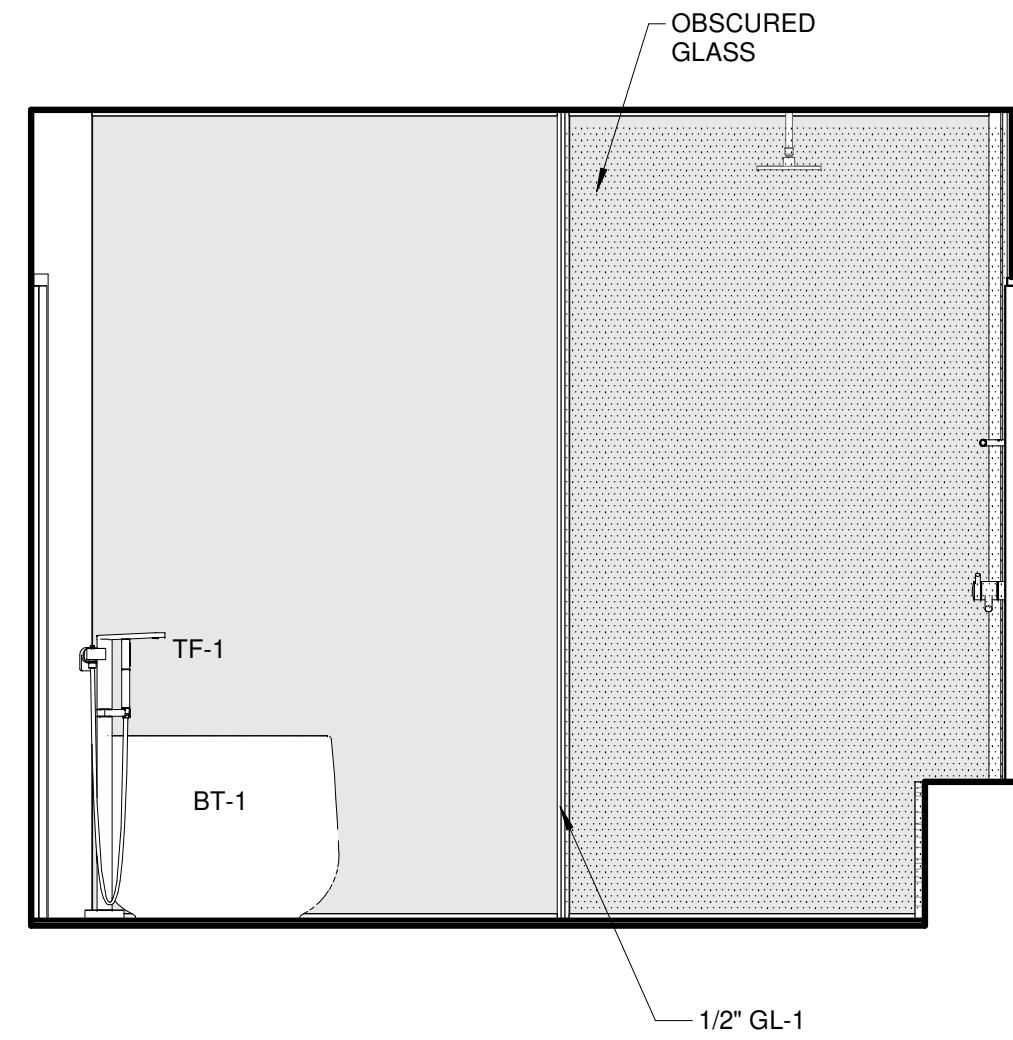
CD DRAFT



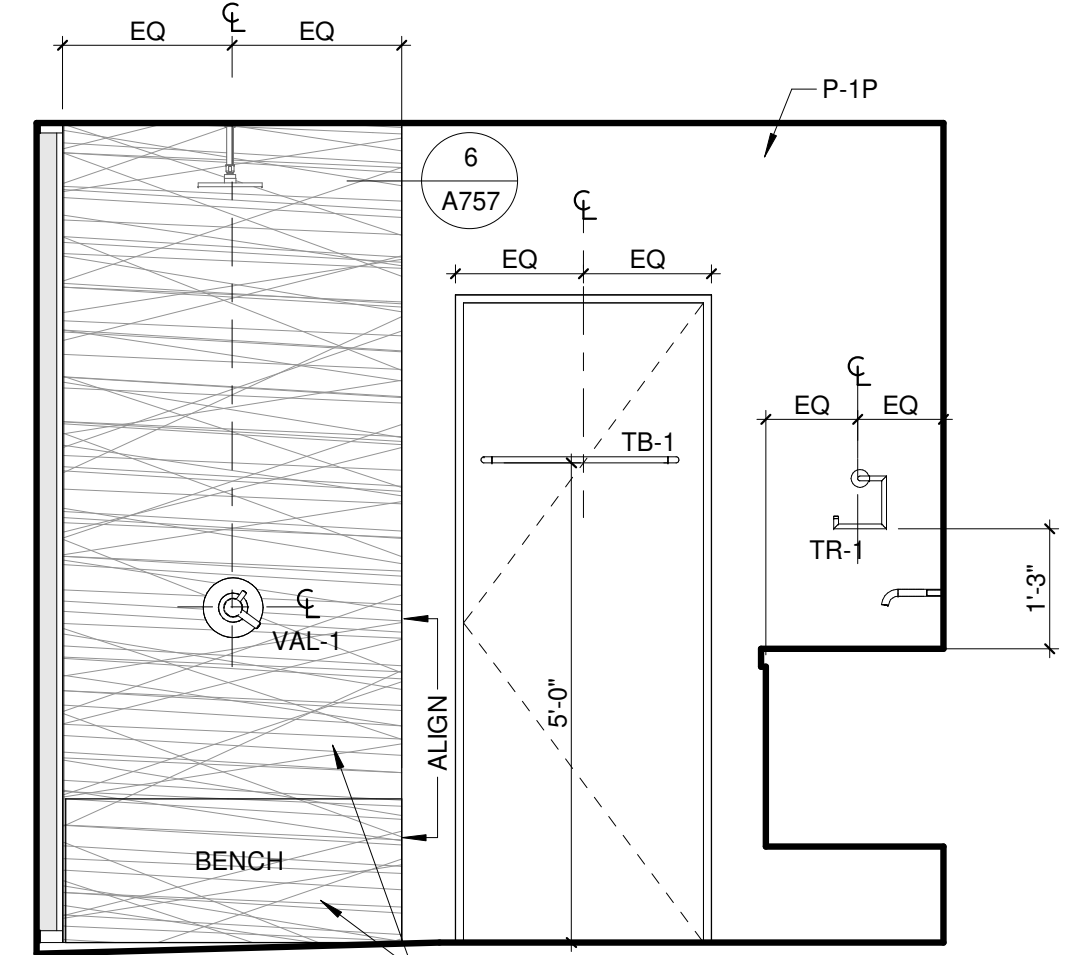
1 MASTER BATH - EAST
1/2" = 1'-0"



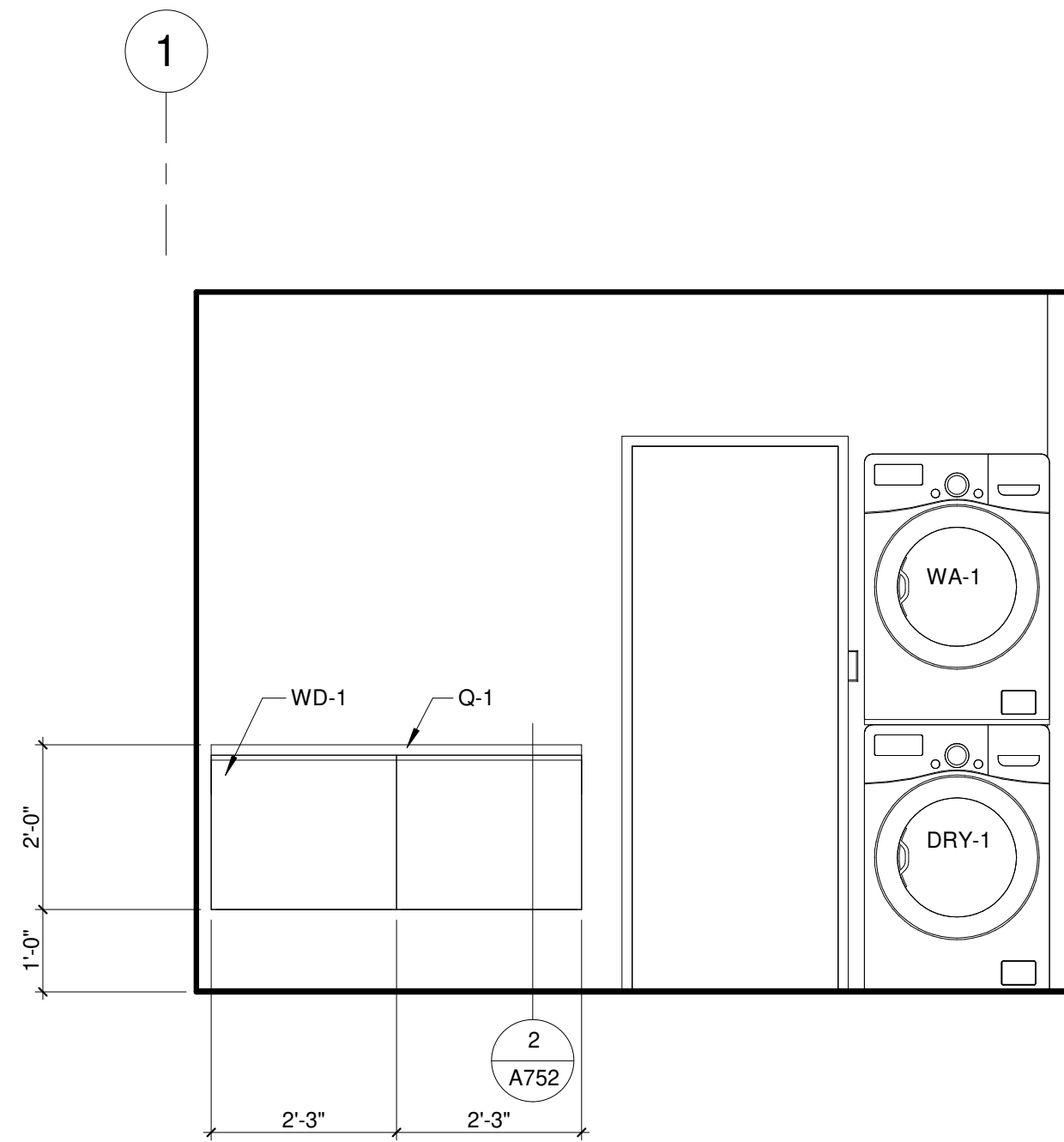
2 MASTER BATH - NORTH
1/2" = 1'-0"



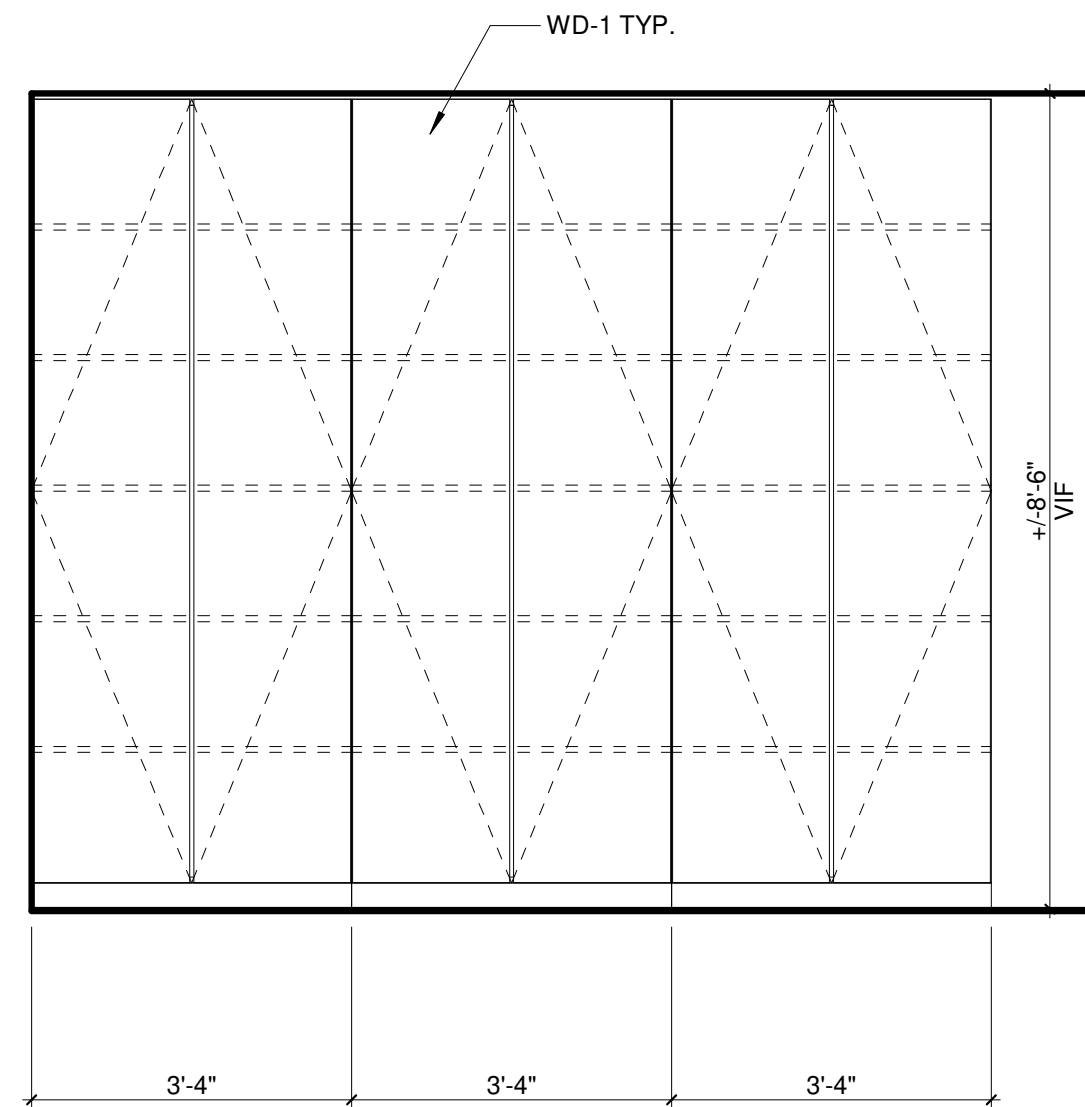
3 MASTER BATH - WEST
1/2" = 1'-0"



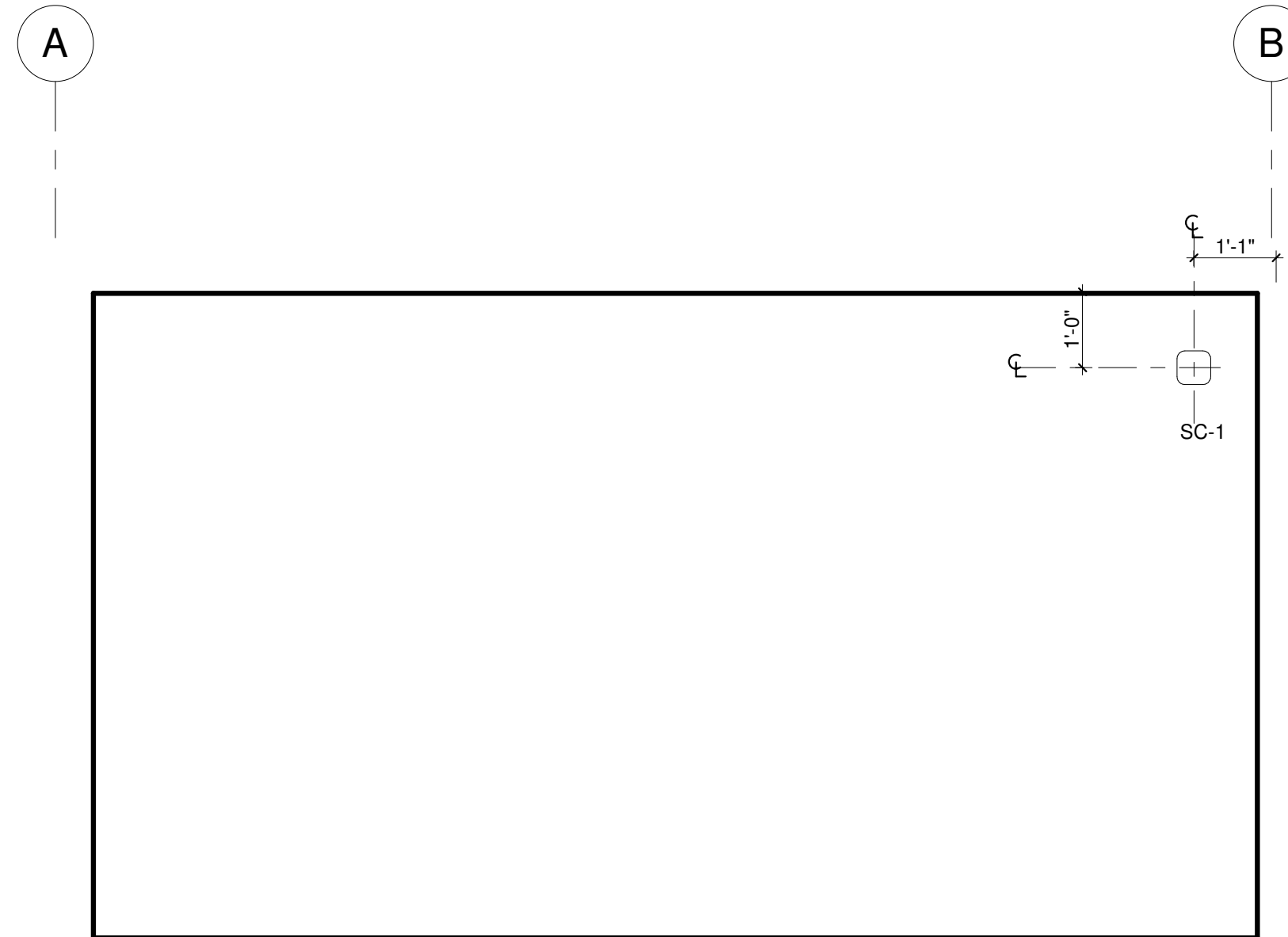
4 MASTER BATH - SOUTH
1/2" = 1'-0"



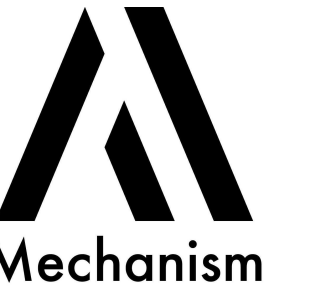
5 MASTER CLOSET - NORTH
1/2" = 1'-0"



6 MASTER CLOSET - SOUTH
1/2" = 1'-0"



7 MASTER BED - EAST
1/2" = 1'-0"



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER

#	REVISION	DATE
---	----------	------



Project Number
20029
DWG EXPORTED 2/15/2021 9:53:14 AM
2/15/21

A506
INTERIOR
ELEVATIONS -
LEVEL 4

CD DRAFT

DOOR SCHEDULE													
ROOM NAME	NO.	TYPE	DOOR SIZE		MATERIAL	FINISH	FRAME			DETAILS		DESIGN CRITERIA	NOTES
			WIDTH	HEIGHT			TYPE	MATERIAL	FINISH	HEAD	JAMB	LOCK FUNCTION	
POOL ROOM	101	I	10' - 0"	8' - 6"	ALUM/GL	ANOD	1	N/A	N/A	1/A723	5,6/A723	E	DR-13 IN SPEC.
STOR/UTILITY	111	A	2' - 6"	6' - 8"	WD-2	N/A	1	WD-2	N/A	1/A754	2/A754	S	DR-1 IN SPEC.
SHOWER	112	A	2' - 6"	6' - 8"	WD-2	N/A	1	WD-2	N/A	11/A723	12/A723	PR	DR-1 IN SPEC.
SAUNA	113	A	2' - 6"	6' - 8"	WD-2	N/A	1	WD-2	N/A	11/A723	12/A723	PA	DR-1 IN SPEC.
WINE	121	A	2' - 6"	6' - 8"	WD	P-1P	1	WD	P-1P	1/A754	2/A754	PA	DR-1 IN SPEC.
UTILITY	203	A	2' - 6"	6' - 8"	WD	P-1P	1	WD	P-1P	1/A754	2/A754	PA	DR-1 IN SPEC.
BEDROOM	211.1	A	2' - 6"	6' - 8"	WD	P-1P	1	WD	P-1P	1/A754	2/A754	S	DR-1 IN SPEC.
BEDROOM	211.2	M	10' - 0"	8' - 1 1/4"	ALUM/GL	ANOD	1	N/A	N/A	2/A723	8/A723 SIM	E	DR-13 IN SPEC.
CLOSET	211B	A	2' - 6"	6' - 8"	WD	P-1P	1	WD	P-1P	1/A754	2/A754	PA	DR-1 IN SPEC.
BATH	212	A	2' - 6"	6' - 8"	WD	P-1P	1	WD	P-1P	1/A754	2/A754	PR	DR-1 IN SPEC.
ENTRY	301	L	4' - 9 3/4"	8' - 4 1/2"	ALUM/GL	SEE DTL.	1	N/A	SEE DTL.	9/A722	8/A722	E	PIVOT DOOR, DR-12 IN SPEC.
HALF BATH	302	A	2' - 6"	6' - 8"	WD	P-2P	1	WD	P-2P	1/A754	2/A754	PR	DR-1 IN SPEC.
PANTRY	312	J	2' - 6"	6' - 8"	WD	P-2P	5	WD	P-2P	3/A754	4/A754	PA	DR-3 IN SPEC.
LIVING	321	K	19' - 6"	8' - 6"	ALUM/GL	ANOD	1	N/A	N/A	3/A723	7/A723	PR	DR-13 IN SPEC.
GARAGE	351.1	G	16' - 0"	7' - 0"	STL	PX-1	2	WD	PX-1	6/A722	7/A722	E	DR-21 IN SPEC, W/REMOTE OPENER IN SPEC.
GARAGE	351.2	A	2' - 6"	6' - 8"	WD	P-2P	1	WD	P-2P	1/A754	2/A754	E	DR-1 IN SPEC.
	401.1	A	2' - 6"	6' - 8"	WD	P-1P	1	WD	P-1P	1/A754	2/A754	PR	DR-1 IN SPEC.
MASTER	401.2	I	10' - 0"	8' - 6"	ALUM/GL	ANOD	1	N/A	N/A	4/A723	8/A723	E	DR-13 IN SPEC.
	402	A	2' - 6"	6' - 8"	WD	P-1P	1	WD	P-1P	1/A754	2/A754	PR	DR-1 IN SPEC.
	403	J	2' - 6"	6' - 8"	WD	P-1P	5	WD	P-1P	3/A754	4/A754	PA	DR-3 IN SPEC.

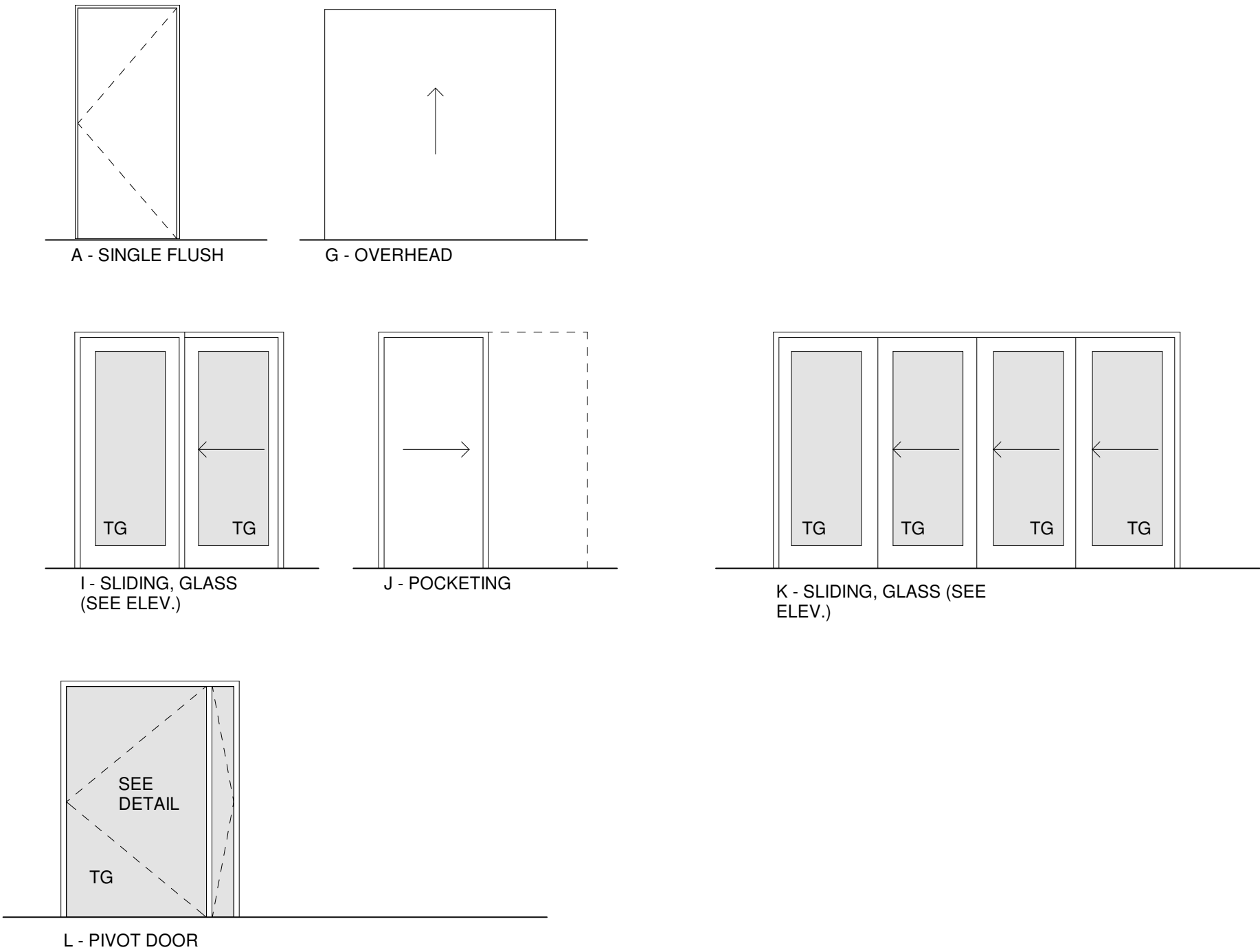
DOOR SCHEDULE GENERAL NOTES

1. THICKNESS OF INTERIOR DOORS 1 3/8" UNLESS NOTED OTHERWISE
2. ALL GLAZING IN DOORS AND FRAMES TO BE TEMPERED GLAZING (TG) OR LAMINATED GLAZING (LG), UNLESS OTHERWISE NOTED.
3. EACH PANE OF TEMPERED OR LAMINATED GLASS SHALL BE PERMANENTLY IDENTIFIED BY MANUFACTURER WITH A MARK THAT ONCE APPLIED, CANNOT BE REMOVED WITHOUT BEING DESTROYED.

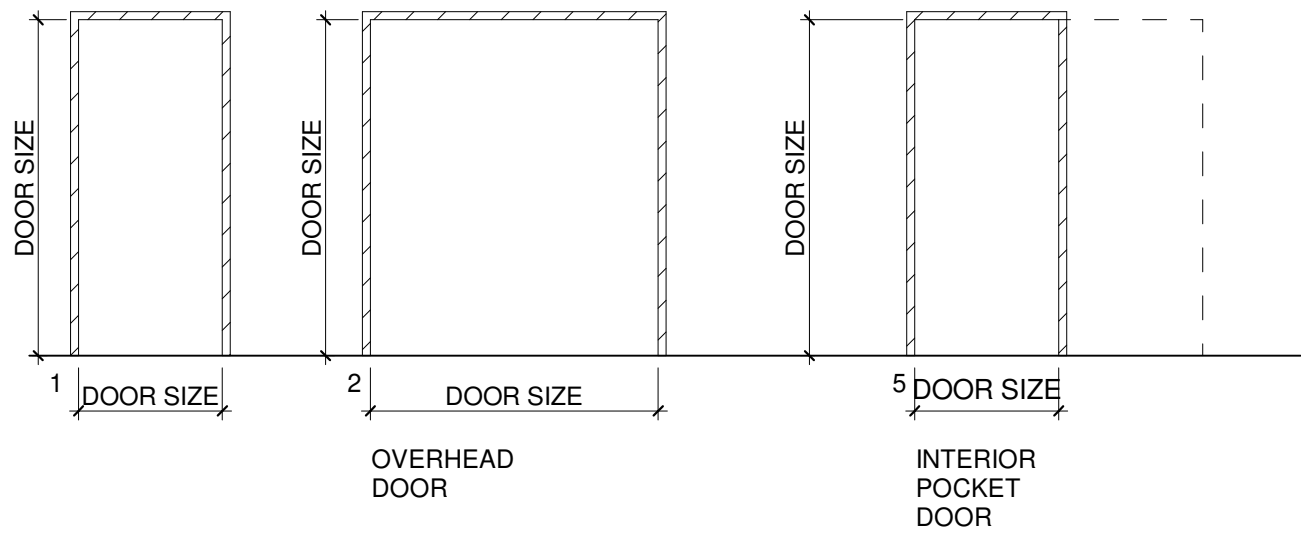
ABBREVIATIONS: DOOR SCHEDULE

MATERIAL:		FINISH:	
ALUM	ALUMINUM	ANOD	ANODIZED
STL	STEEL	CLR	CLEAR
WD	WOOD	STN	STAIN
GL	GLASS	PT #	PAINT
TG	TEMPERED GLAZING, ANSI Z97.1 CLASS A	LOCK FUNCTION:	
LG	LAMINATED GLAZING, ANSI Z97.1 CLASS A	PA	PASSAGE
REFER TO MAIN ABBREVIATION LIST FOR ADDITIONAL ABBREVIATIONS.		PR	PRIVACY
		E	ENTRANCE/OFFICE
		CL	CLASSROOM
		S	STOREROOM
		PP	PUSH/PULL


DOOR TYPE LEGEND



FRAME TYPE LEGEND



NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER



UPPER HALL RESIDENCE

00 SW UPPER HALL STREET (R128255)

PORTLAND, OR 97201

KENTON REICHEN & KENZIE MICHALSKI

#	REVISION	DATE

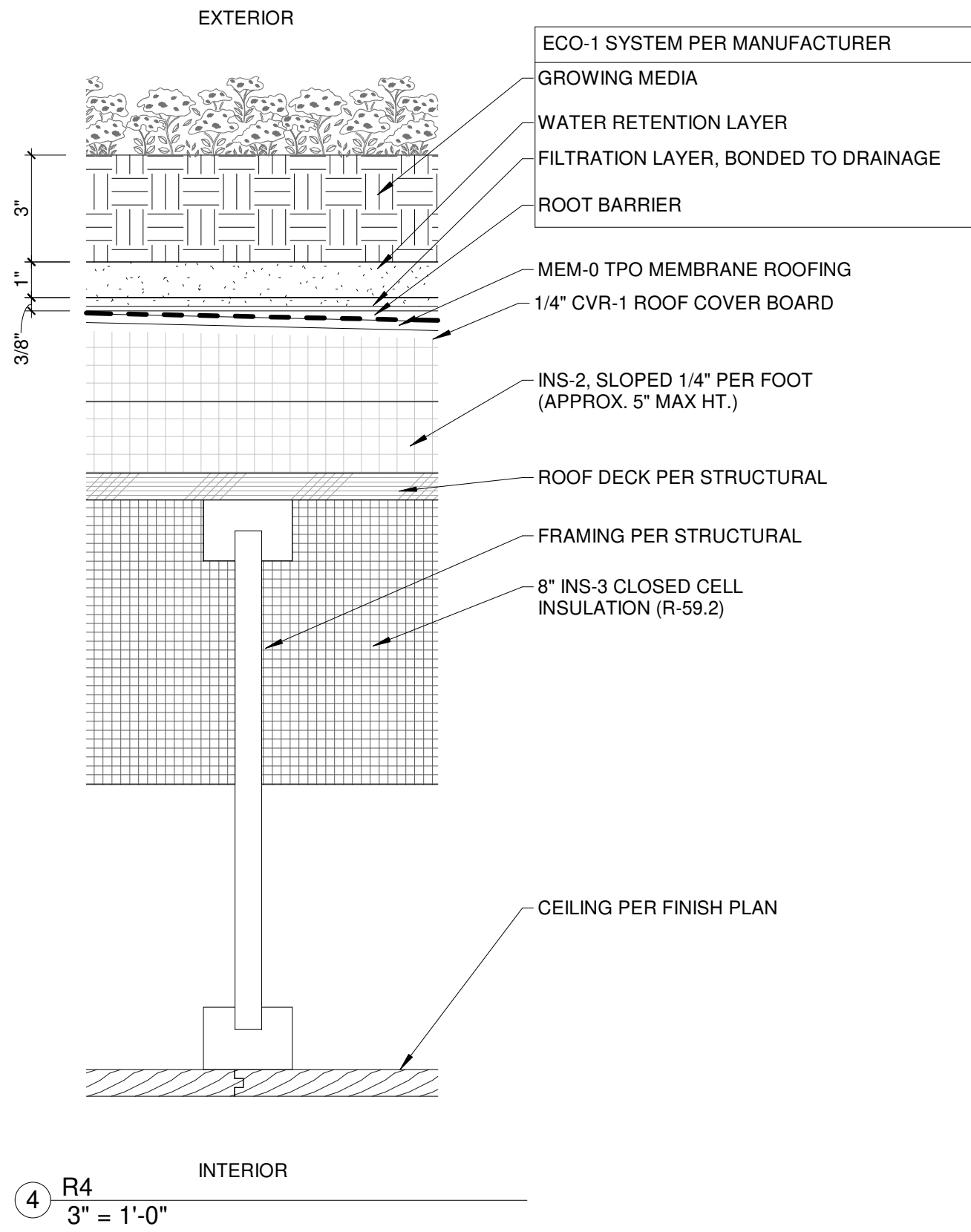
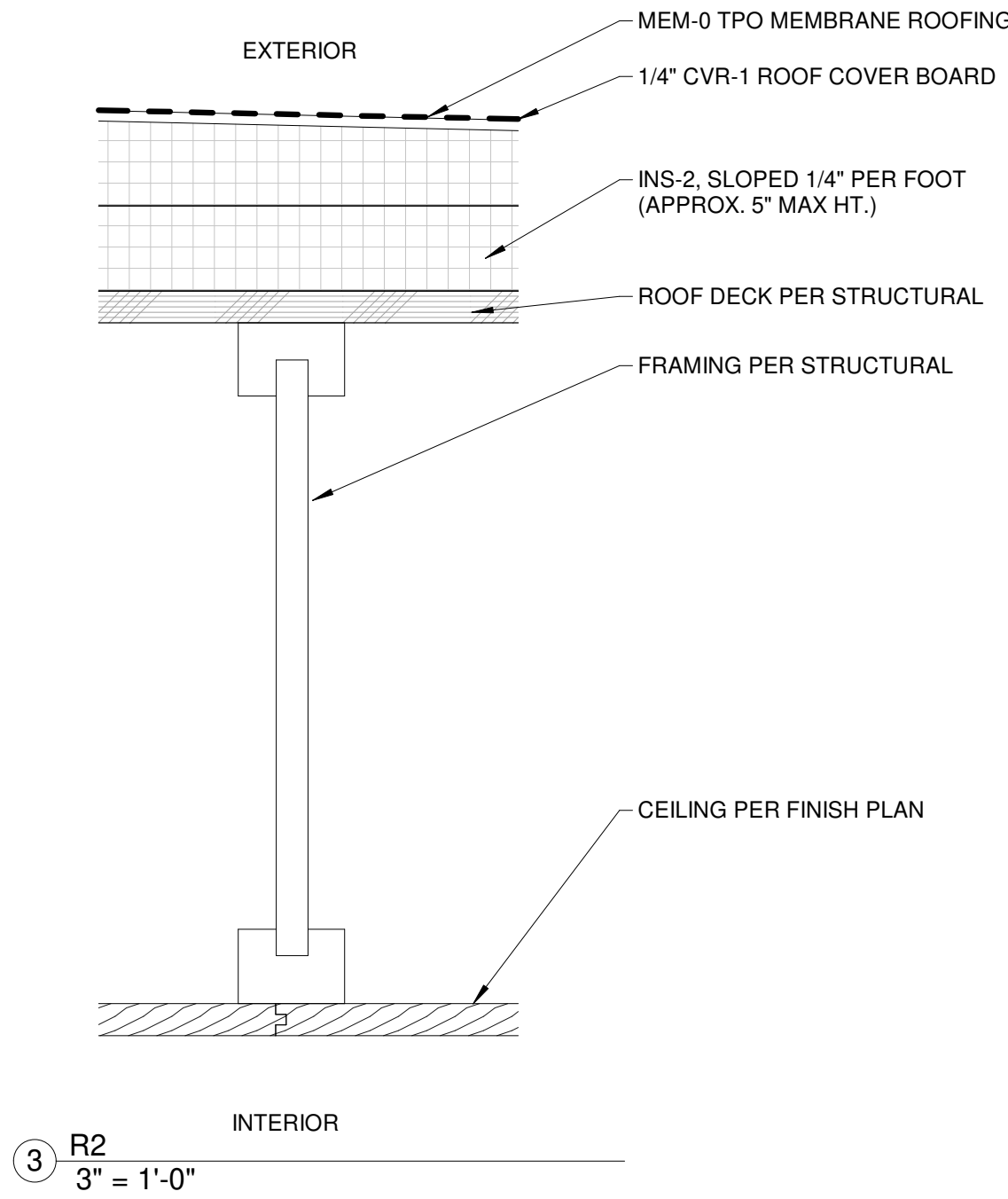
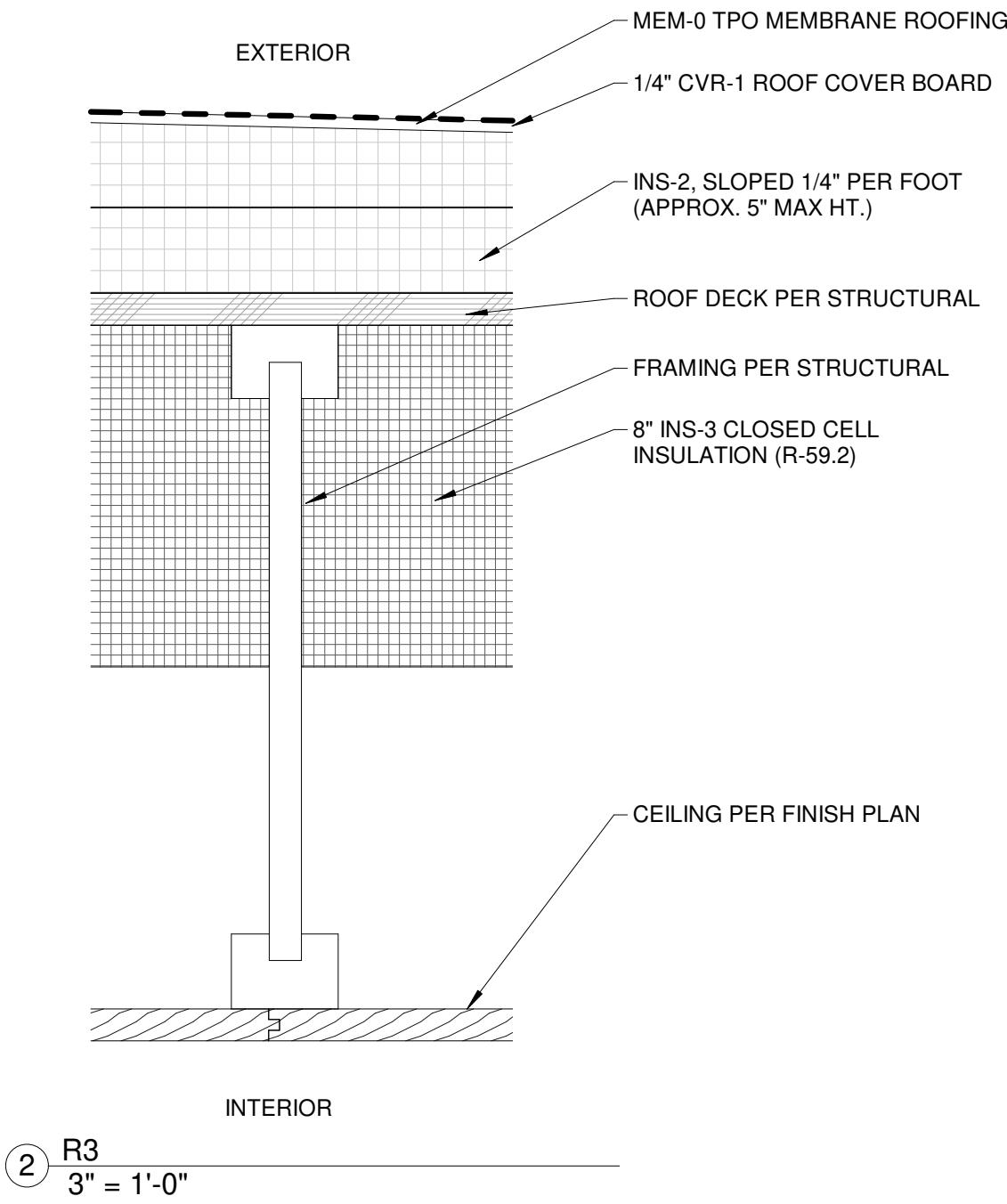
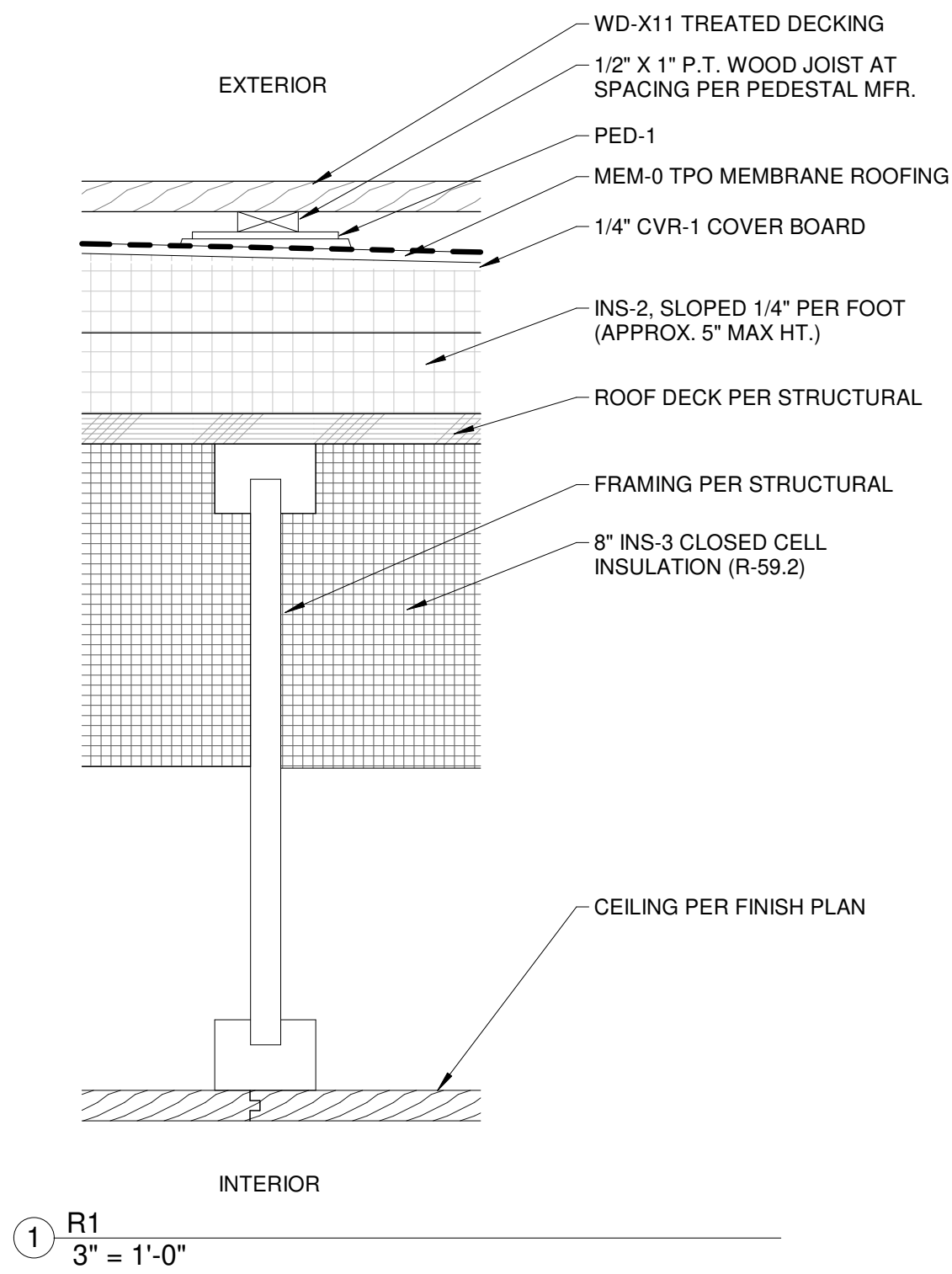
REGISTERED
NOT FOR
CONSTRUCTION
OF OREGON

Project Number
20029
DWG EXPORTED 2/15/2021 9:53:15 AM
2/15/21

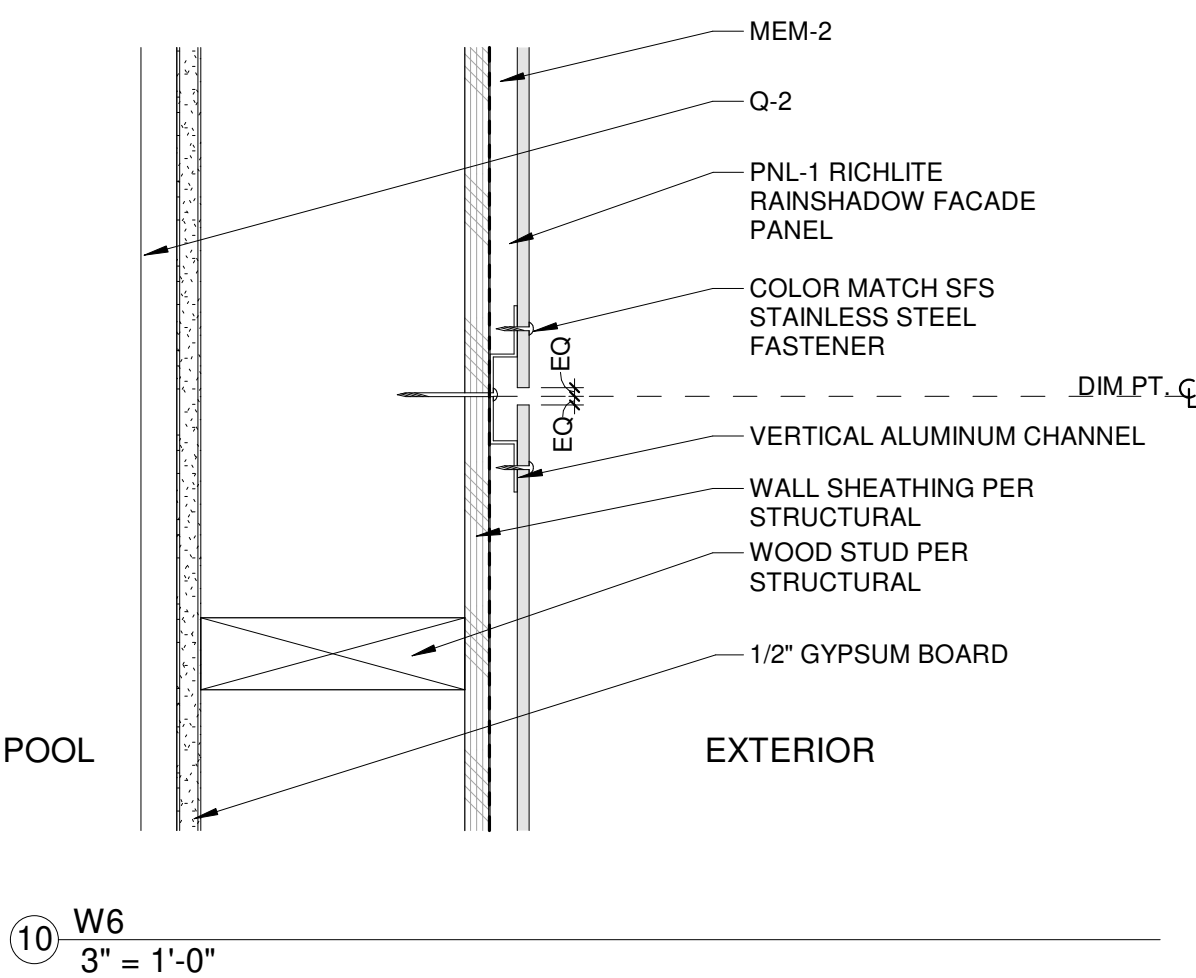
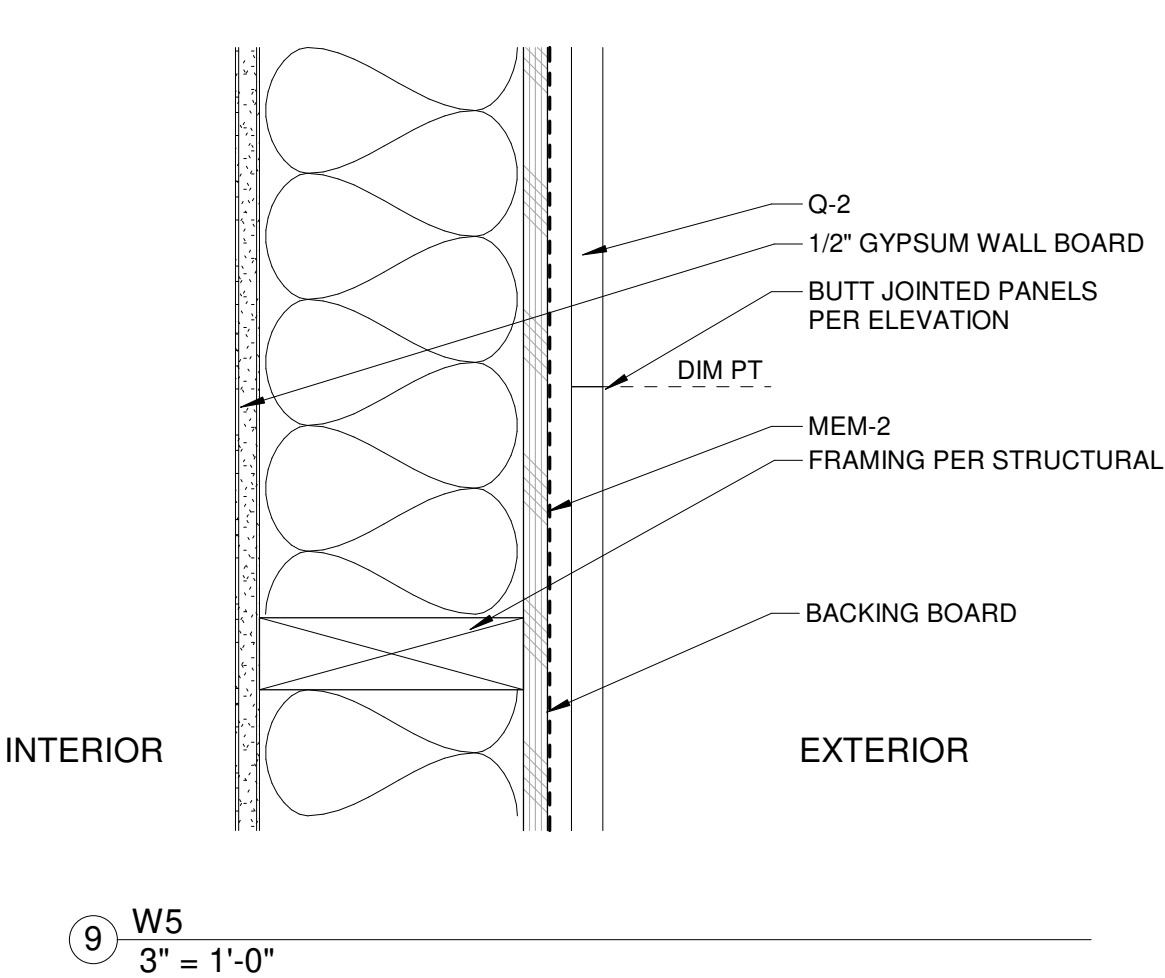
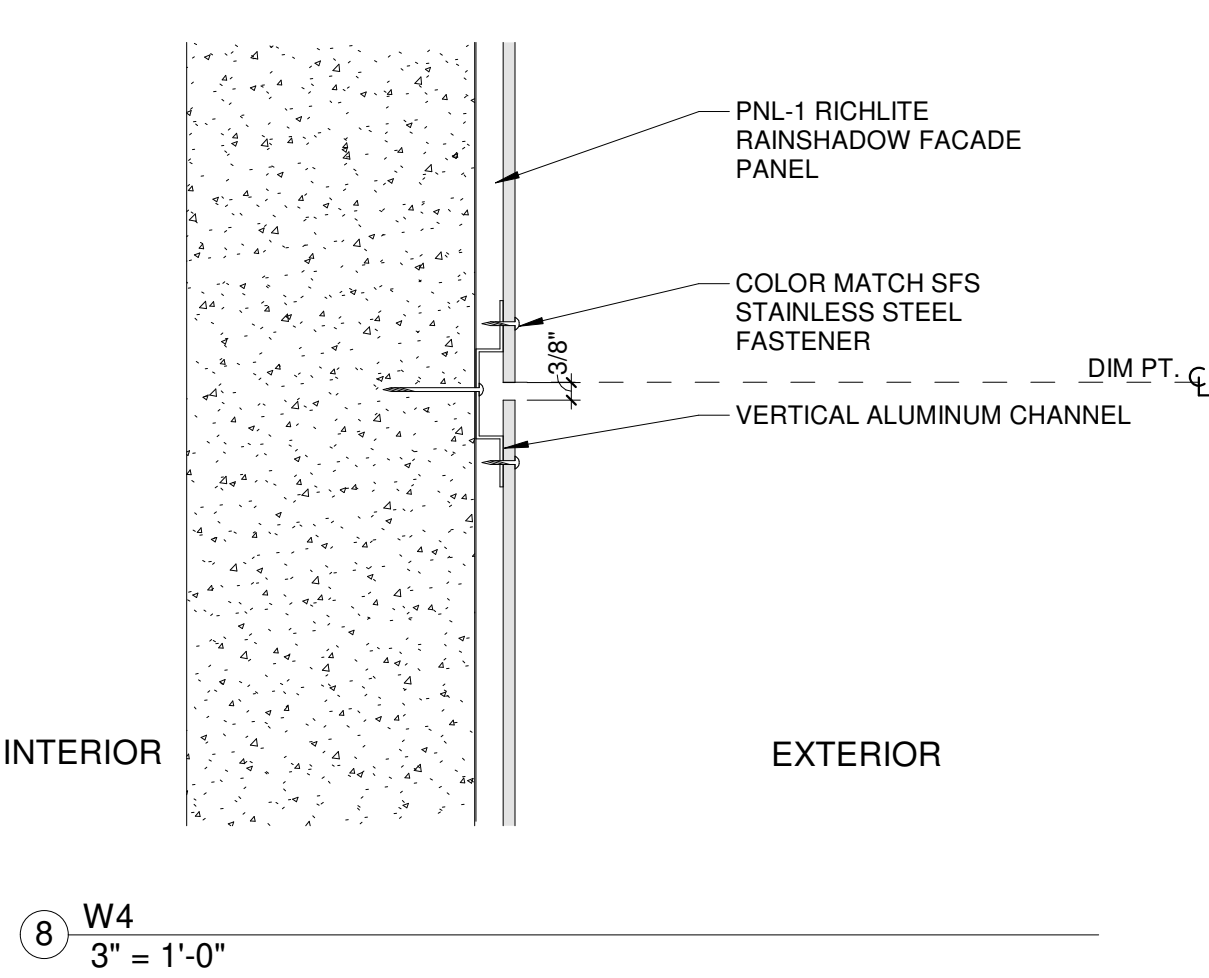
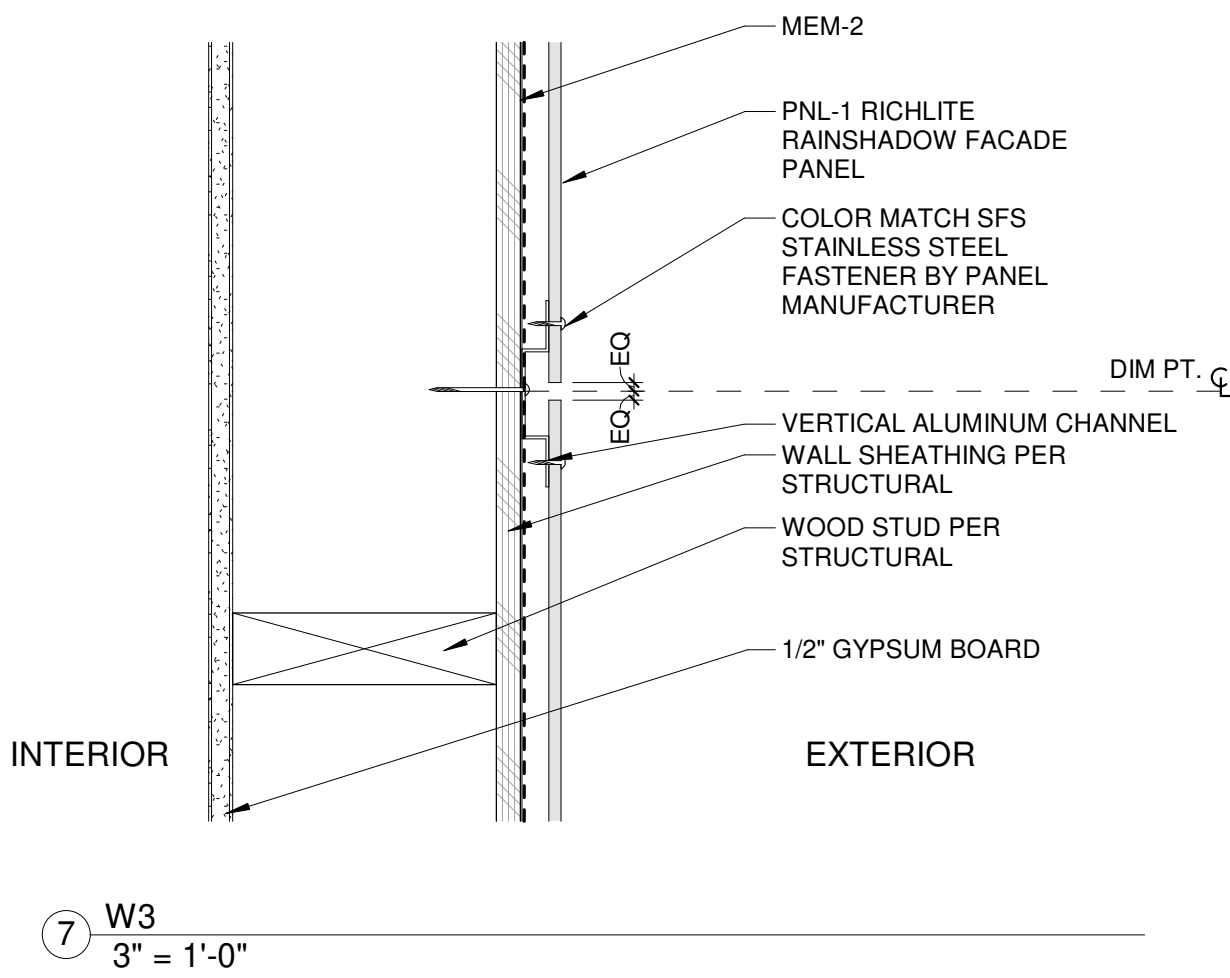
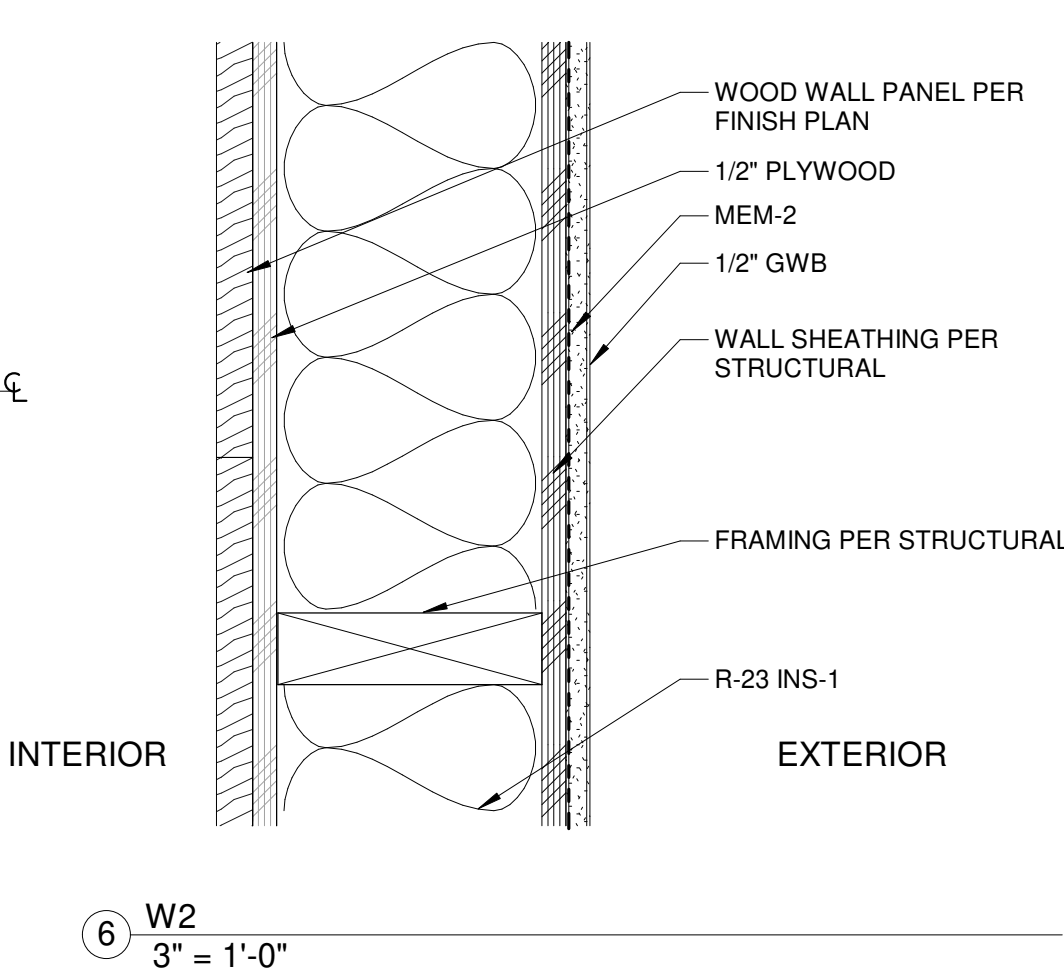
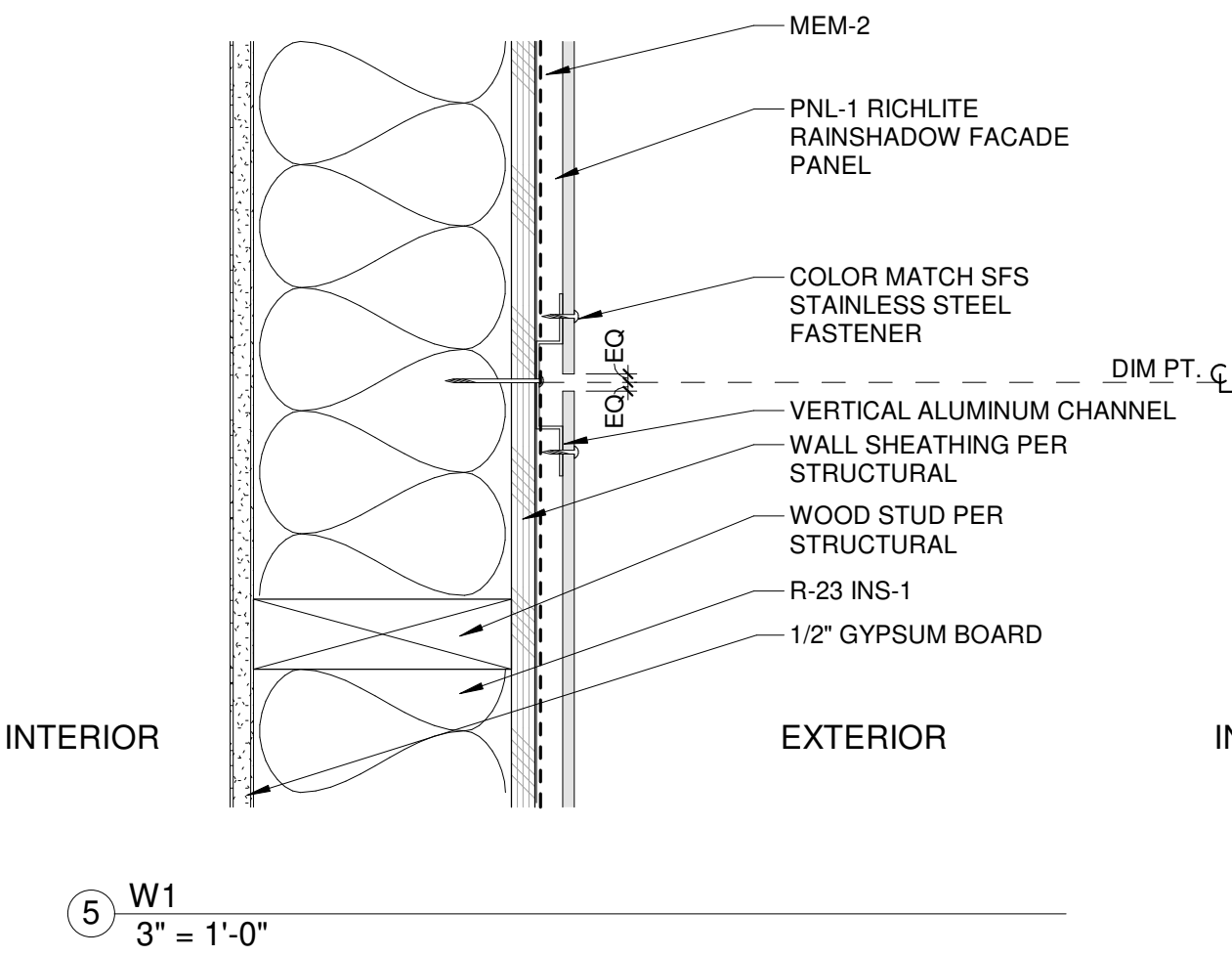
A600
SCHEDULES

CD DRAFT

ROOF ASSEMBLY



EXTERIOR WALL ASSEMBLY



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER

#	REVISION	DATE
---	----------	------

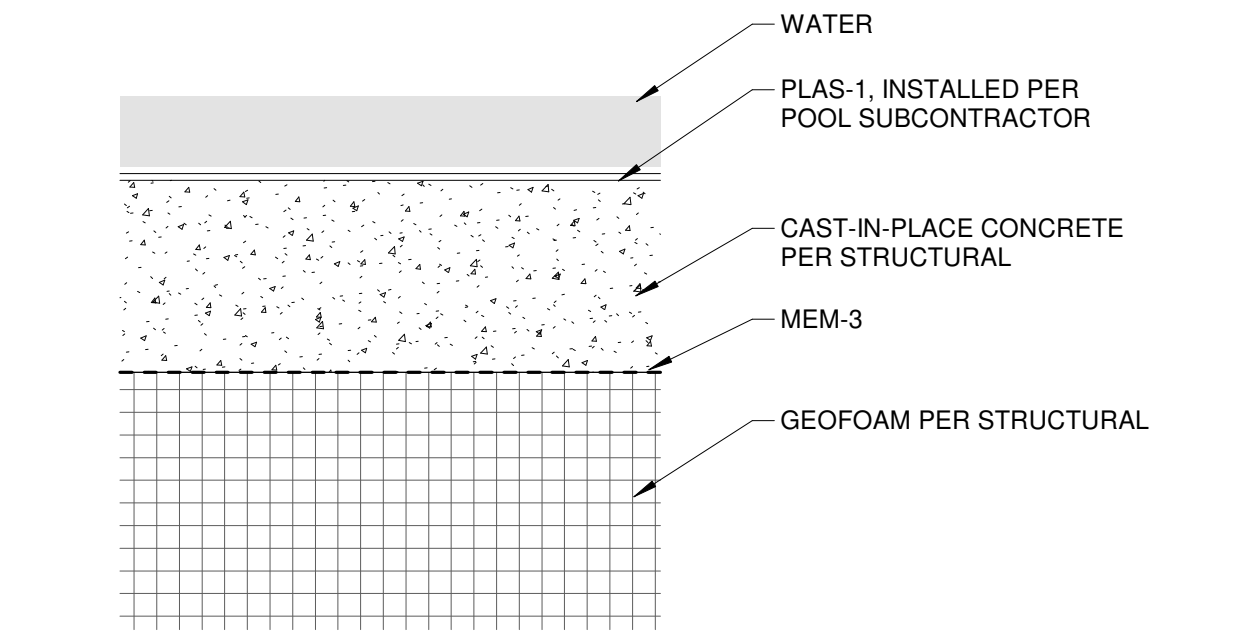


Project Number
20029
DWG EXPORTED 2/15/2021 9:53:16 AM
2/15/21

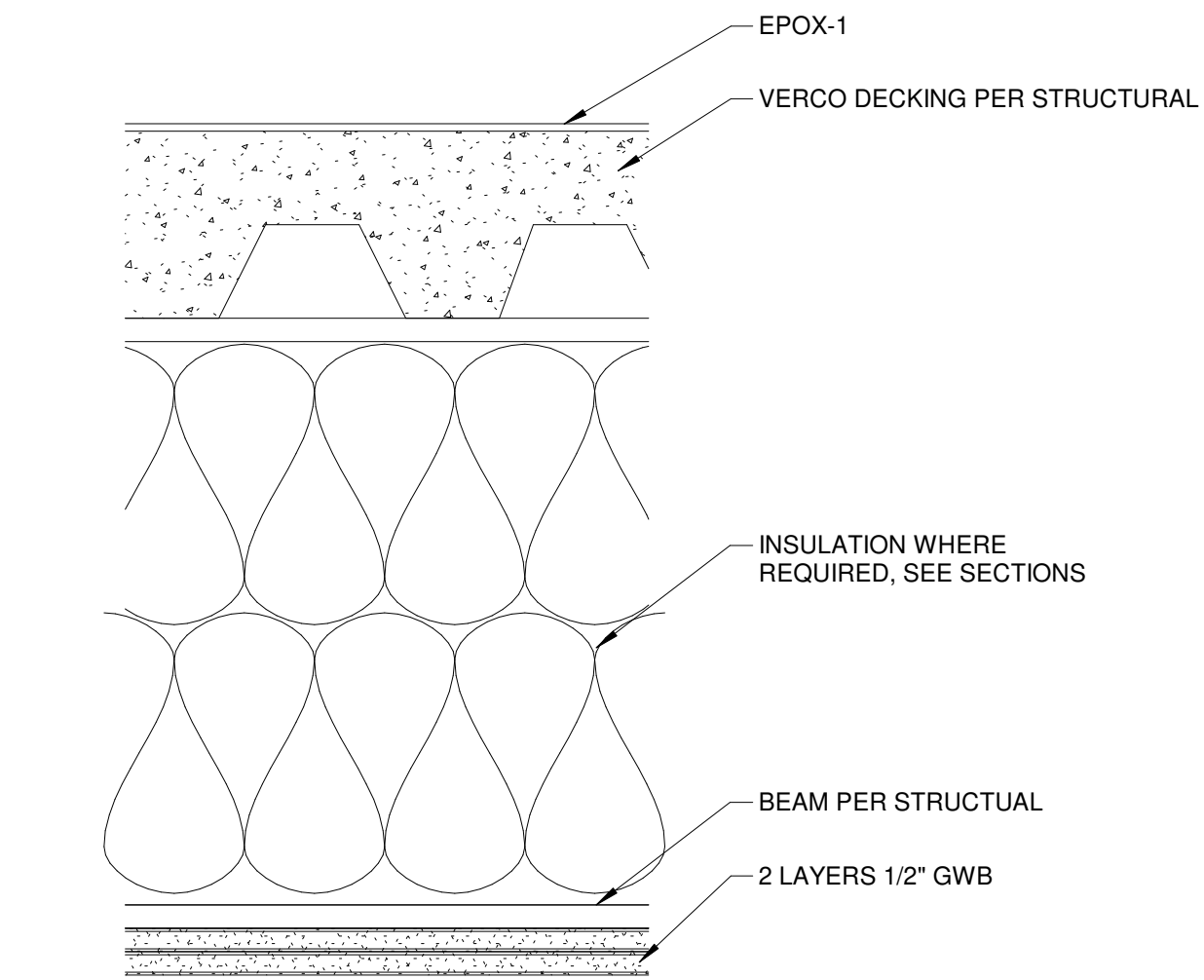
A700
ASSEMBLIES

CD DRAFT

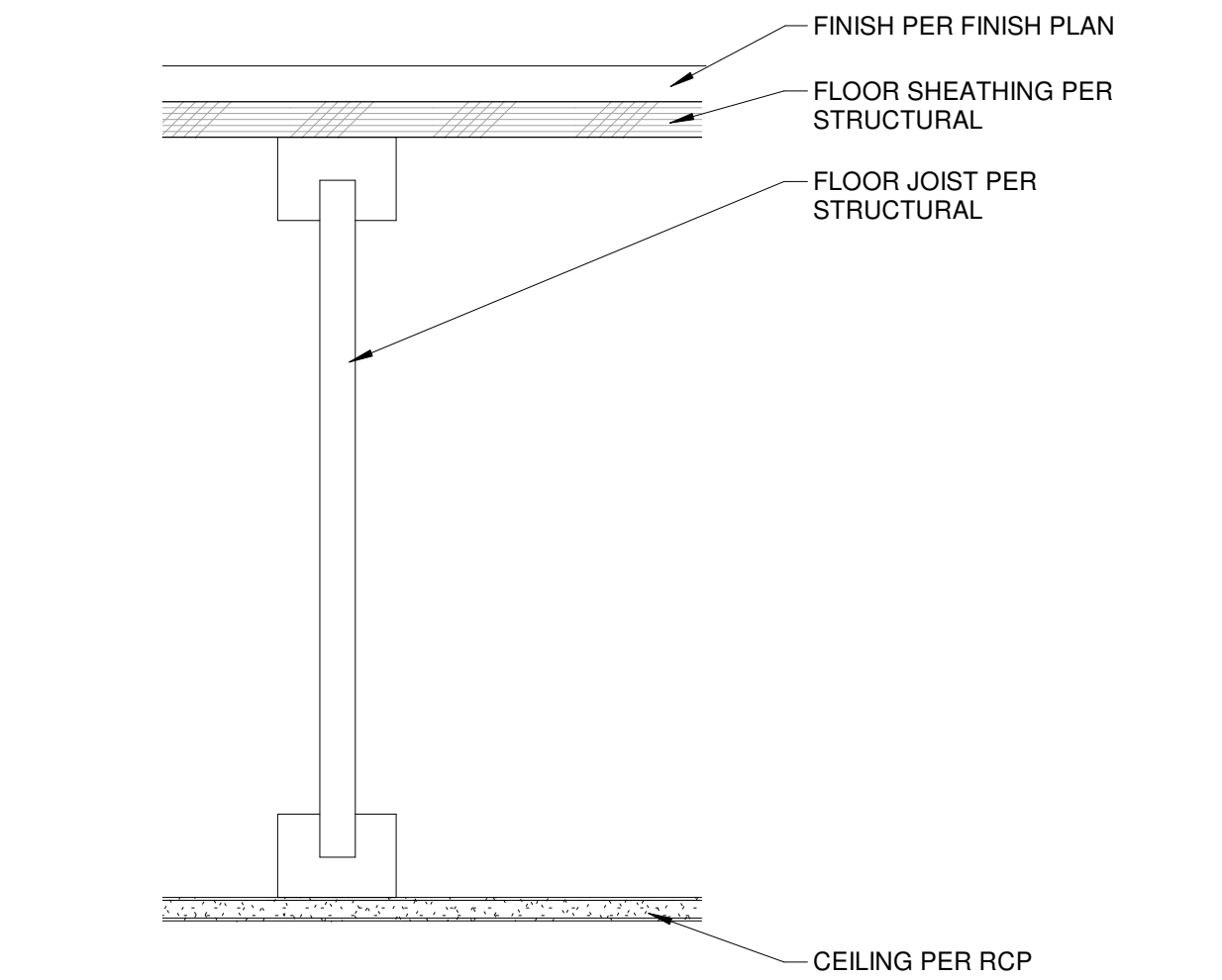
FLOOR ASSEMBLY



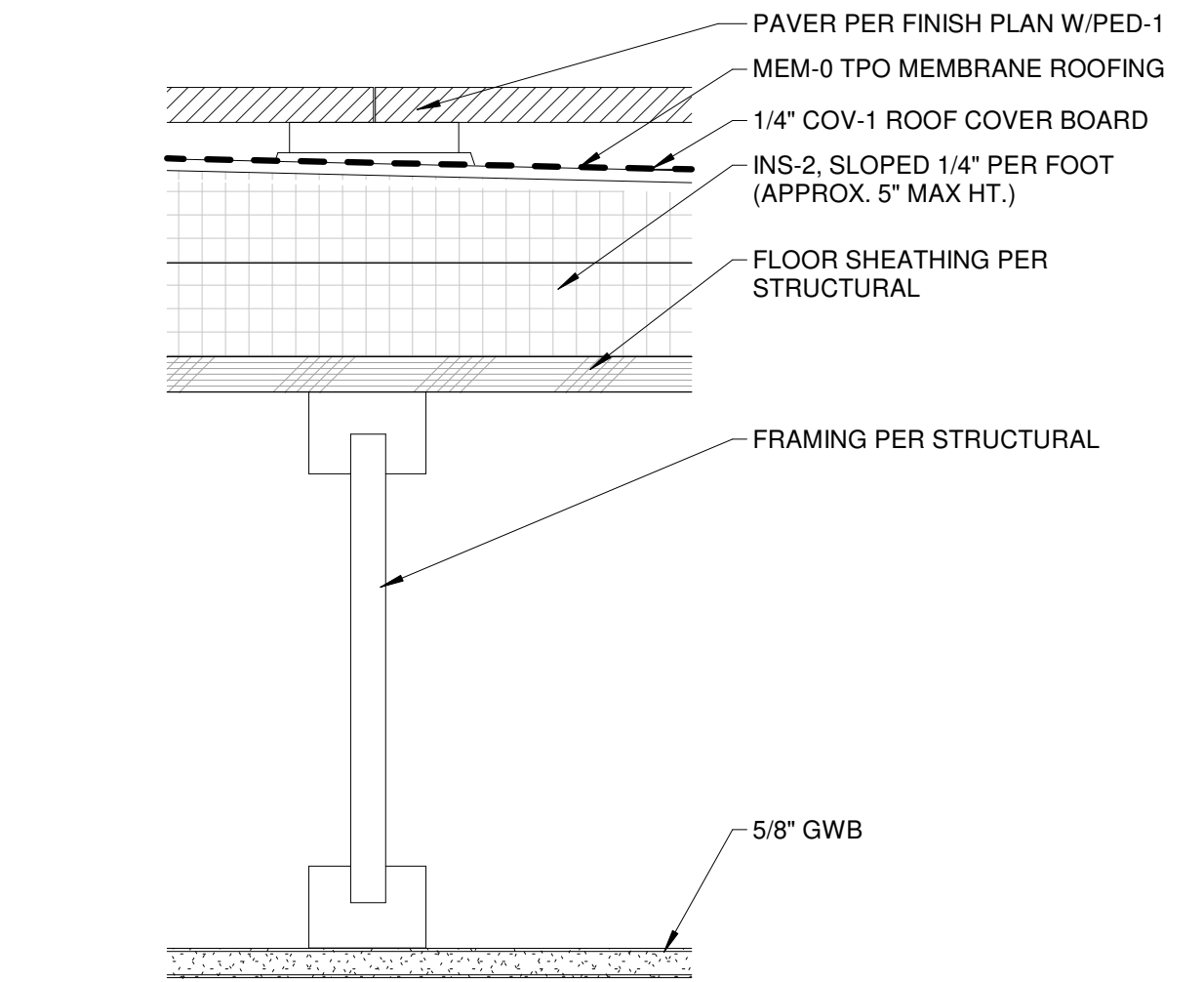
① F1
3" = 1'-0"



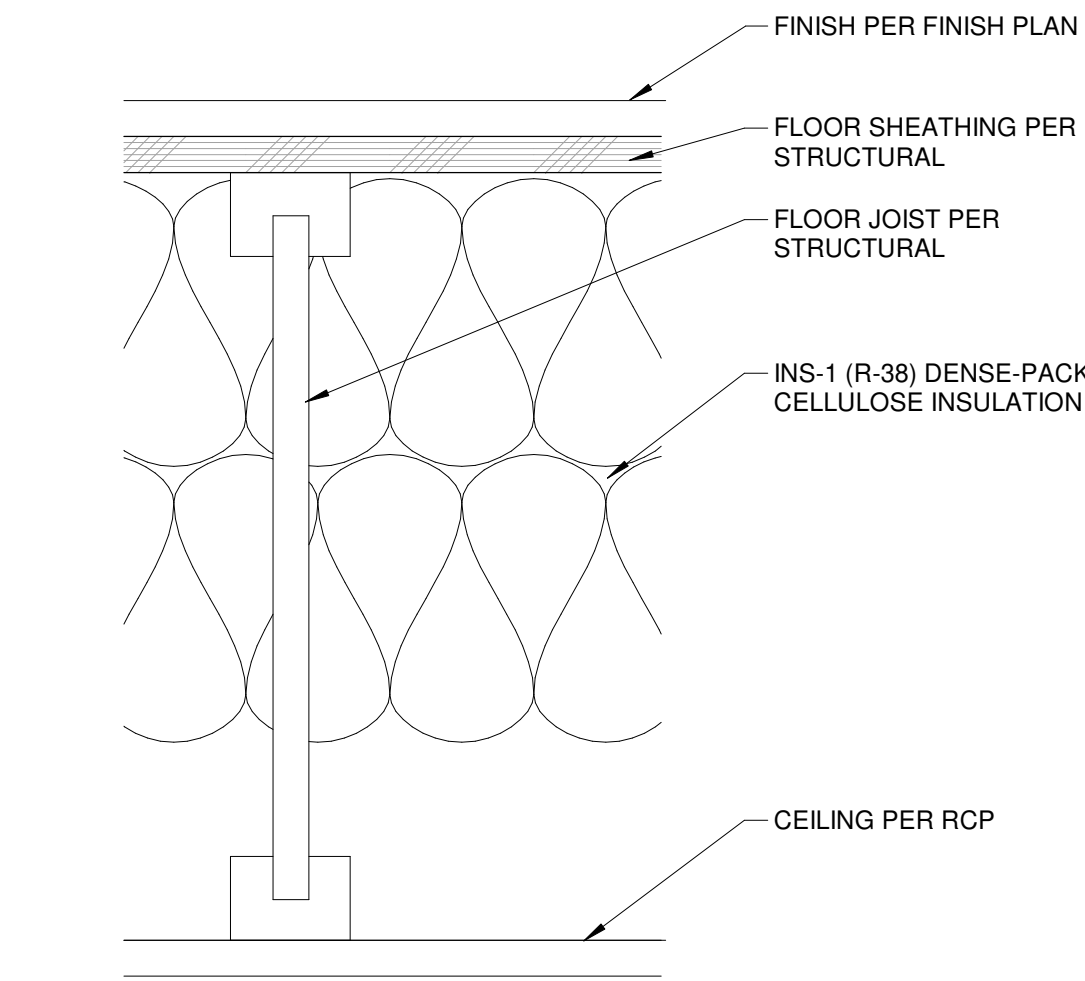
⑤ F5
3" = 1'-0"



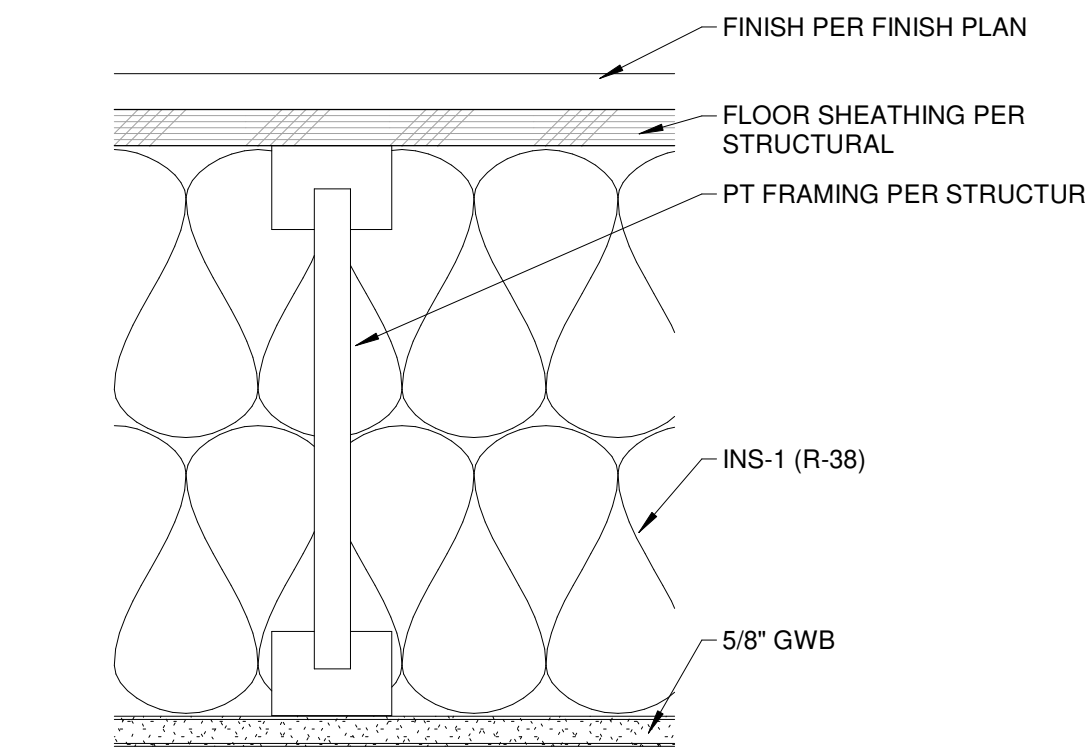
② F2
3" = 1'-0"



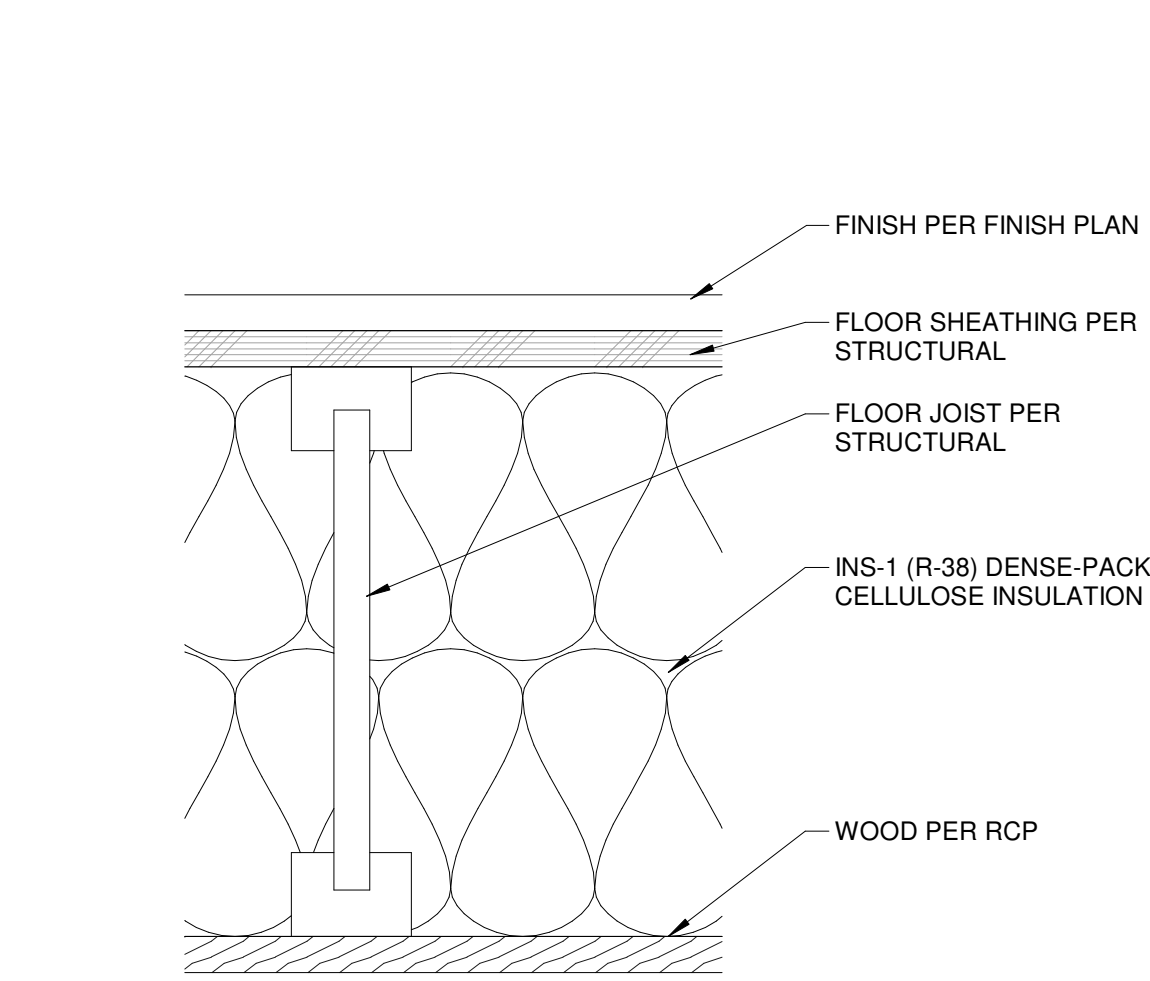
⑥ F6
3" = 1'-0"



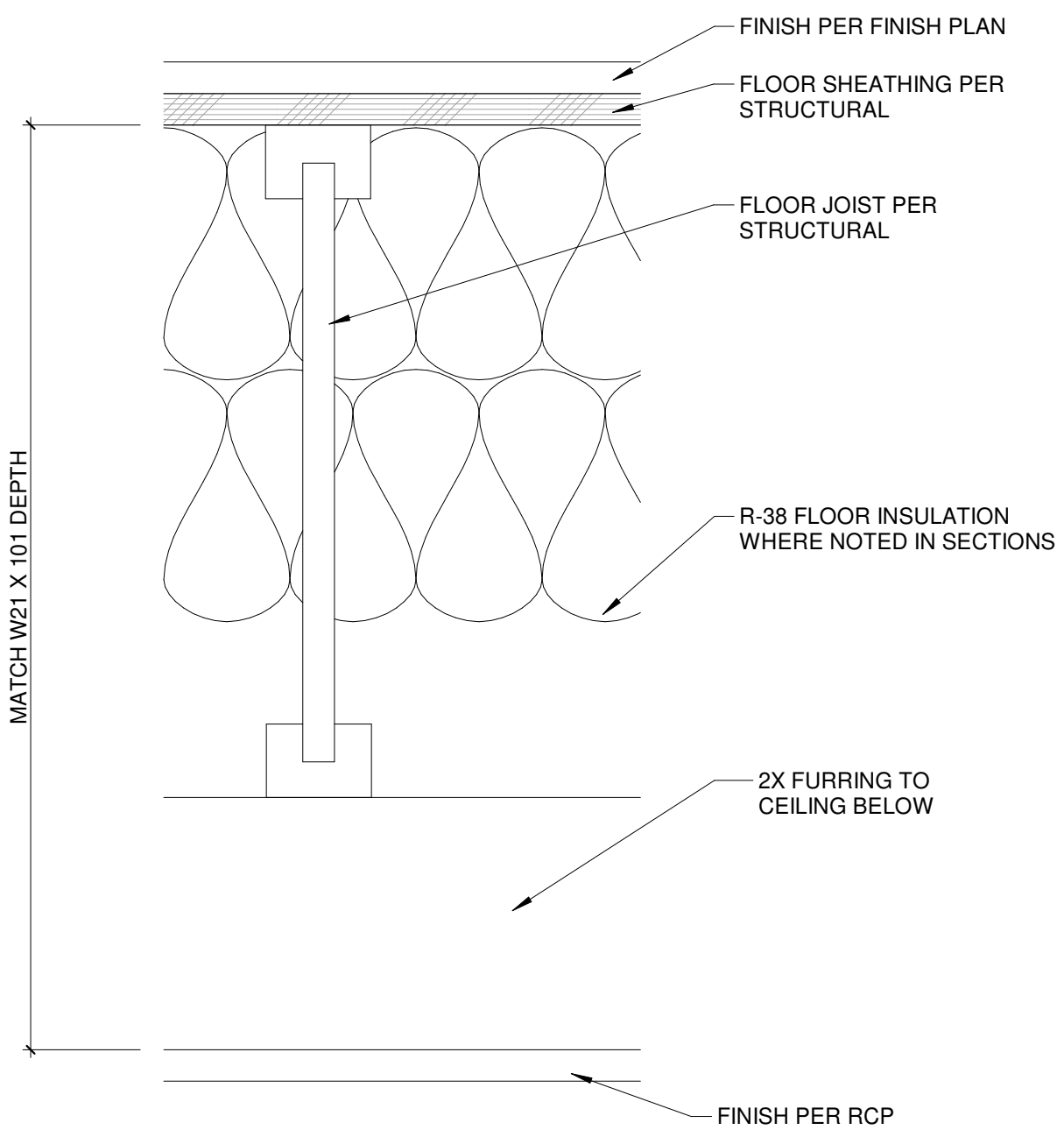
③ F3
3" = 1'-0"



⑦ F7
3" = 1'-0"



④ F4
3" = 1'-0"



⑧ F8
3" = 1'-0"

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

#	REVISION	DATE
---	----------	------

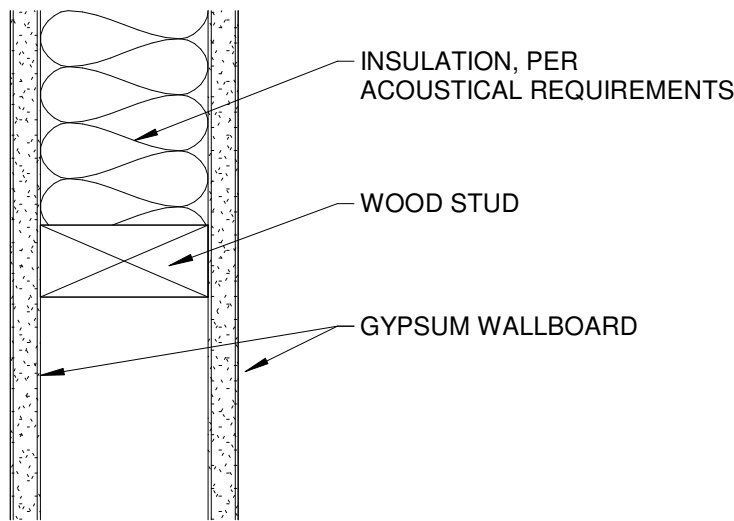


Project Number
20029
DWG EXPORTED 2/15/2021 9:53:17 AM
2/15/21

A701
ASSEMBLIES

CD DRAFT

PARTITION TYPES

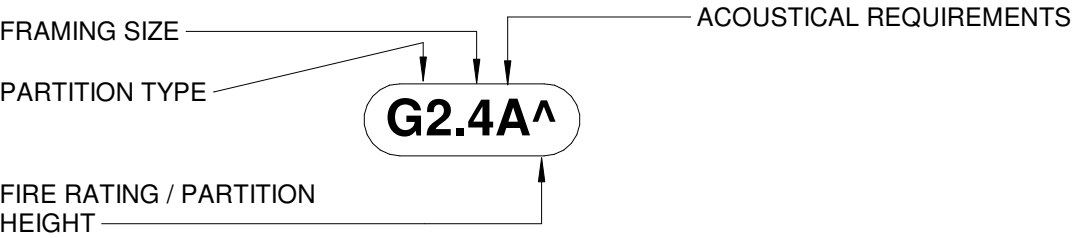


G2

GENERAL NOTES

1. NOT ALL WALL CONFIGURATIONS ON THIS SHEET MAY BE PRESENT IN THE PROJECT. COORDINATE WALLS TAGGED IN DRAWINGS WITH CONFIGURATIONS SHOWN ON THIS SHEET.
2. WOOD STUDS - DOUGLAS FIR NO. 2
3. WOOD STUD SPACING AT 16" OC UON, OR AS REQUIRED BY FIRE RATING, WHICHEVER IS STRICTEST.
4. 1/2" GYPSUM WALLBOARD, UON.
5. TYPE 'X' GYPSUM WALLBOARD ON RATED PARTITIONS, UON.
6. WALLS TO BE FULLY BRACED (SHEATHED) TO ABOVE FINISH CEILING, UON. 8'-0" MAX SPAN ABOVE BRACING.
7. PROVIDE MECHANICAL BRACING AT MAX SPACING INDICATED OR SHEATHING BOTH SIDES OF WALL.
8. ATTACH WALLS TO FLOOR OR ROOF/FLOOR STRUCTURE ABOVE, UON.
9. MAINTAIN FIRE RATING AROUND STRUCTURAL ELEMENTS AND BEHIND AND AROUND FIRE EXTINGUISHER CABINETS, ELECTRICAL CABINETS, AND OTHER RECESSESS.
10. PROVIDE ACOUSTIC SEAL AT ALL PERIMETER PENETRATIONS OF SOUND-RATED PARTITIONS. ACHIEVE INDICATED STC RATING WHEN NOTED.
11. SOLID WOOD BLOCKING OR APPROVED SHEET METAL BACKING SECURED TO WALL. FRAMING SHALL BE INSTALLED IN PARTITIONS AND CEILINGS AT ALL GRAB BARS, PLUMBING FIXTURES, WALL CABINETS, HARDWARE, AND ANY WALL MOUNTED ACCESSORIES REQUIRING SUPPORT.
12. ALL WOOD STUDS IN CONTACT WITH CONCRETE OR CMU TO BE PRESSURE TREATED.
13. PROVIDE AND INSTALL FIRE BLOCKING IN ACCORDANCE WITH CURRENT BUILDING CODE.
14. FINISH MATERIALS SUCH AS TILE, WALL PANELING, TRIM, BASE, ETC. ARE NOT SHOWN AS AN INTEGRAL PART OF PARTITION TYPE. REFER TO FINISH SCHEDULE AND INTERIOR ELEVATIONS.
15. WHERE TILE IS SCHEDULED, REPLACE GYPSUM WALLBOARD WITH TILE BACKING BOARD.

INTERIOR PARTITION TYPE TAG



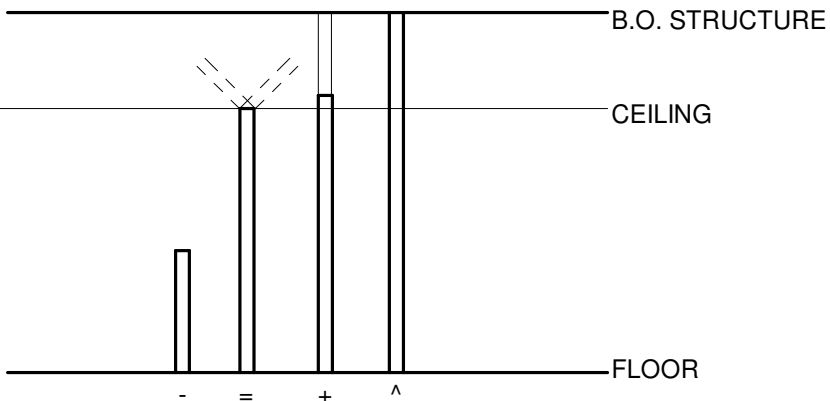
STUD FRAMING SIZE

ID	SIZE
4	2 x 4 NOMINAL
6	2 x 6 NOMINAL
8	2 x 8 NOMINAL

ACOUSTICAL REQUIREMENTS

ID	REQUIREMENT
N	NO INSULATION
A	UNFACED SOUND ATTENUATION BATT, FULL HEIGHT OF CAVITY, ALL STUD BAYS, STUDS @ 24" O.C.
R	"A" REQUIREMENTS PLUS RESILIENT CHANNEL ON 24" CENTERS

PARTITION HEIGHT DESIGNATION



KEY	
-	PARTIAL HEIGHT WALL
=	TO UNDERSIDE OF CEILING BRACE FRAMING AS REQUIRED
+	EXTEND STUDS TO B.O. STRUCTURE ABOVE EXTEND GYPSUM WALLBOARD ABOVE CEILING 6" MIN.
^	EXTEND STUDS AND GYPSUM WALLBOARD TO B.O. STRUCTURE ABOVE



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER

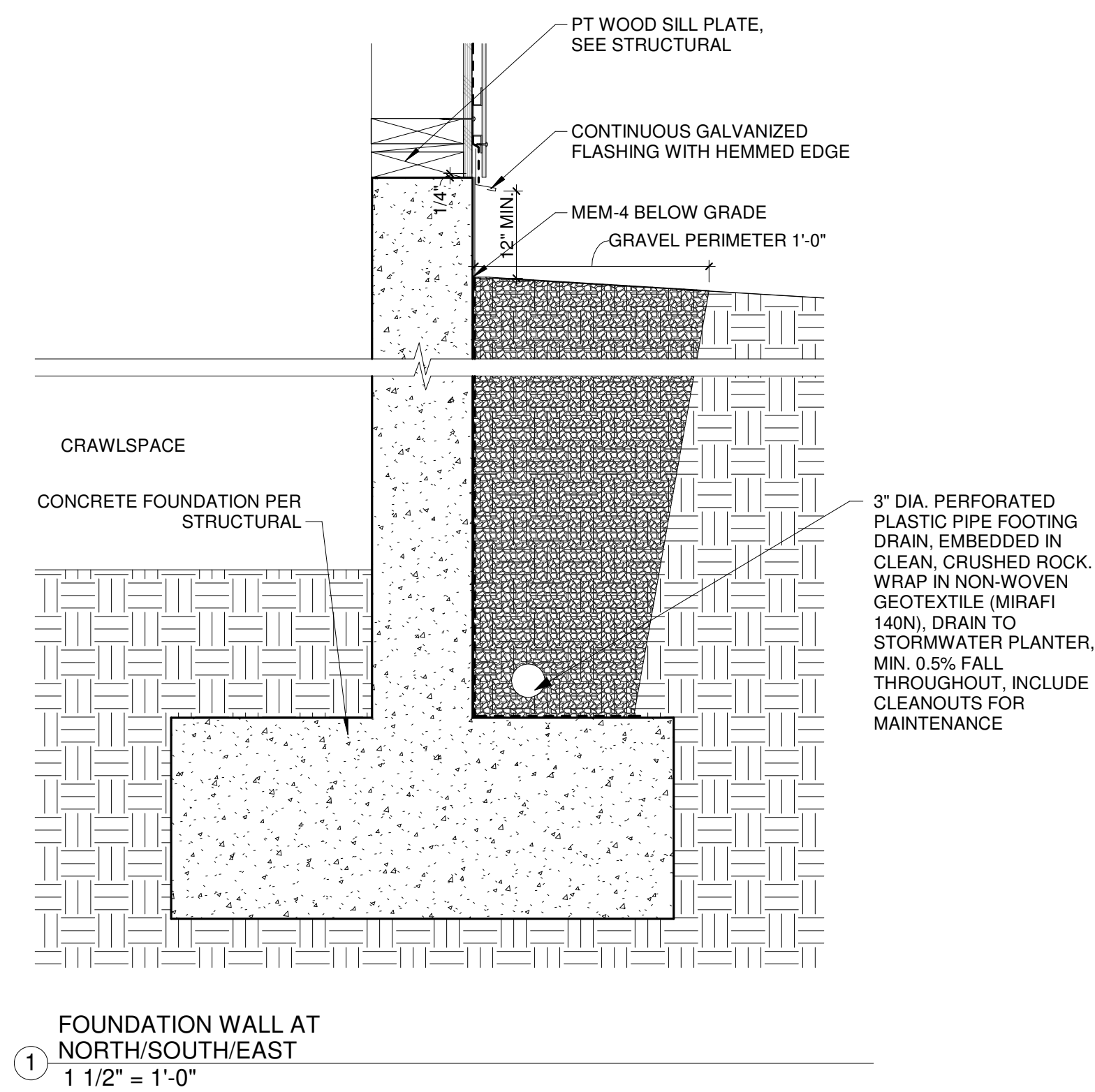
#	REVISION	DATE
---	----------	------



Project Number
20029
DWG EXPORTED 2/15/2021 9:53:17 AM
2/15/21

A710
PARTITION TYPES

CD DRAFT



UPPER HALL RESIDENCE

00 SW UPPER HALL STREET (R128255)

PORTLAND, OR 97201

KENTON REICHEN & KENZIE MICHALSKI

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER

#	REVISION	DATE
---	----------	------



Project Number
20029

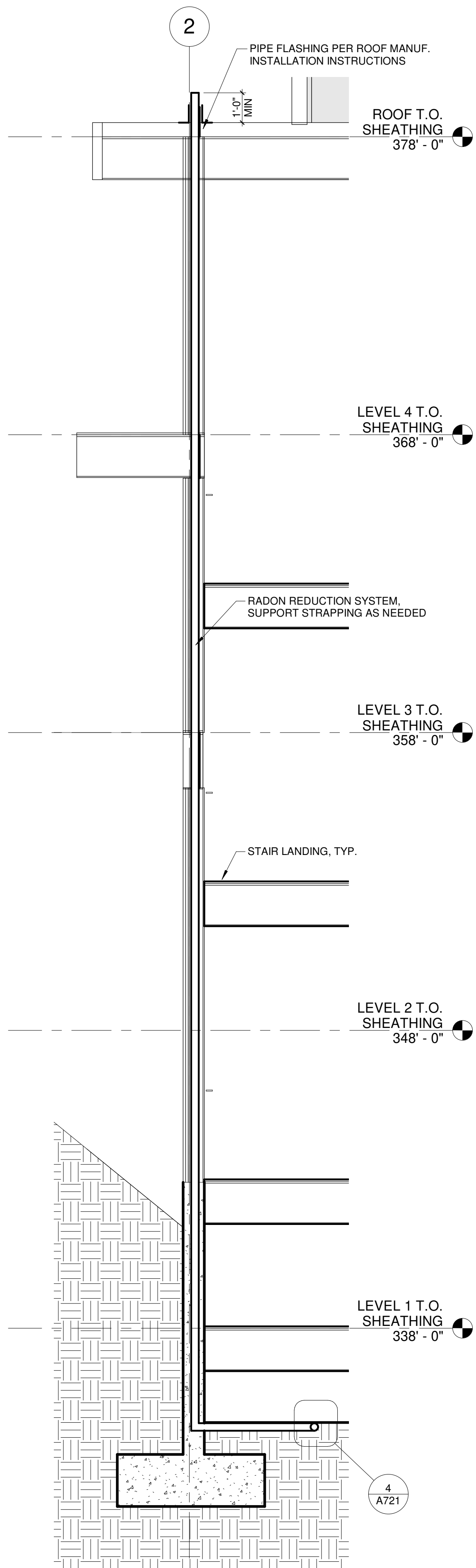
DWG EXPORTED 2/15/2021 9:53:17 AM

2/15/21

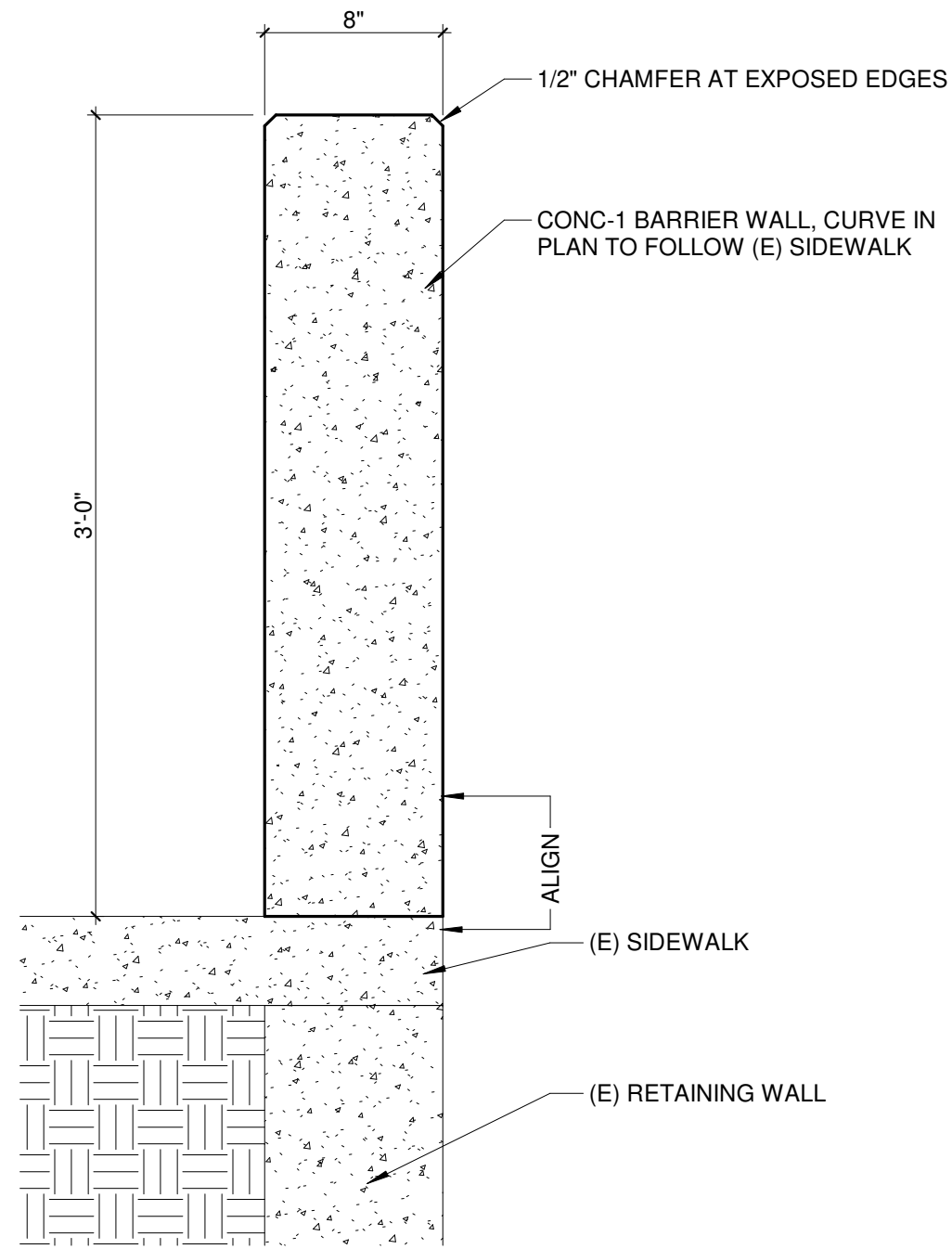
A720

EXTERIOR
DETAILS -
FOUNDATION

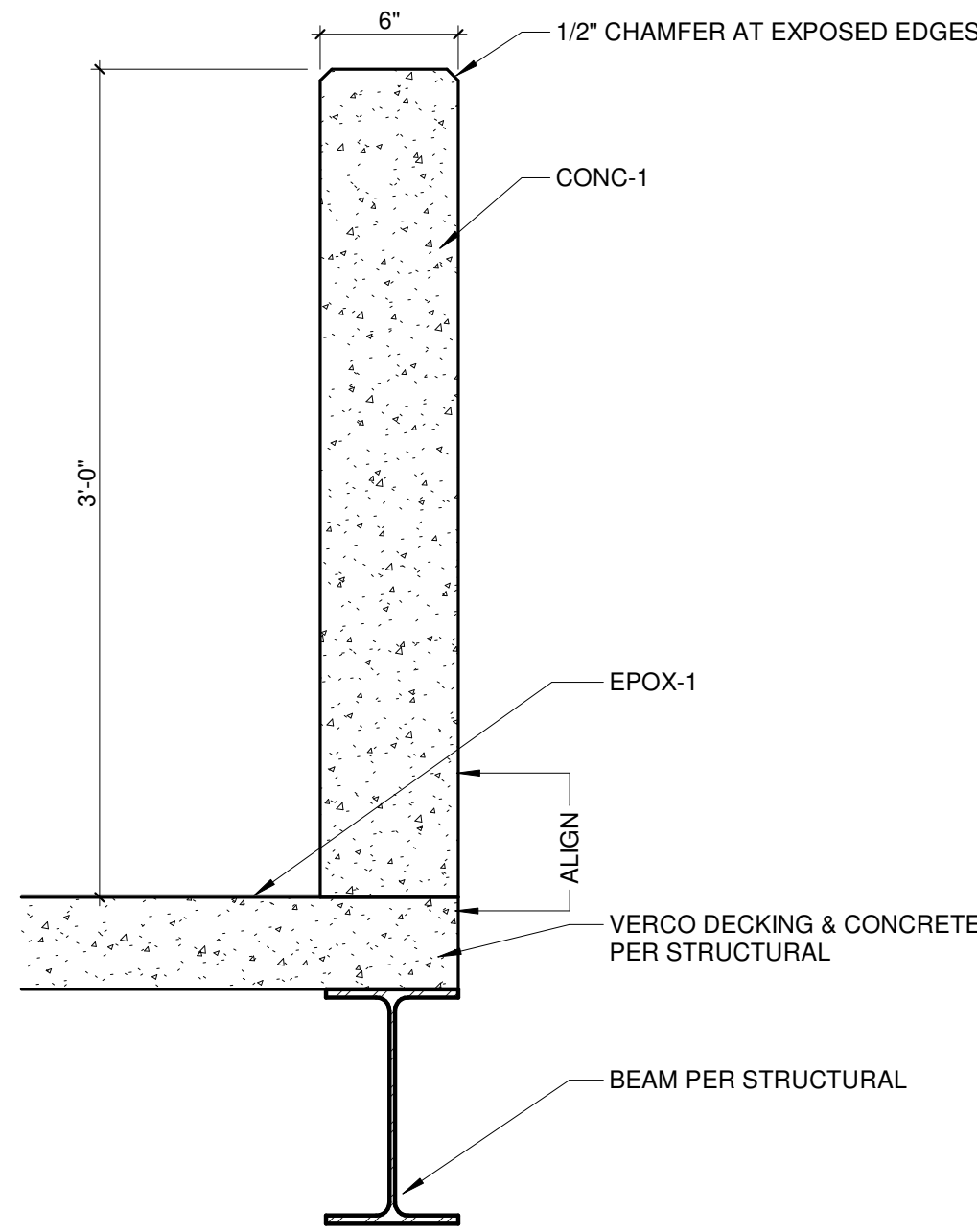
CD DRAFT



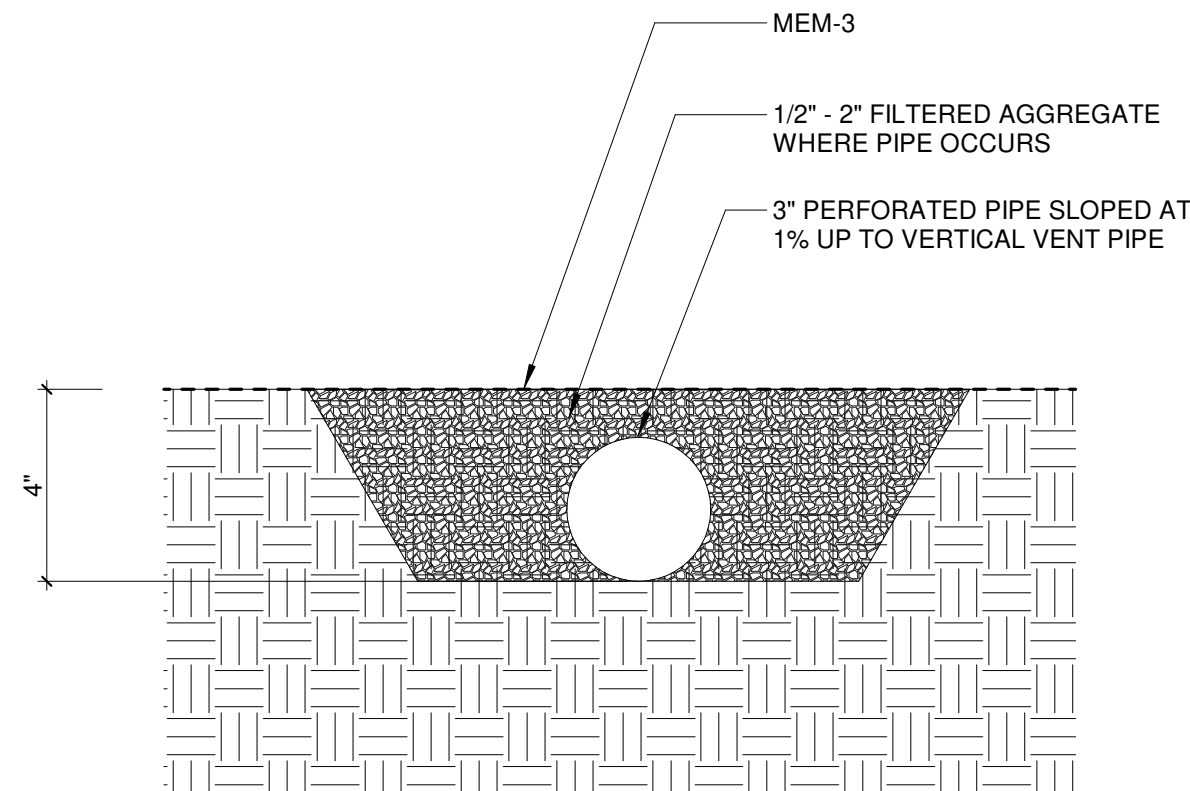
1 WALL SECTION AT RADON VENT
3/8" = 1'-0"



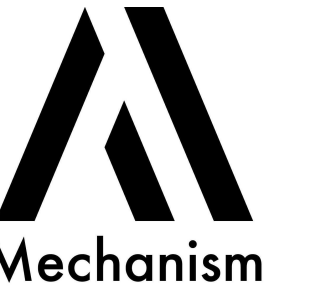
2 CONCRETE BARRIER WALL AT ROAD
1 1/2" = 1'-0"



3 CONCRETE WALL AT BRIDGE
1 1/2" = 1'-0"



4 RADON PIPE AT CRAWLSPACE
3" = 1'-0"



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

#	REVISION	DATE
---	----------	------

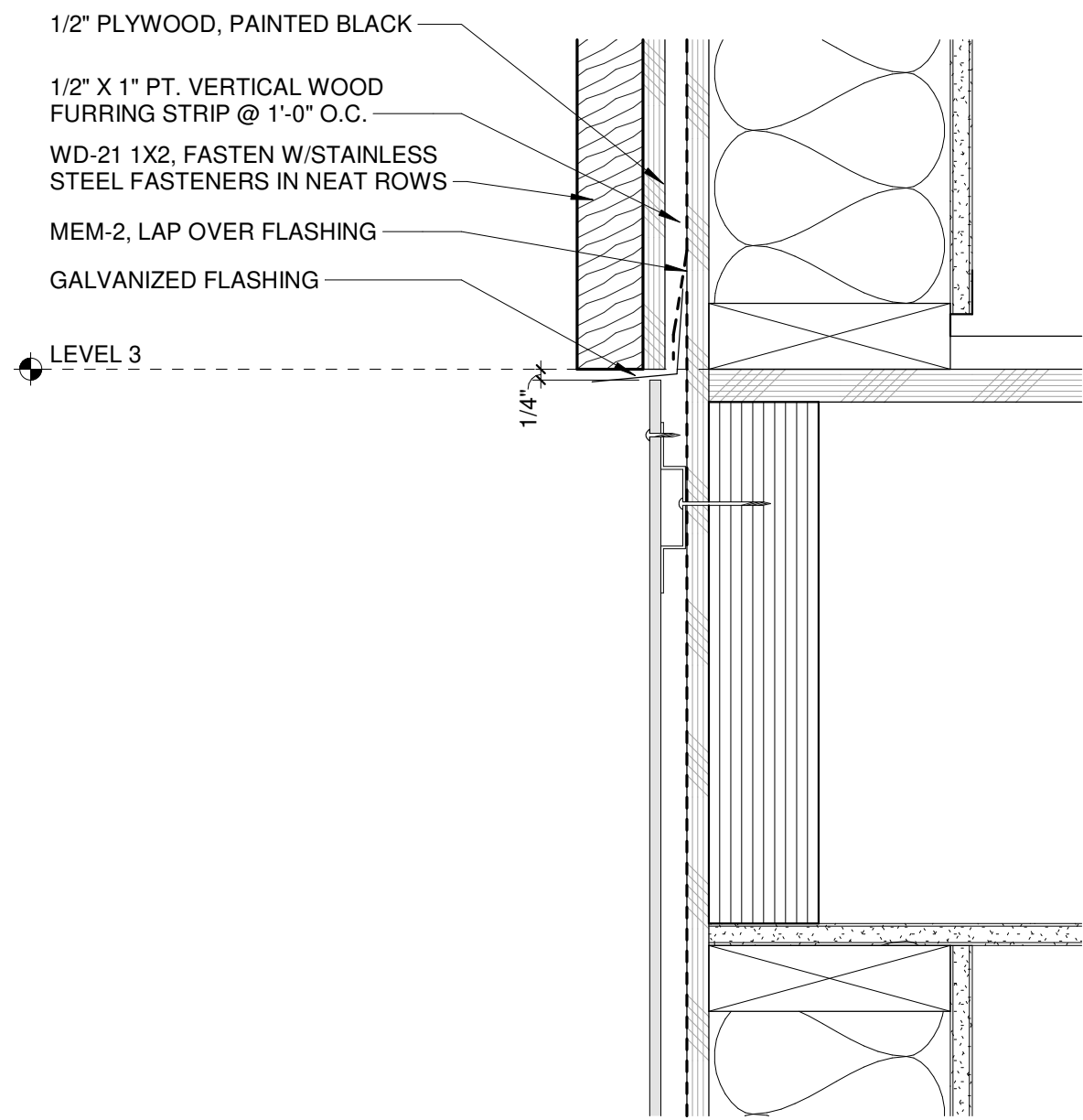


Project Number
20029
DWG EXPORTED 2/15/2021 9:53:18 AM
2/15/21

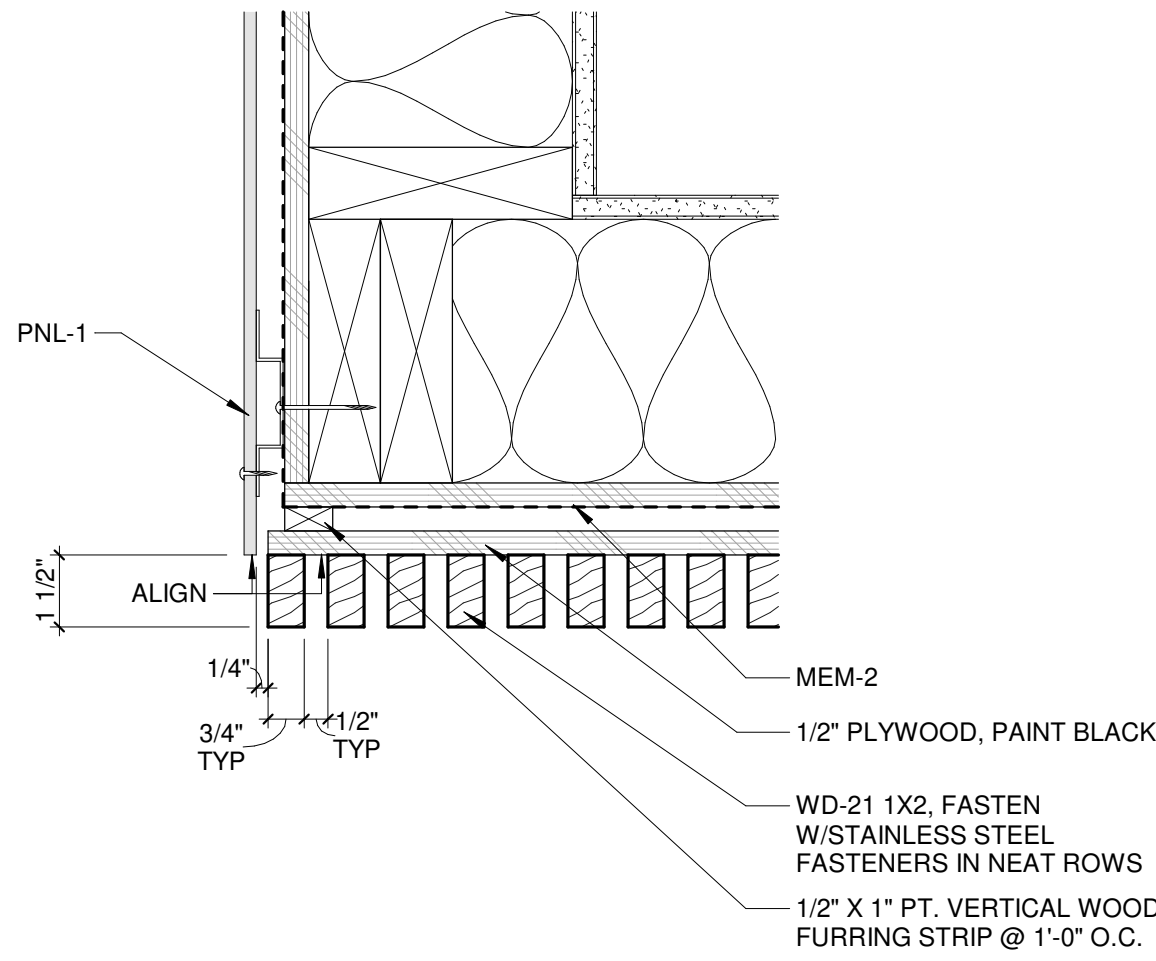
A721
EXTERIOR
DETAILS - SITE

CD DRAFT

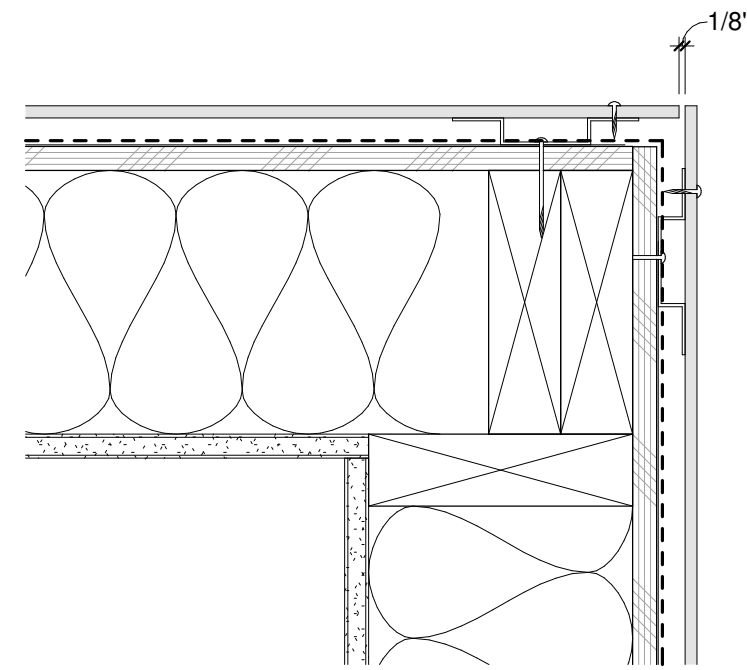
NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER



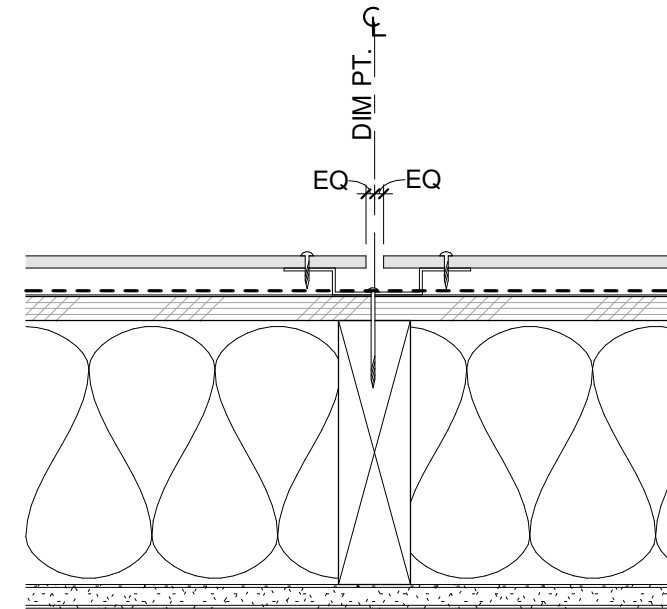
1 EXTERIOR WOOD WALL TO LEVEL 3
3" = 1'-0"



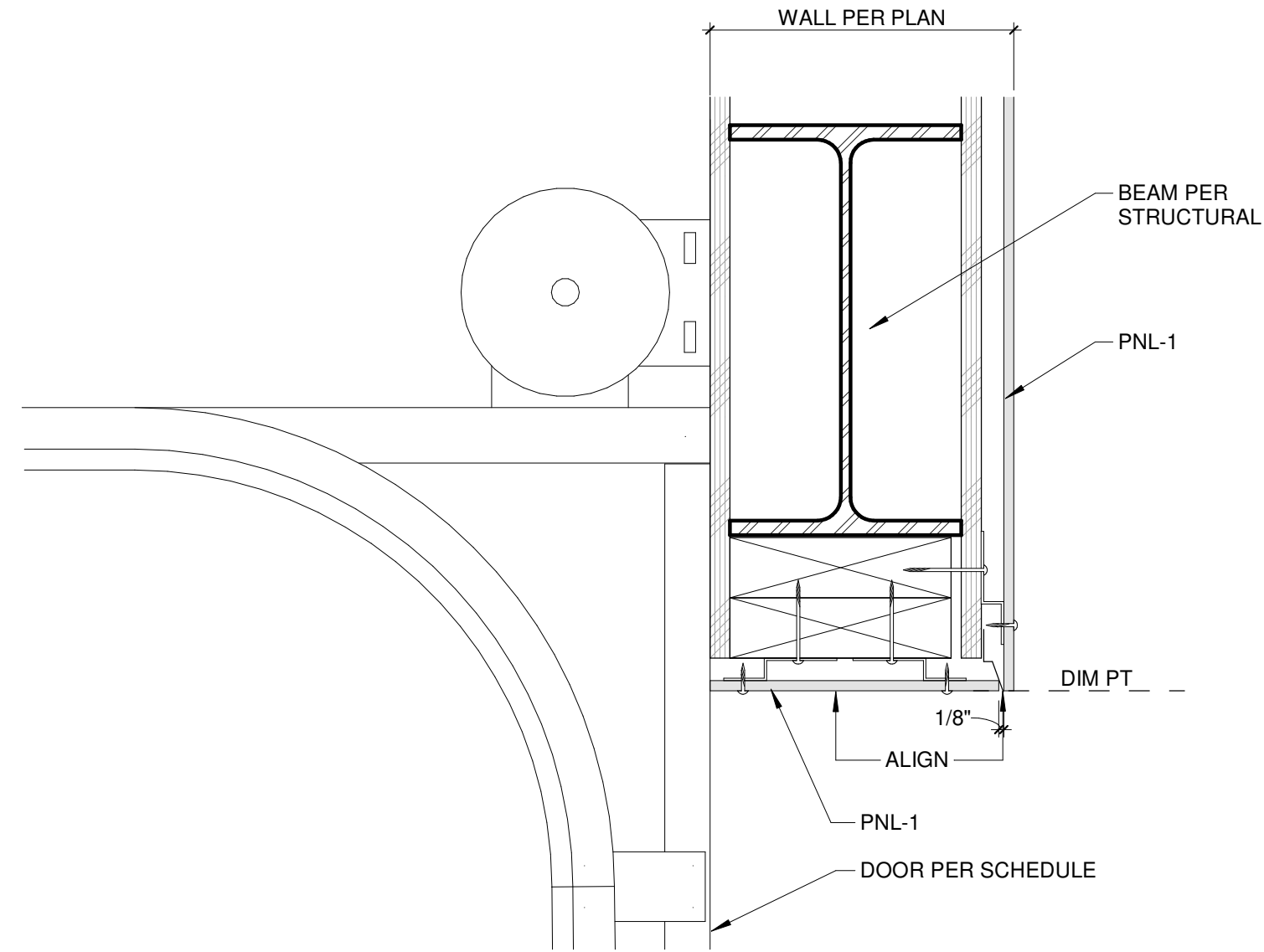
2 EXTERIOR WOOD TO PANEL AT OUTSIDE CORNER
3" = 1'-0"



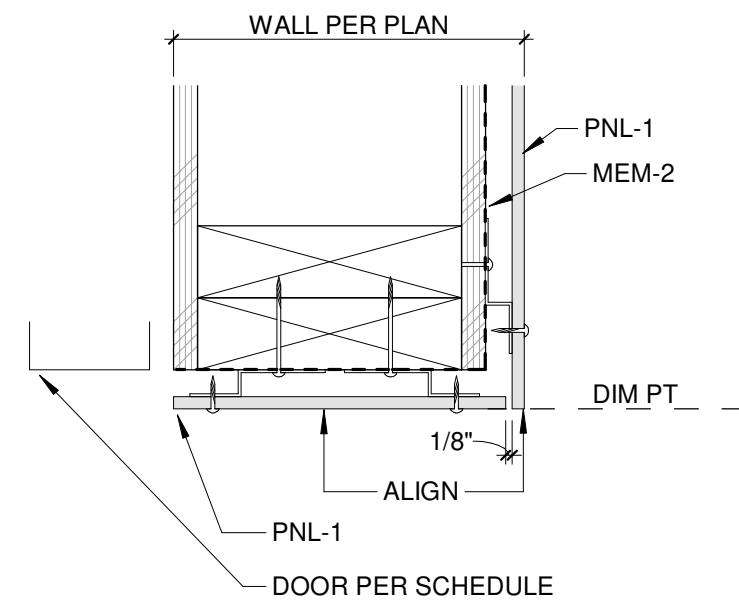
3 TYP HORIZONTAL PANEL JOINT
3" = 1'-0"



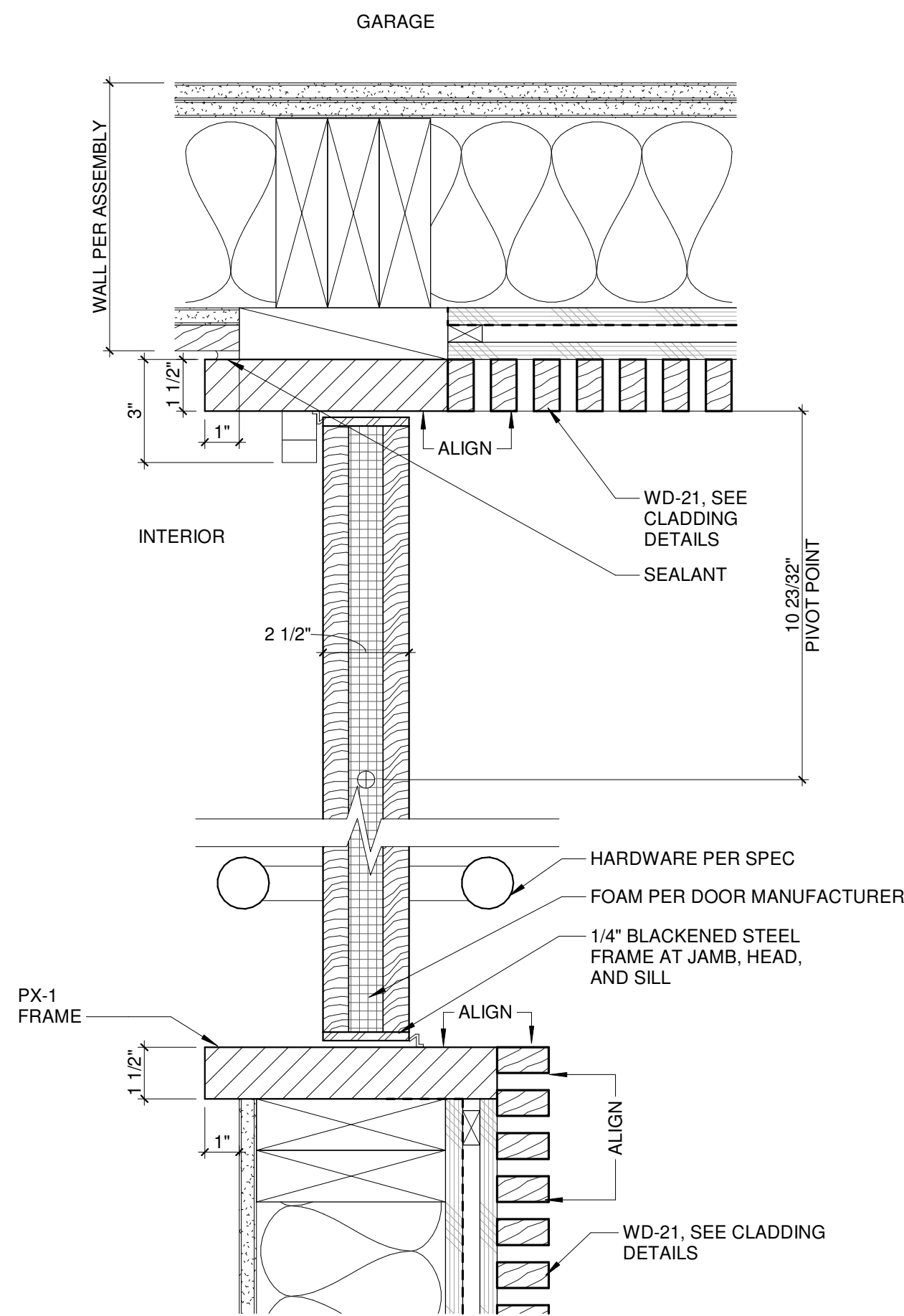
5 TYP VERTICAL PANEL JOINT
3" = 1'-0"



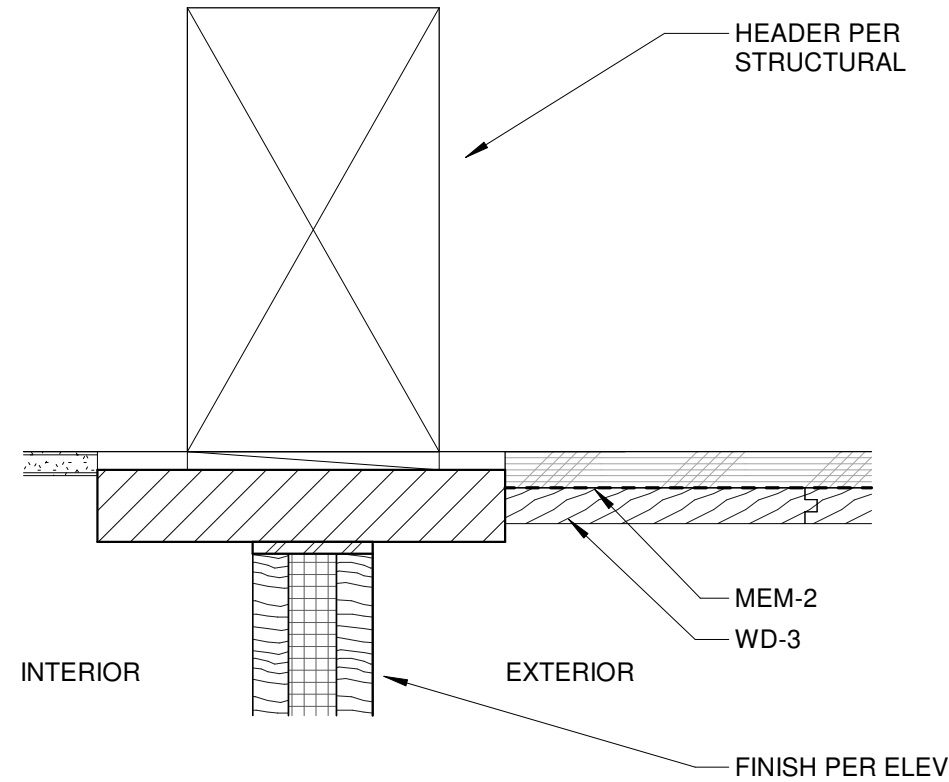
6 OVERHEAD DOOR HEAD
3" = 1'-0"



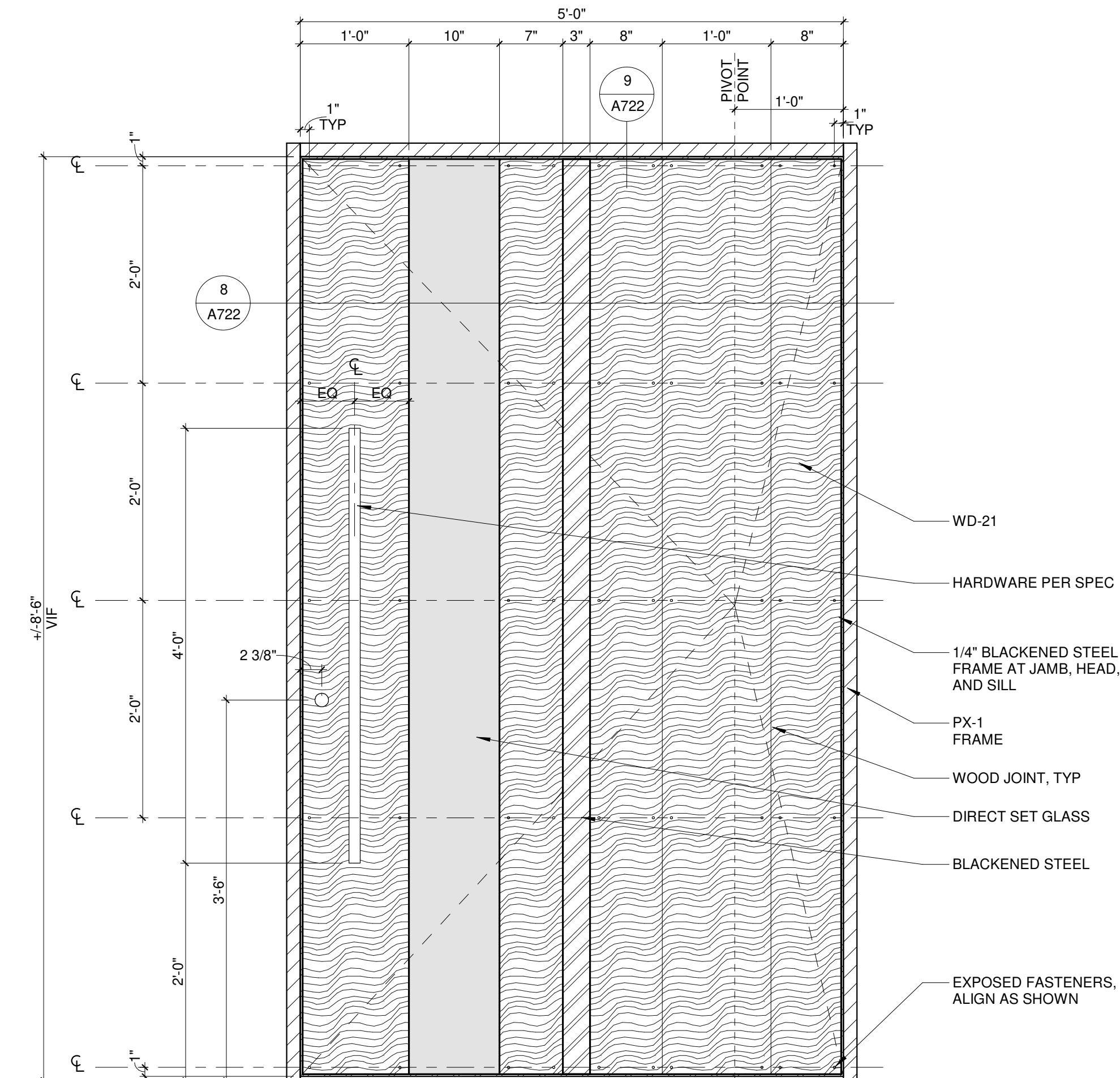
7 OVERHEAD DOOR JAMB
3" = 1'-0"



8 PIVOT DOOR JAMB
3" = 1'-0"



9 PIVOT DOOR HEAD
3" = 1'-0"



10 PIVOT DOOR ELEVATION
1" = 1'-0"



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER

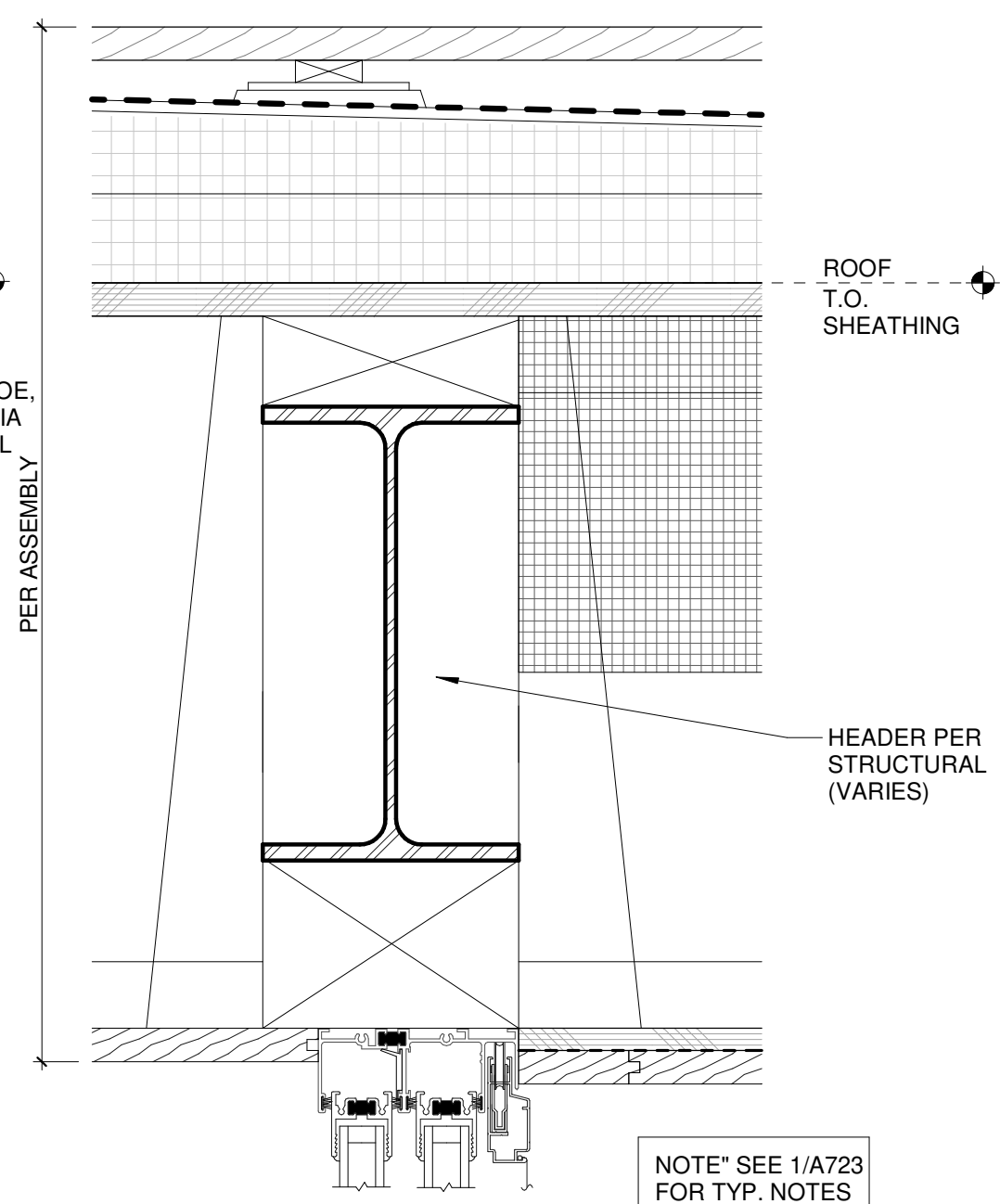
#	REVISION	DATE
---	----------	------



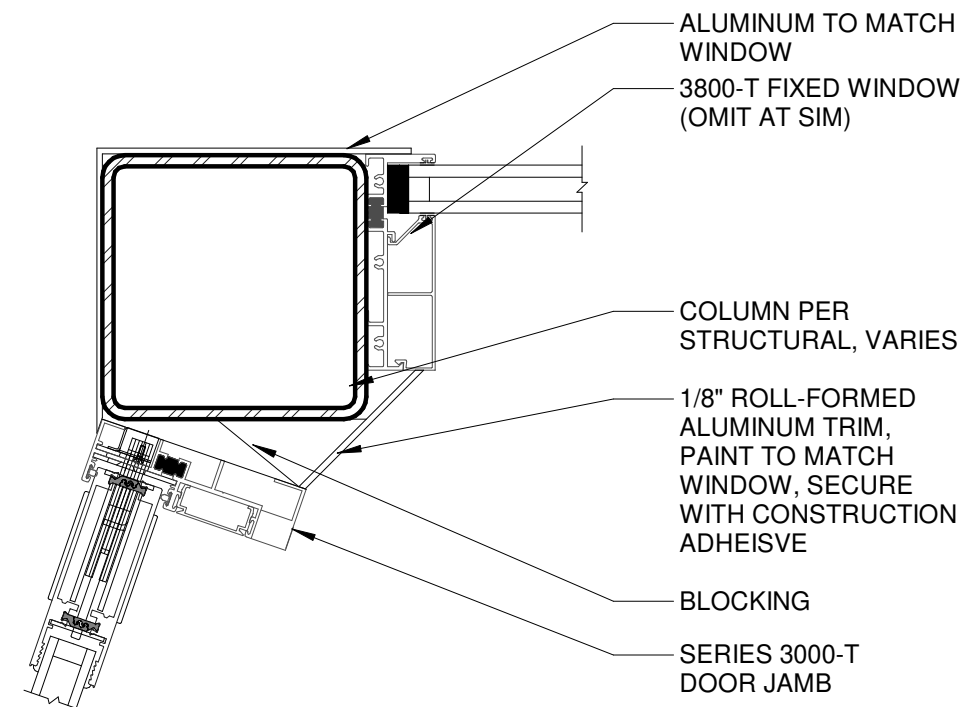
Project Number
20029
DWG EXPORTED 2/15/2021 9:53:19 AM
2/15/21

A722
EXTERIOR
DETAILS -
CLADDING &
DOORS
CD DRAFT

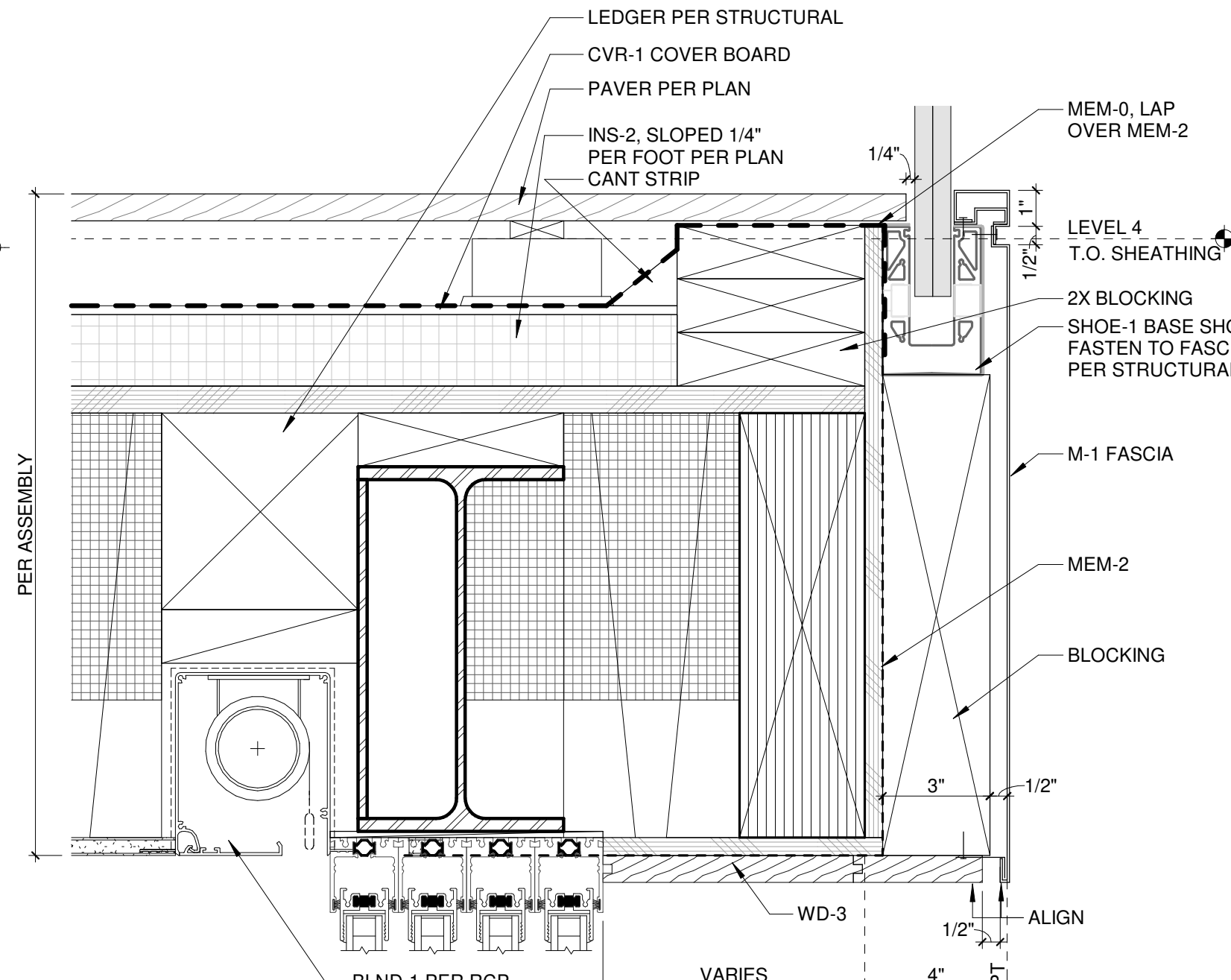
NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER



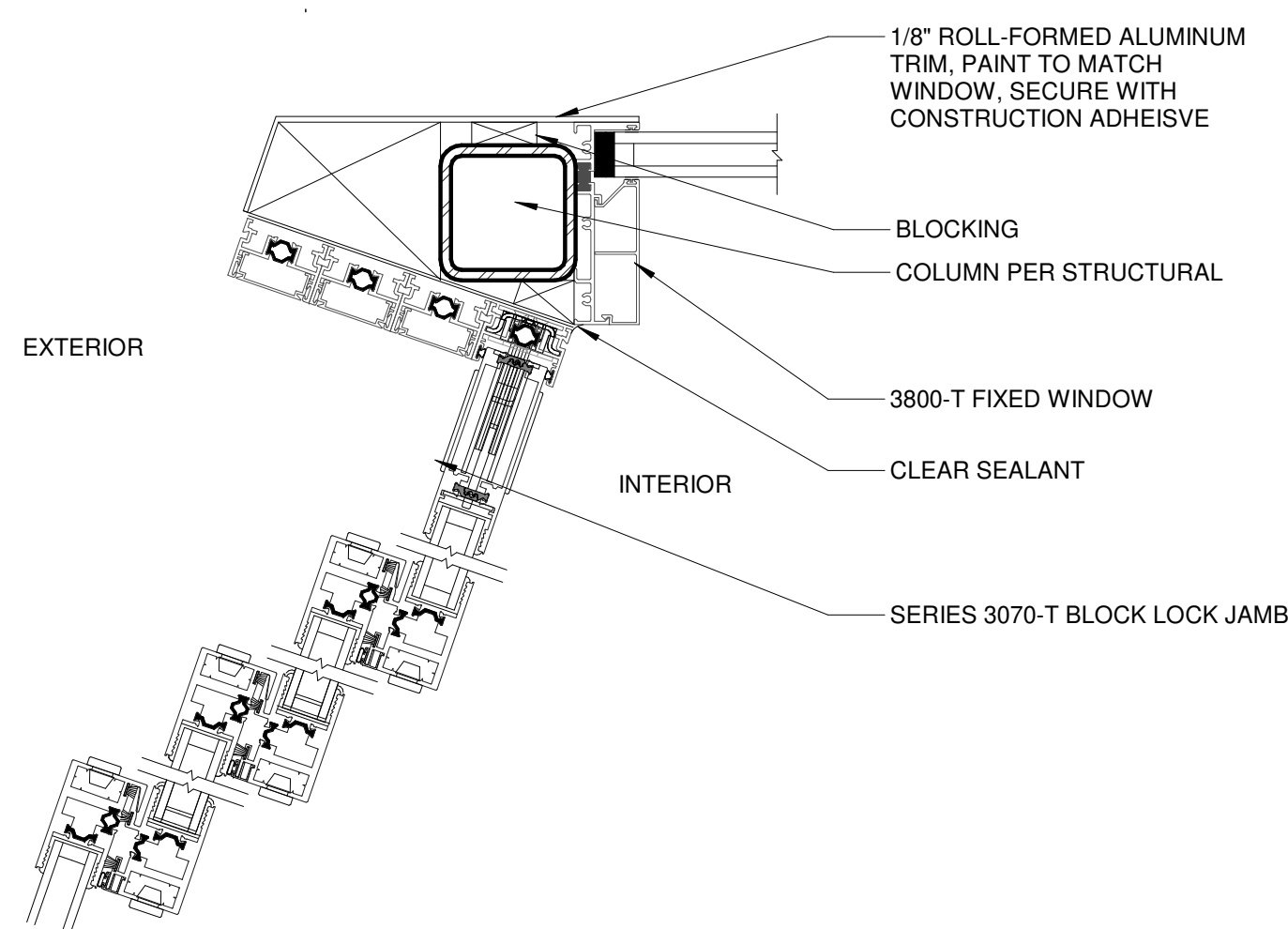
④ LEVEL 4 XO DOOR HEAD
3" = 1'-0"



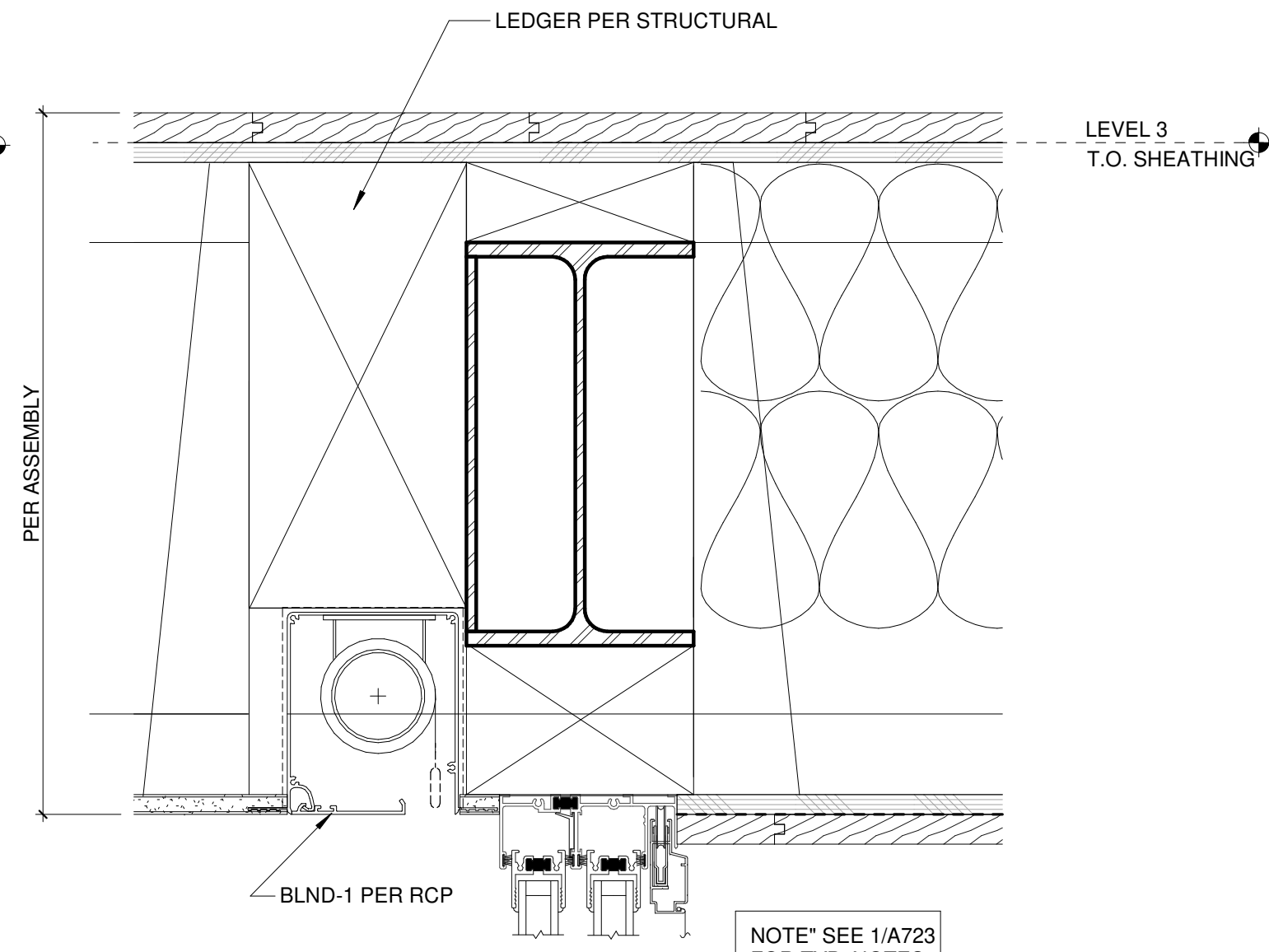
⑧ XO DOOR JAMB
3" = 1'-0"



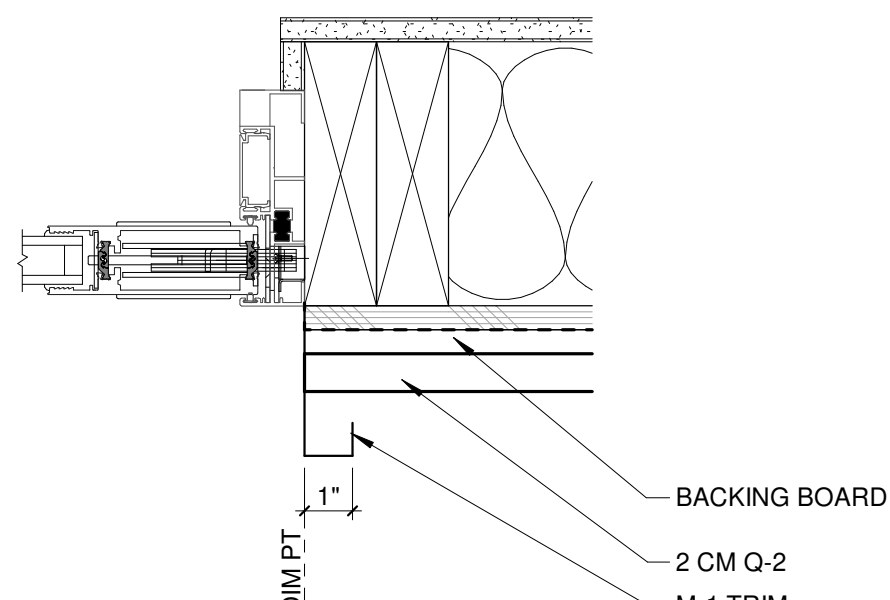
③ LEVEL 3 3070-T MULTI-SLIDE DOOR
HEAD
3" = 1'-0"



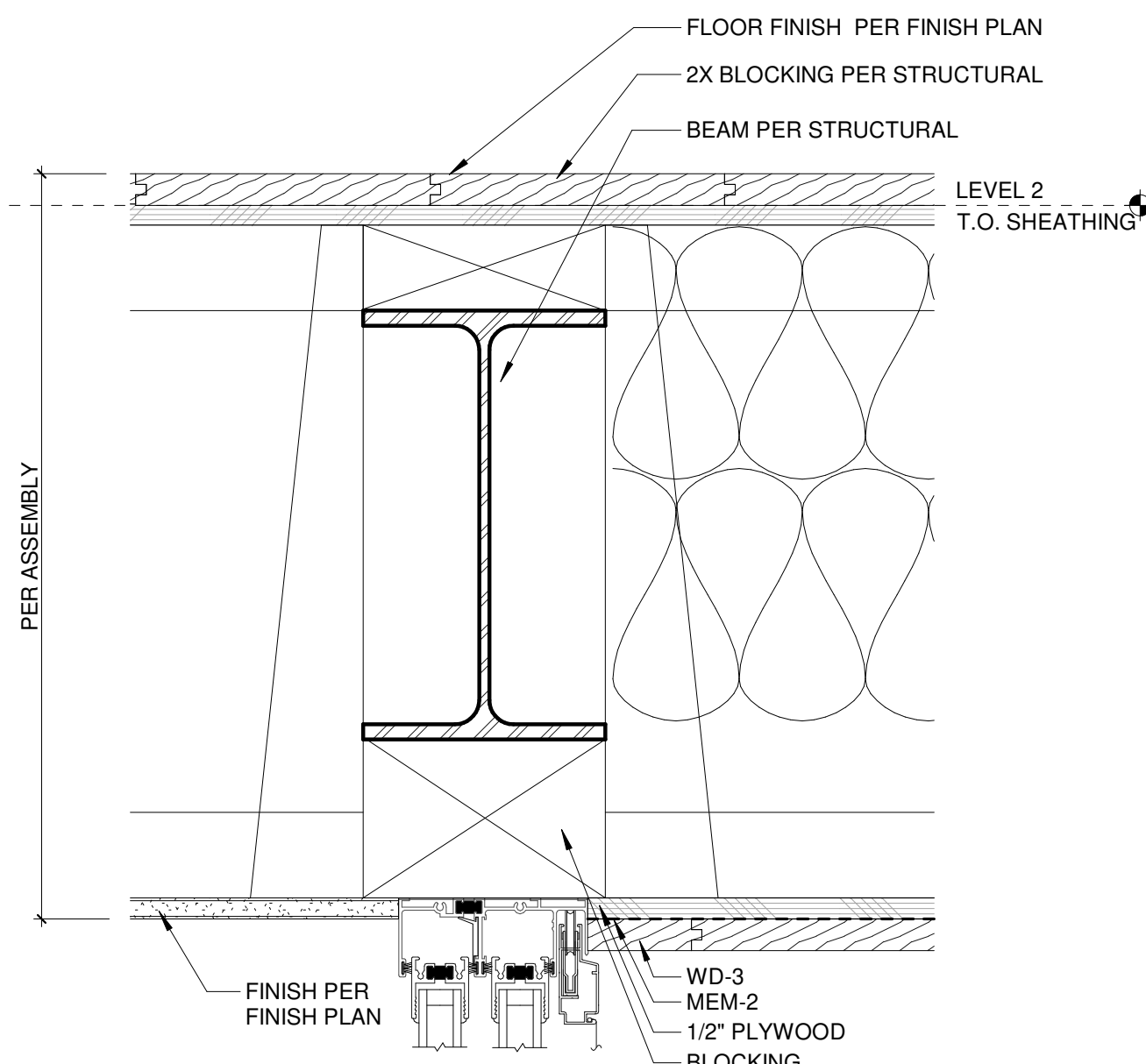
⑦ LEVEL 3 3070-T MULTISLIDE DOOR
JAMB
3" = 1'-0"



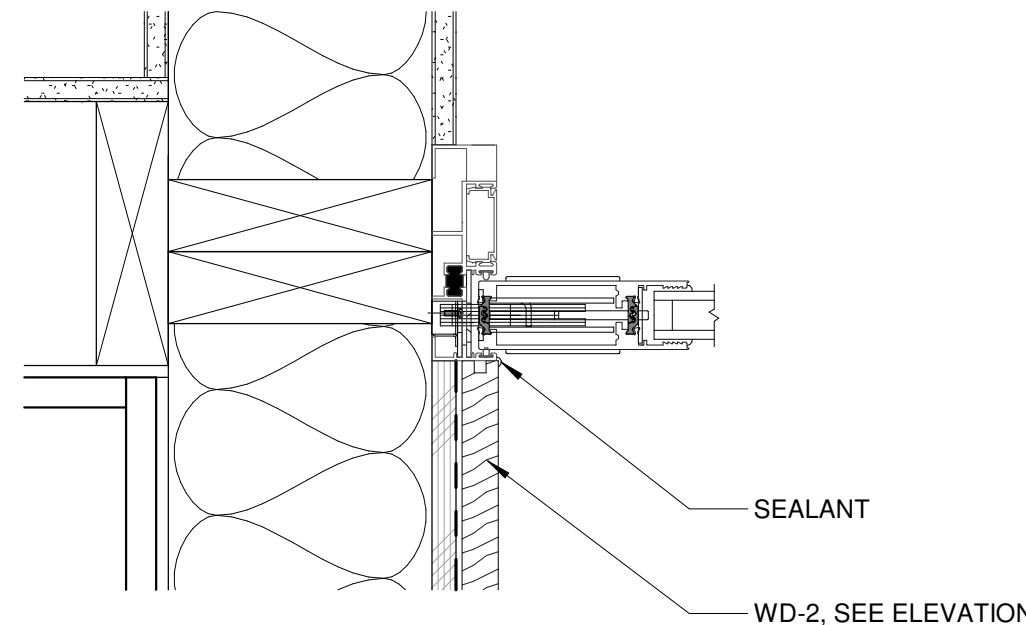
② LEVEL 2 XO DOOR HEAD
3" = 1'-0"



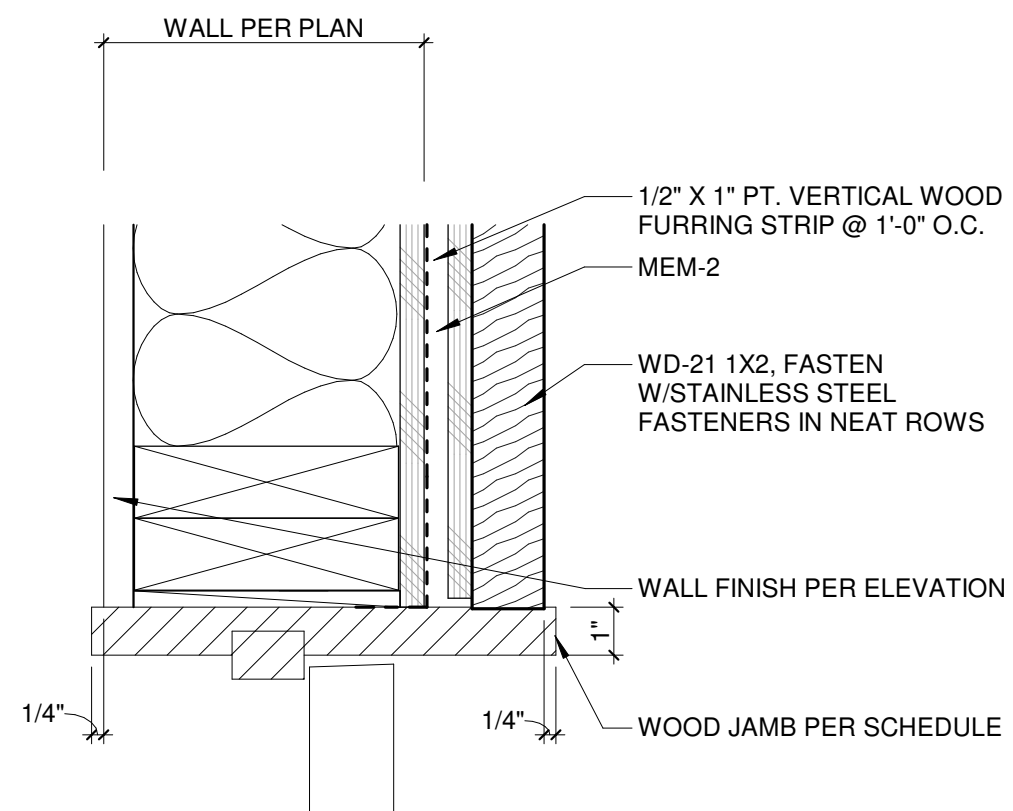
⑥ LEVEL 1 XO DOOR JAMB TO Q2
3" = 1'-0"



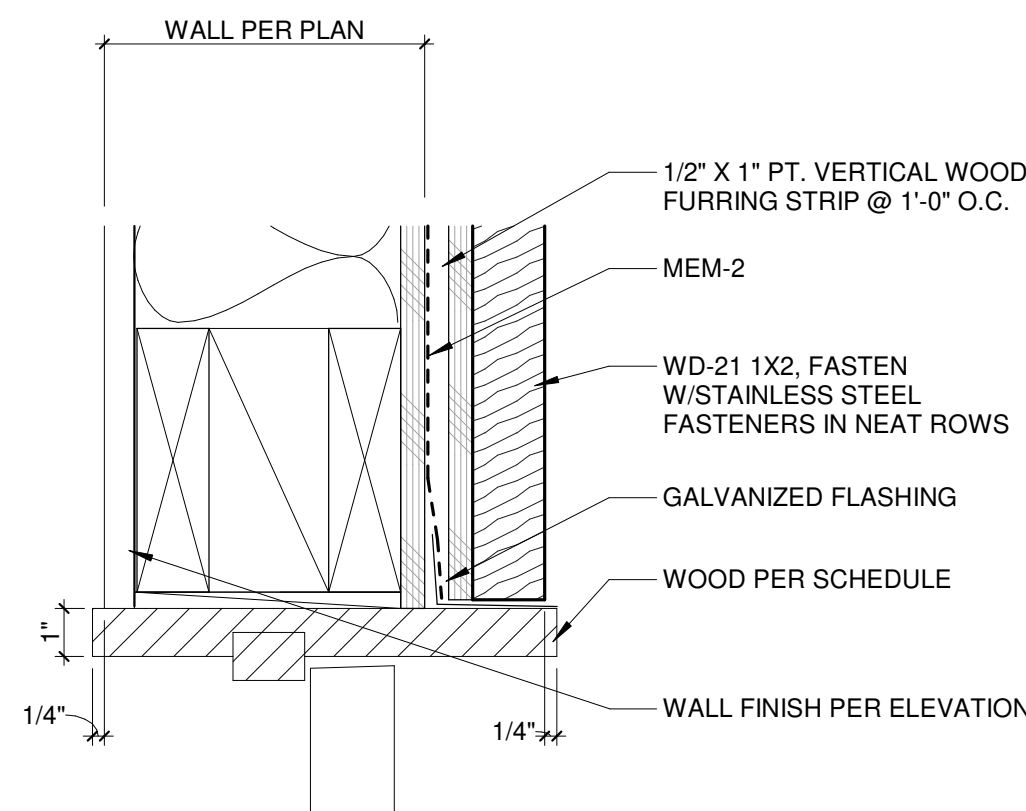
① LEVEL 1 XO DOOR HEAD
3" = 1'-0"



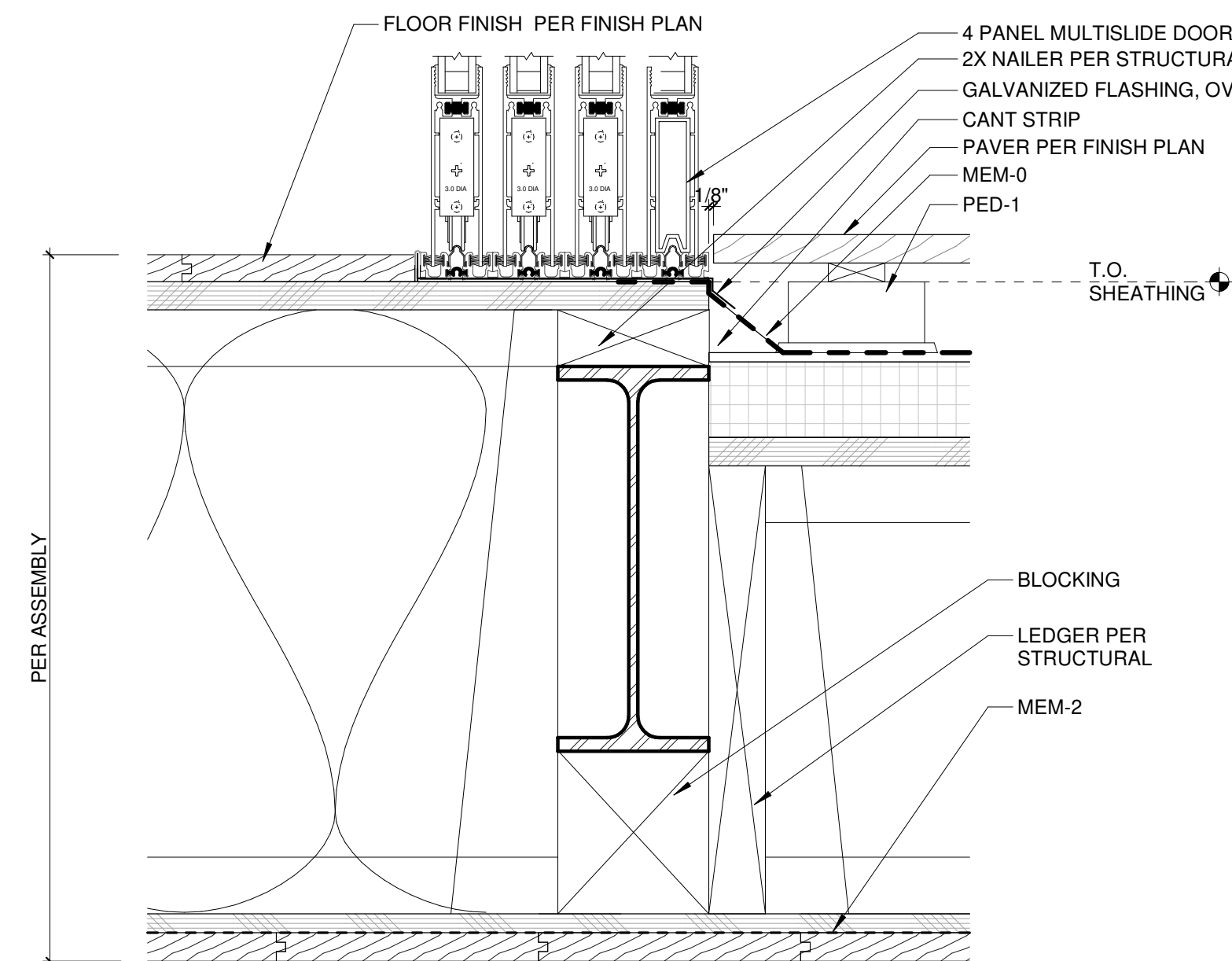
⑤ LEVEL 1 XO DOOR JAMB
PERPENDICULAR TO WALL
3" = 1'-0"



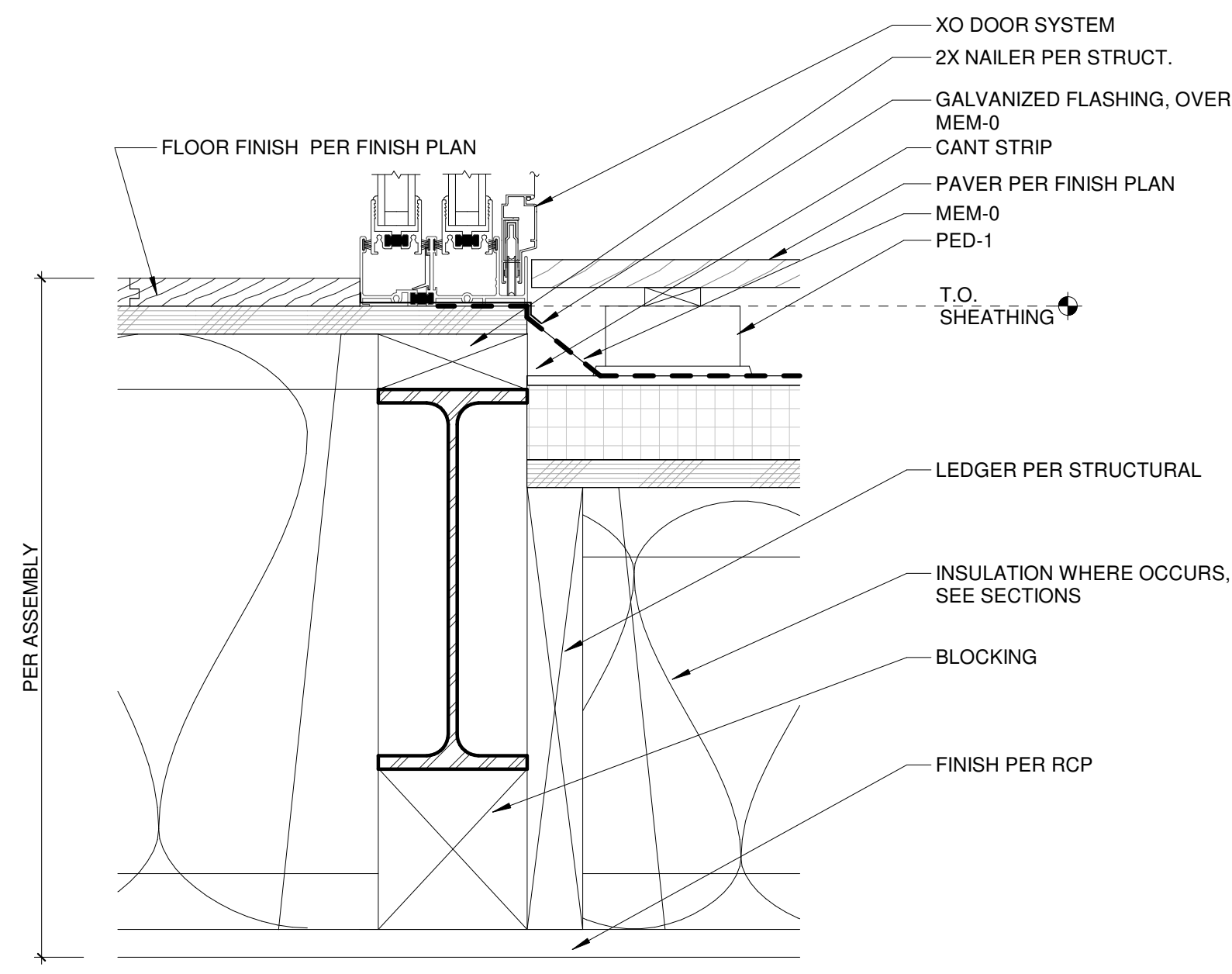
⑫ EXTERIOR SHOWER & SAUNA DOOR
JAMB
3" = 1'-0"



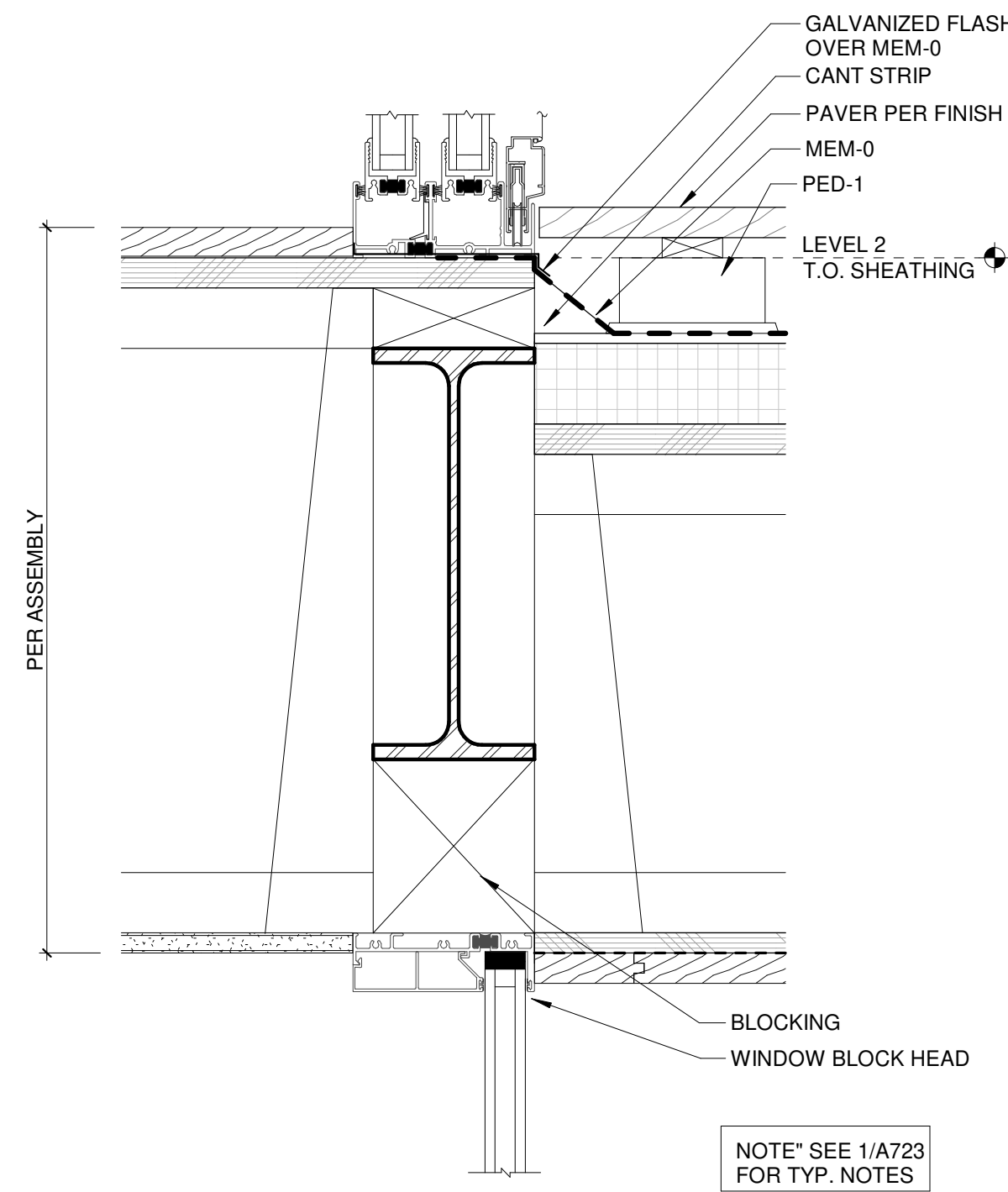
⑪ EXTERIOR SHOWER & SAUNA DOOR
HEAD
3" = 1'-0"



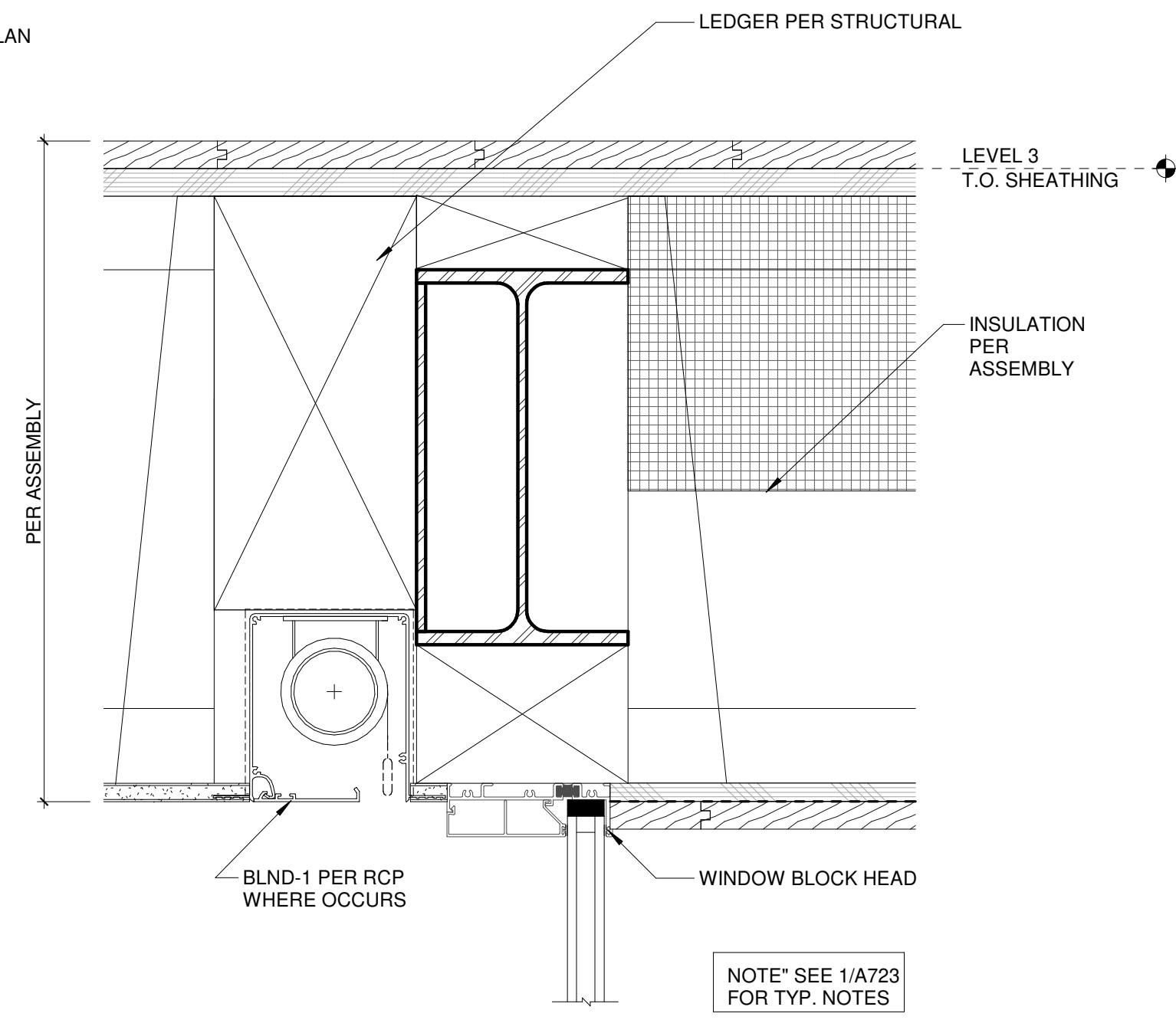
⑩ LEVEL 3 3070-T MULTISLIDE DOOR SILL
3" = 1'-0"



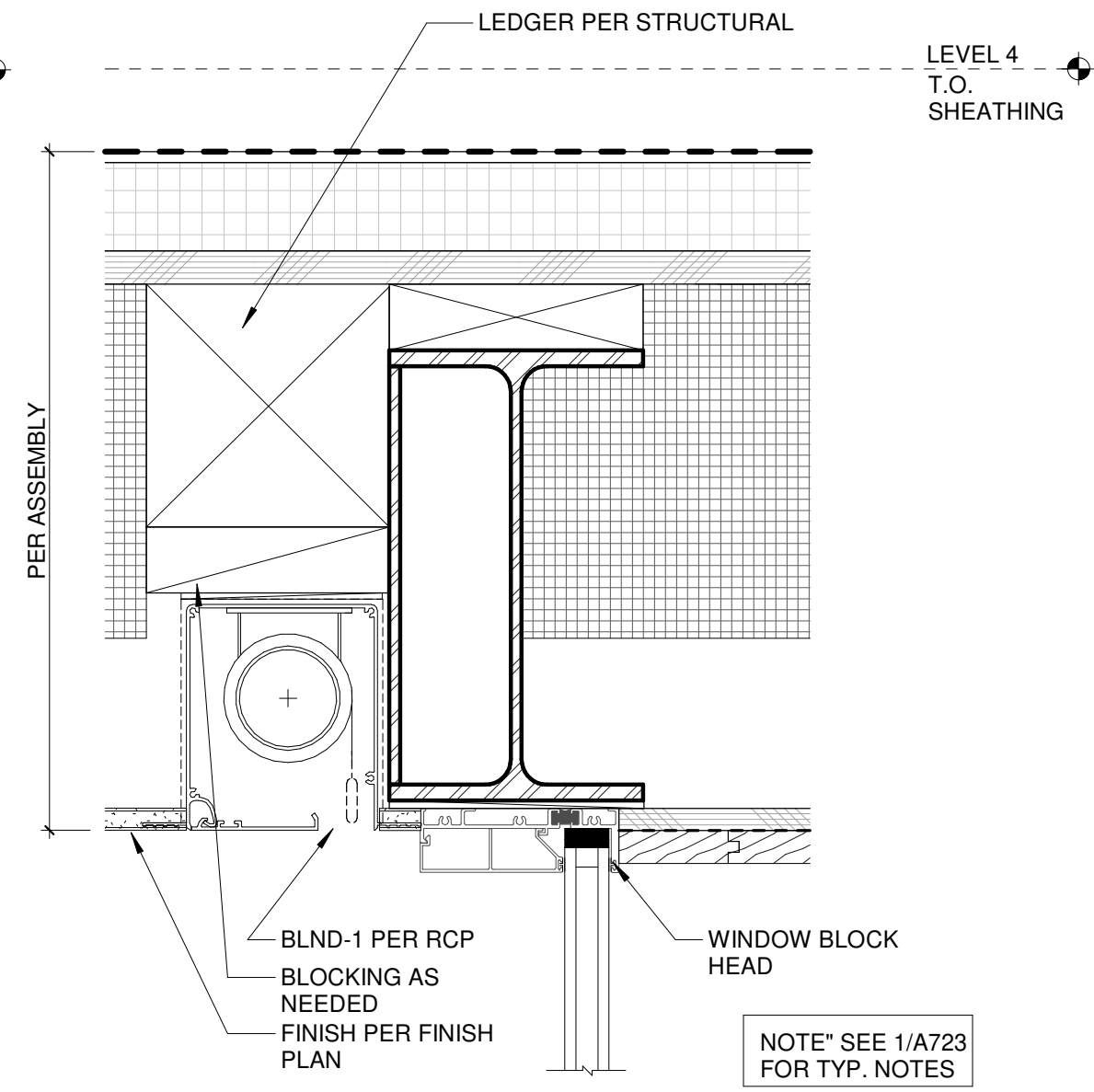
⑨ XO DOOR SILL
3" = 1'-0"



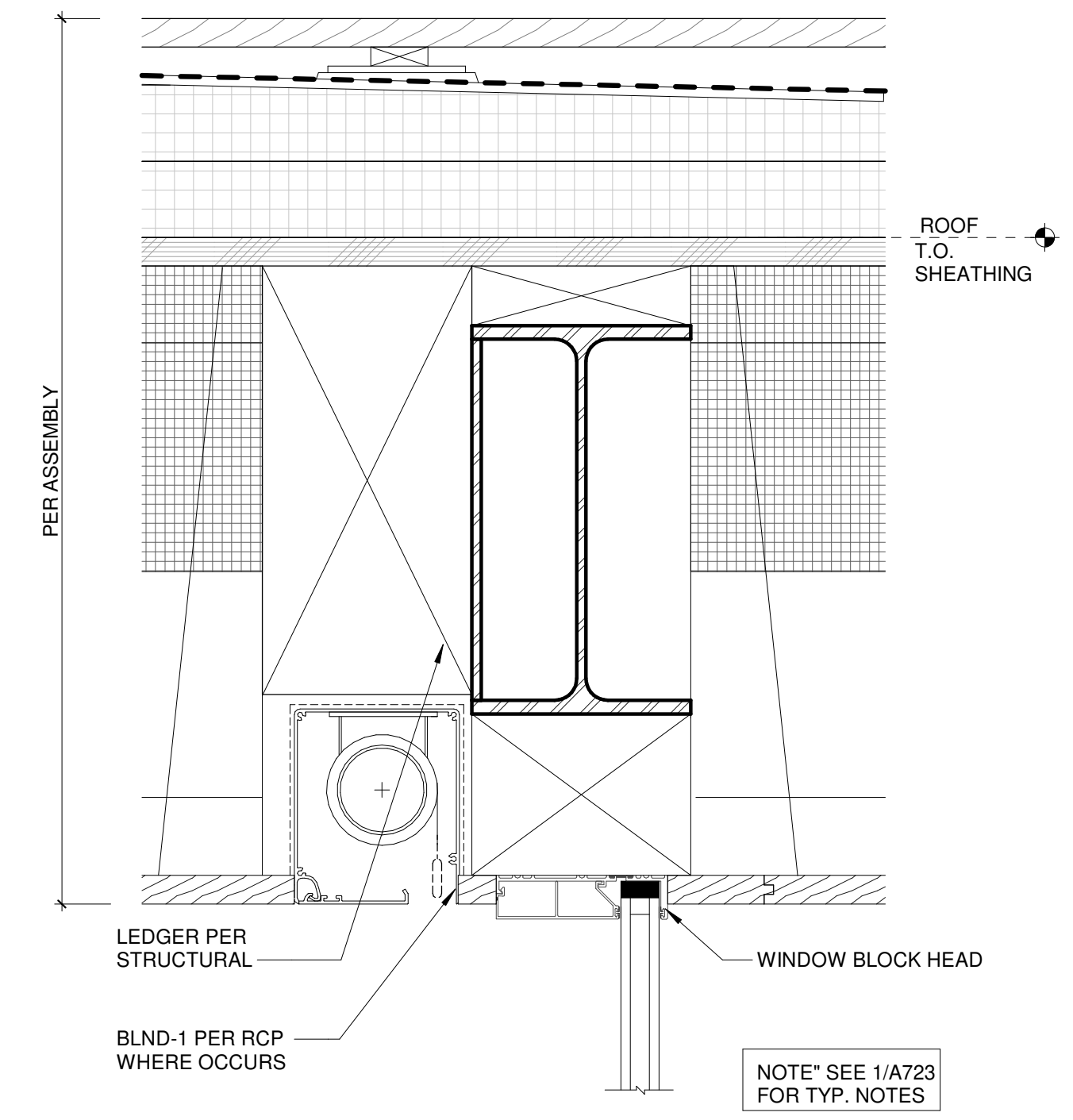
1 LEVEL 1 WINDOW HEAD
3" = 1'-0"



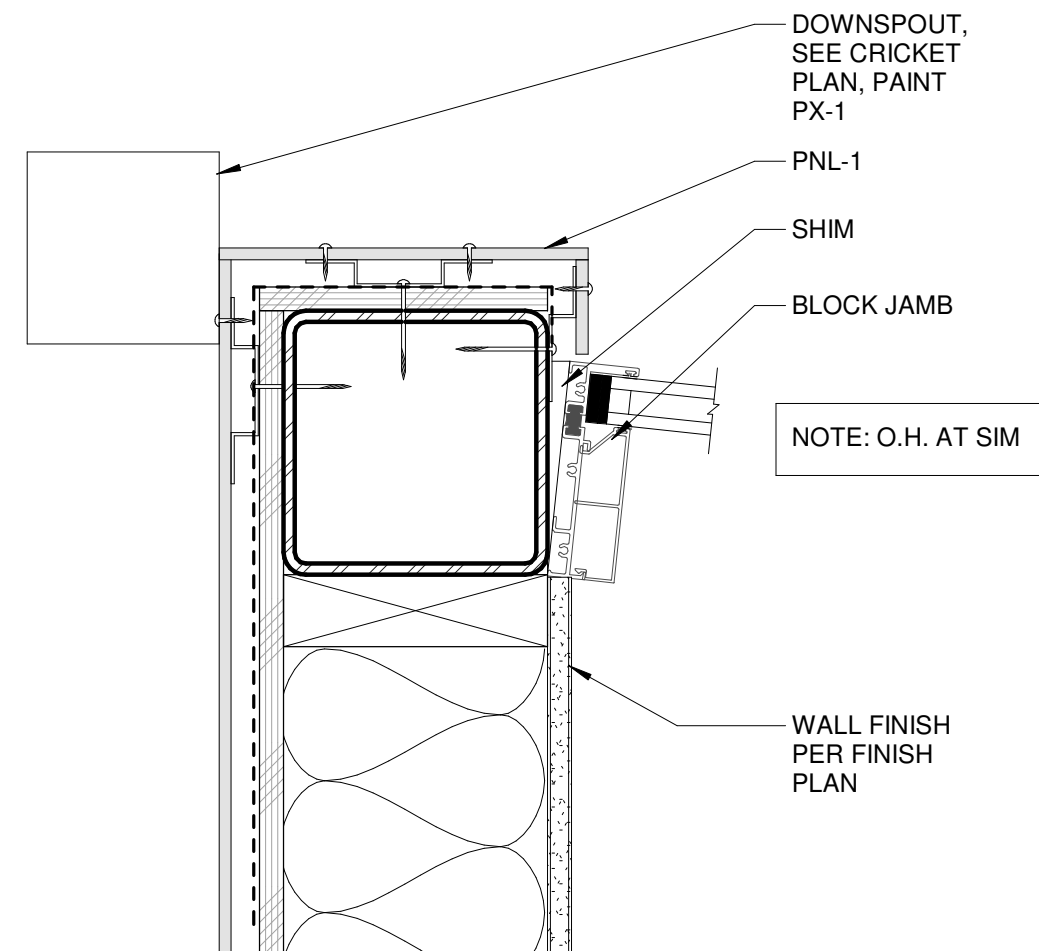
2 LEVEL 2 WINDOW HEAD
3" = 1'-0"



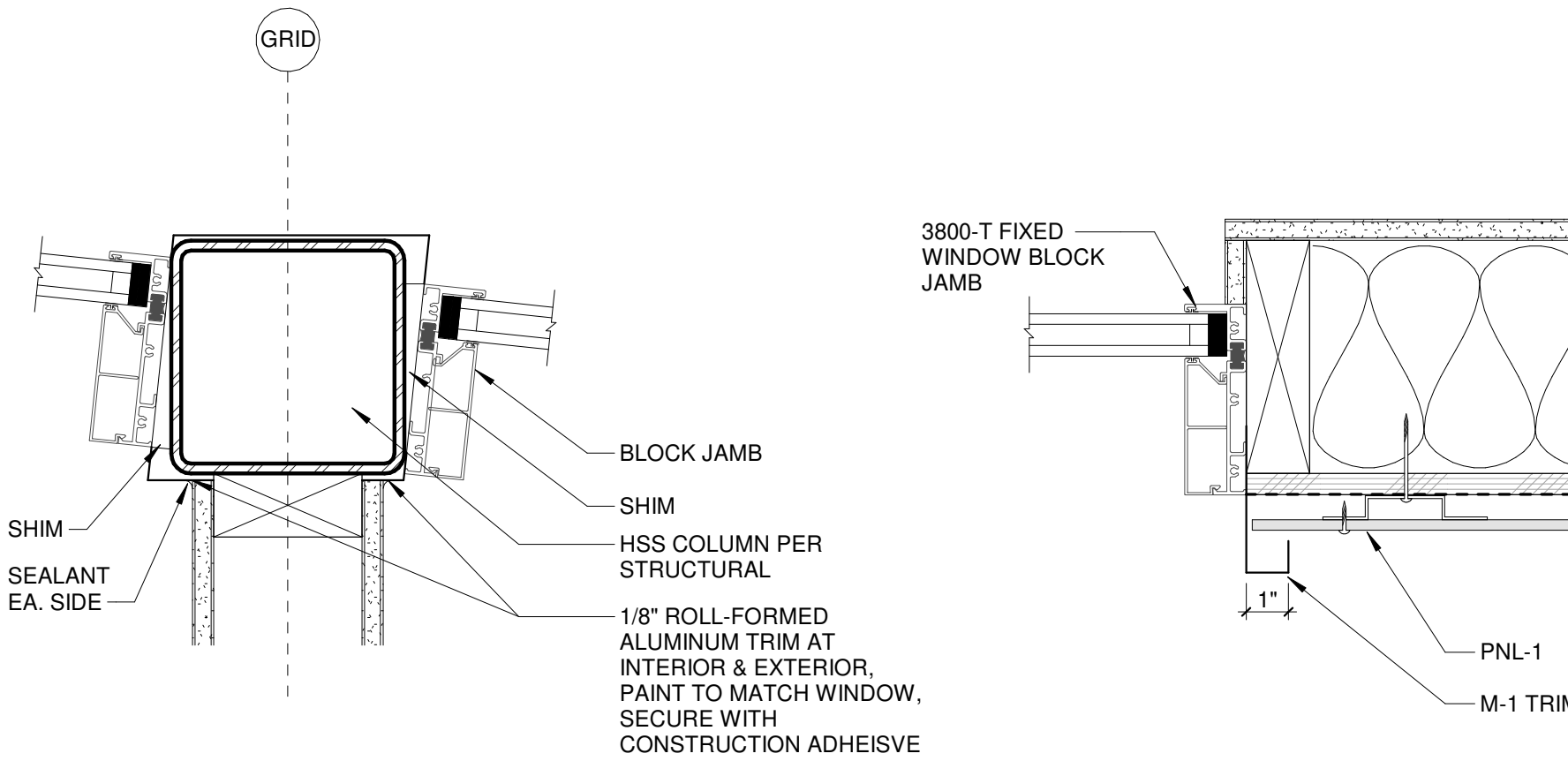
3 LEVEL 3 WINDOW HEAD
3" = 1'-0"



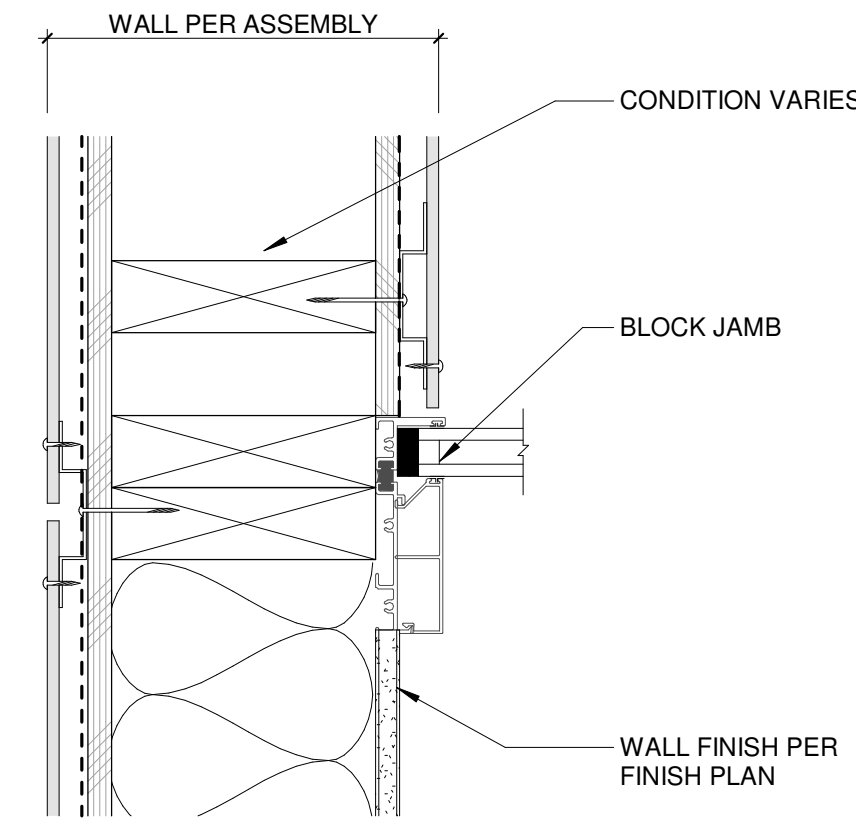
4 LEVEL 4 WINDOW HEAD
3" = 1'-0"



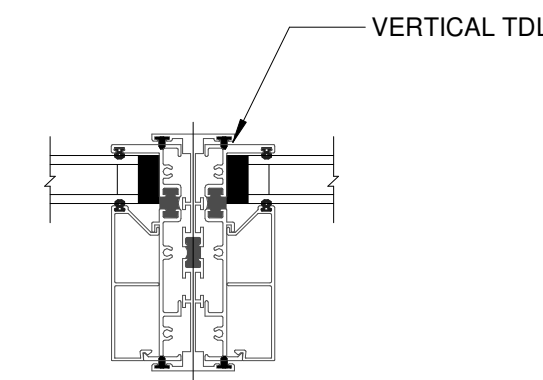
5 WINDOW JAMB AT WALL END
3" = 1'-0"



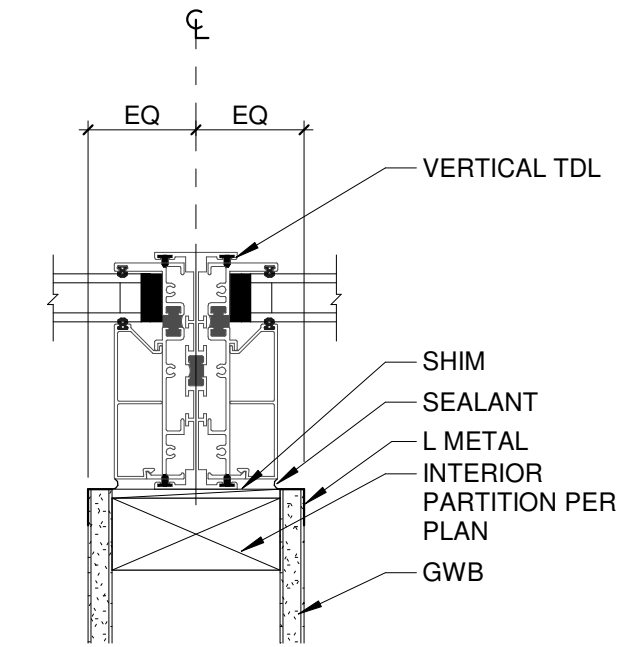
6 WINDOW JAMB TO COLUMN
3" = 1'-0"



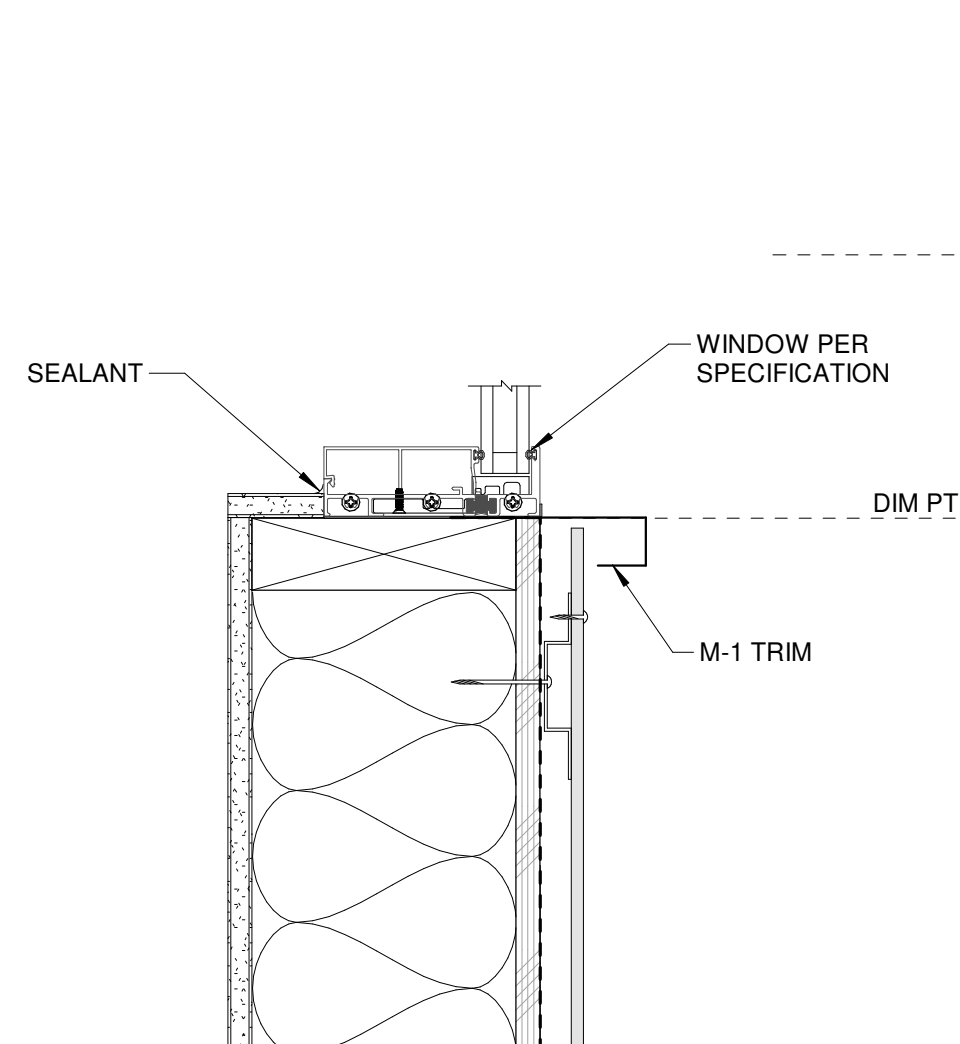
7 WINDOW JAMB PERPENDICULAR TO WALL
3" = 1'-0"



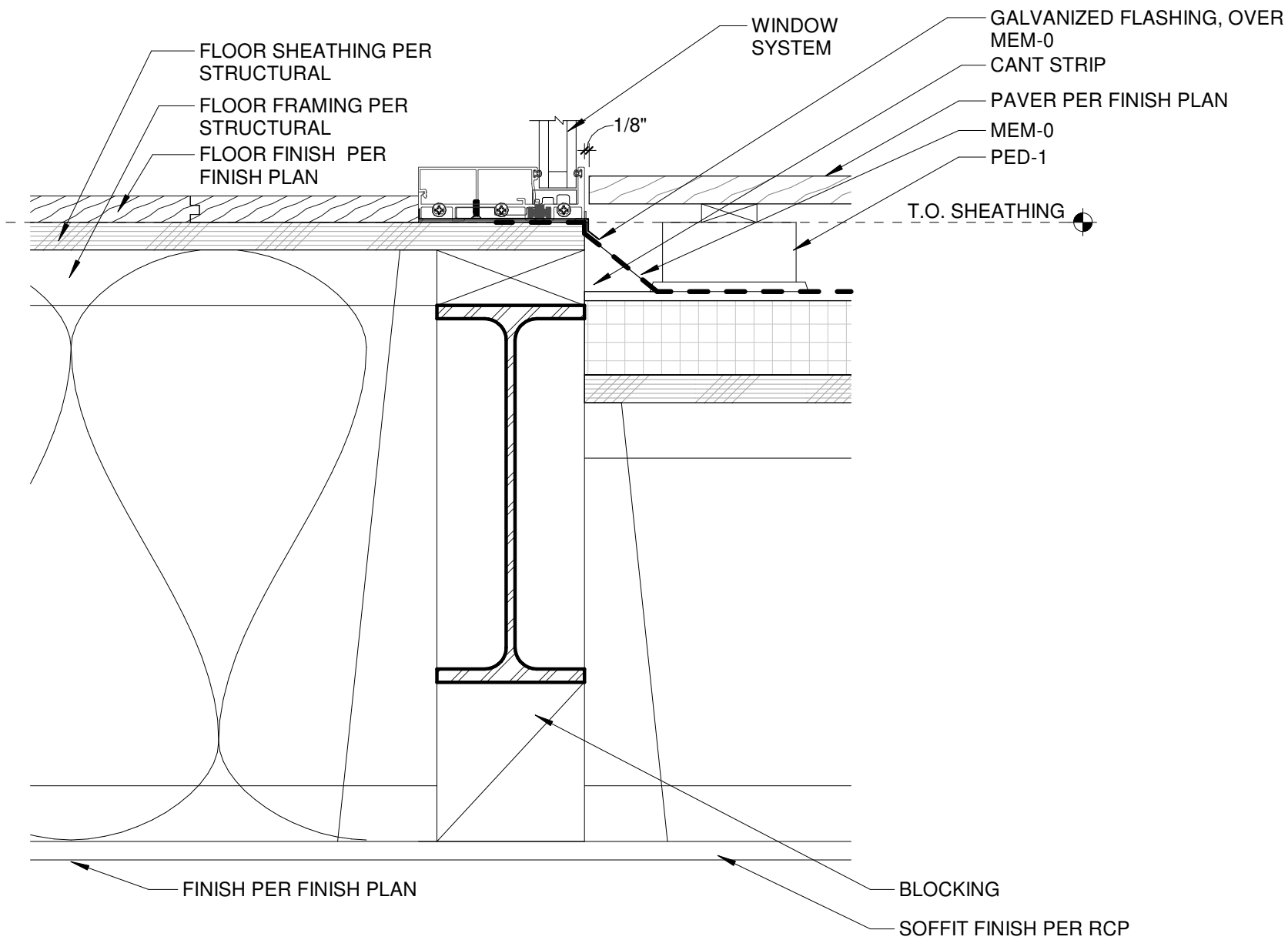
8 FIXED GLASS TO FIXED GLASS WINDOW JAMB
3" = 1'-0"



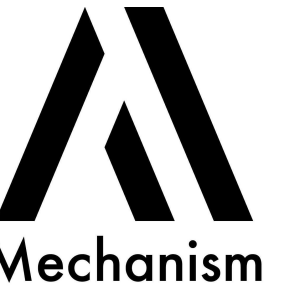
9 WINDOW JAMB TO INTERIOR WALL
3" = 1'-0"



10 TYP. WINDOW SILL AT TRANSOM
3" = 1'-0"



11 TYP. WINDOW SILL
3" = 1'-0"



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

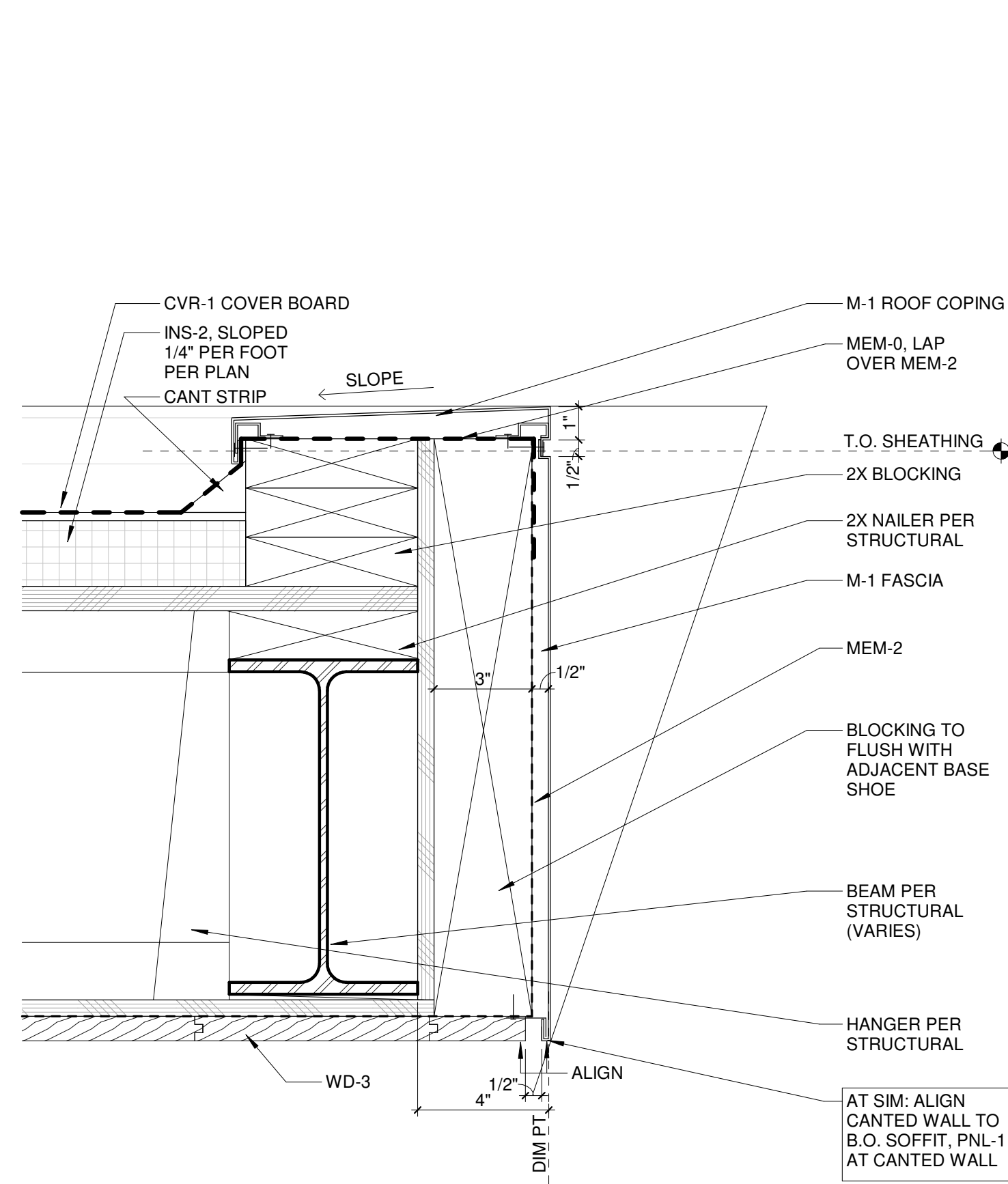
#	REVISION	DATE
---	----------	------



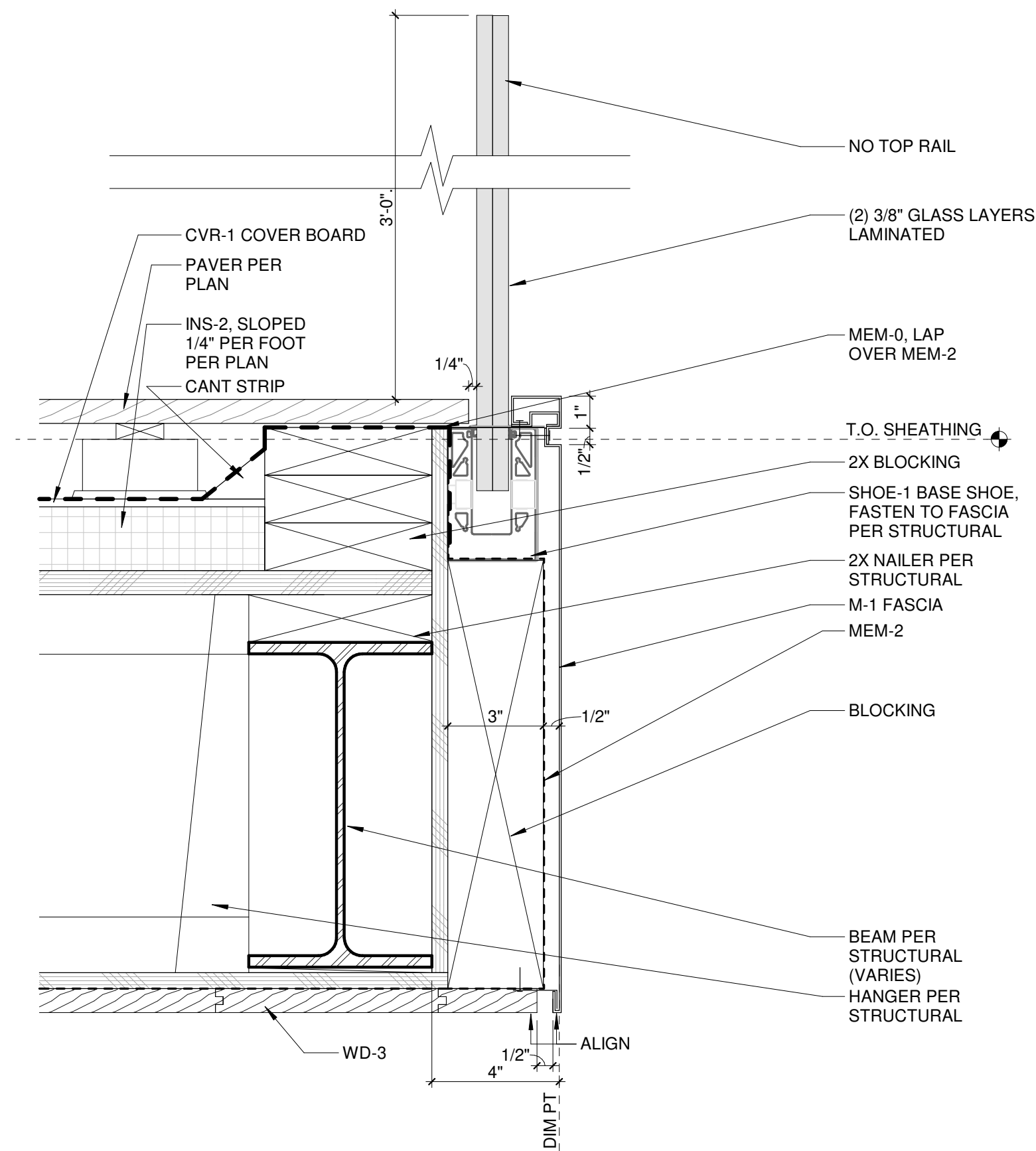
Project Number
20029
DWG EXPORTED 2/15/2021 9:53:21 AM
2/15/21

A724
EXTERIOR
DETAILS -
WINDOWS

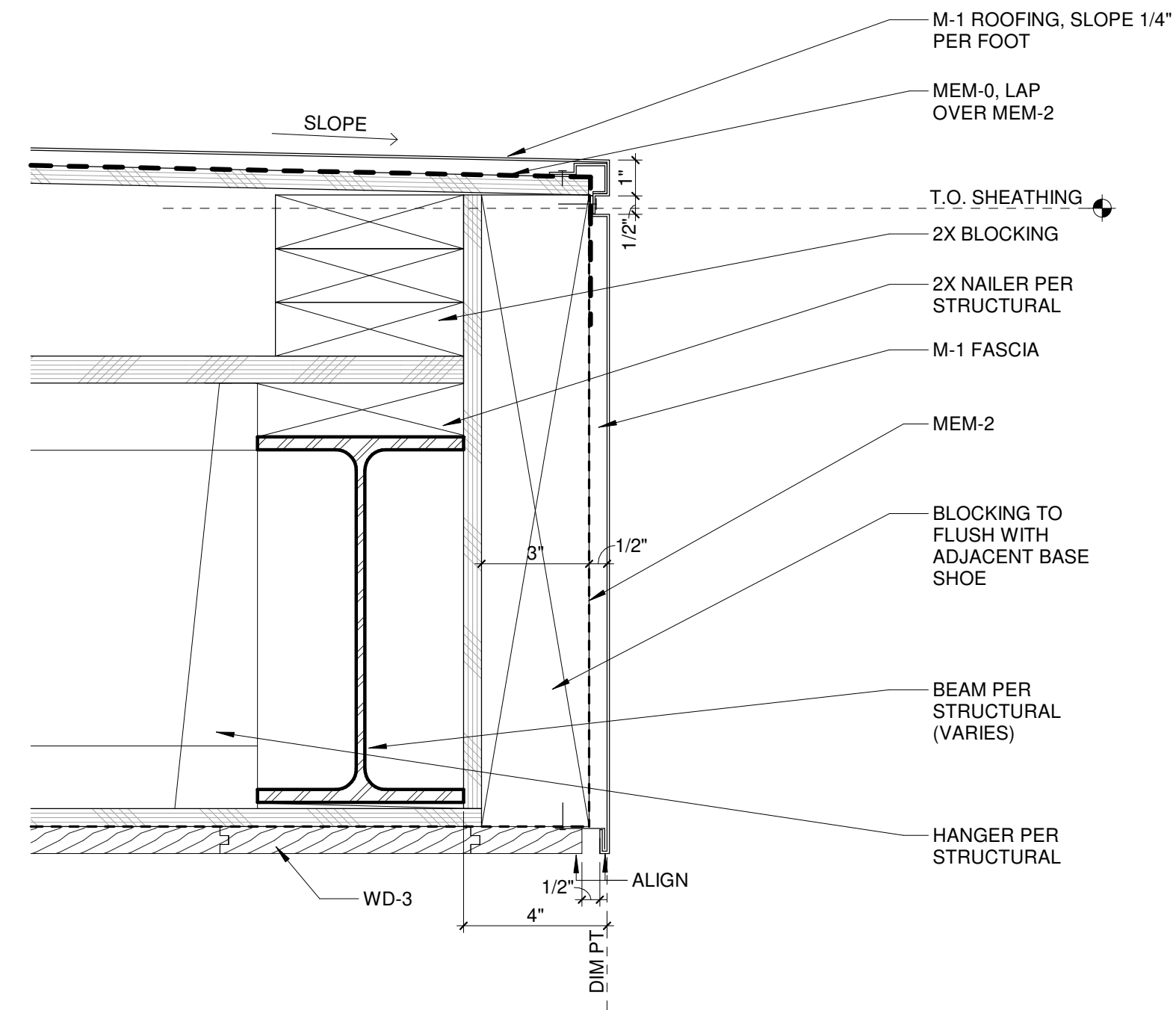
CD DRAFT



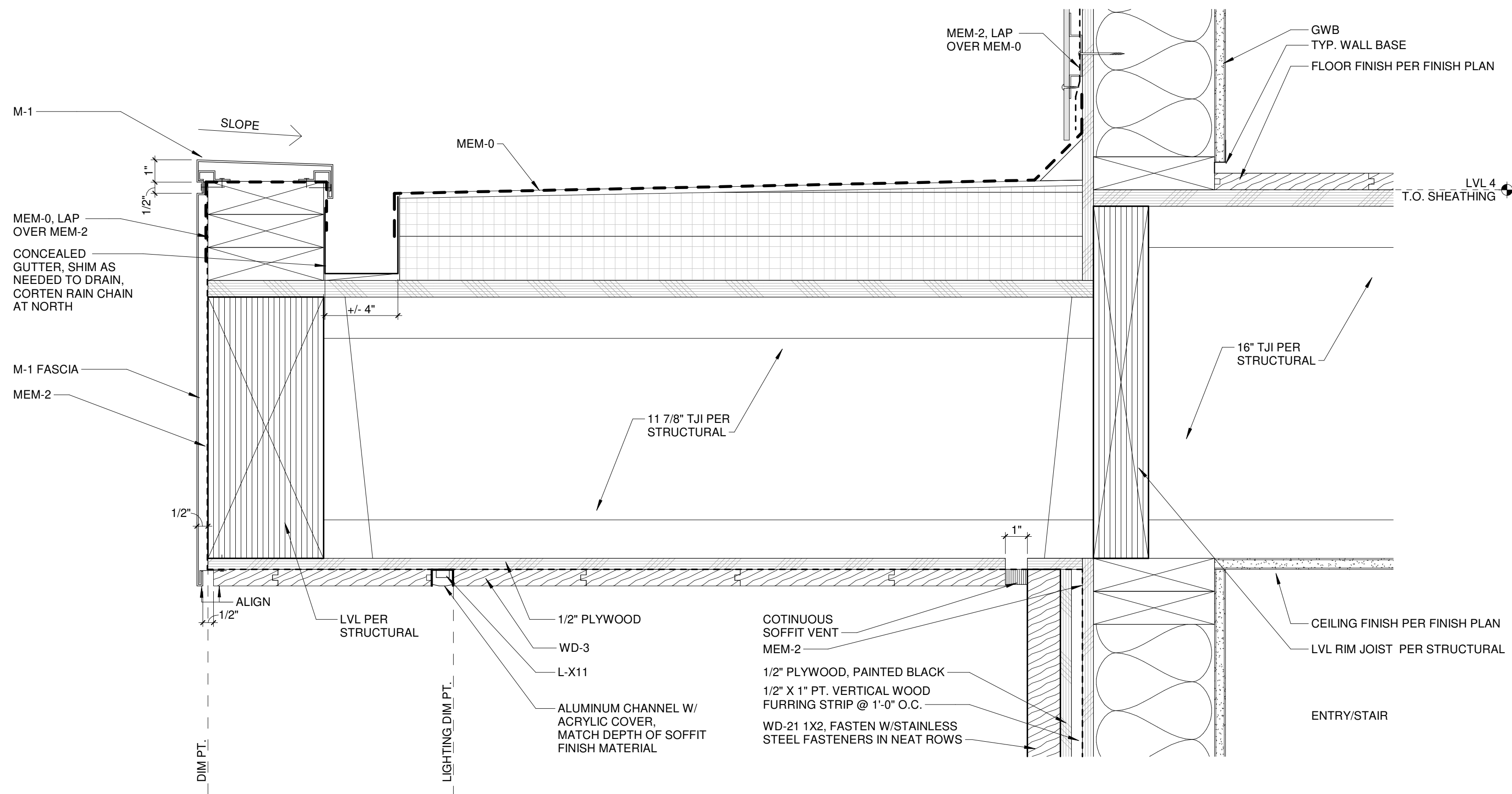
① TYPICAL FASCIA
3" = 1'-0"



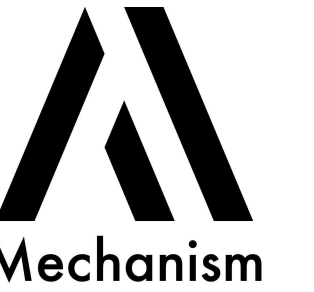
② TYP. GLASS GUARD
3" = 1'-0"



③ LEVEL 3 FASCIA
3" = 1'-0"



④ LEVEL 4 ROOF EDGE EAST LOOKING SOUTH
3" = 1'-0"



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

#	REVISION	DATE
---	----------	------

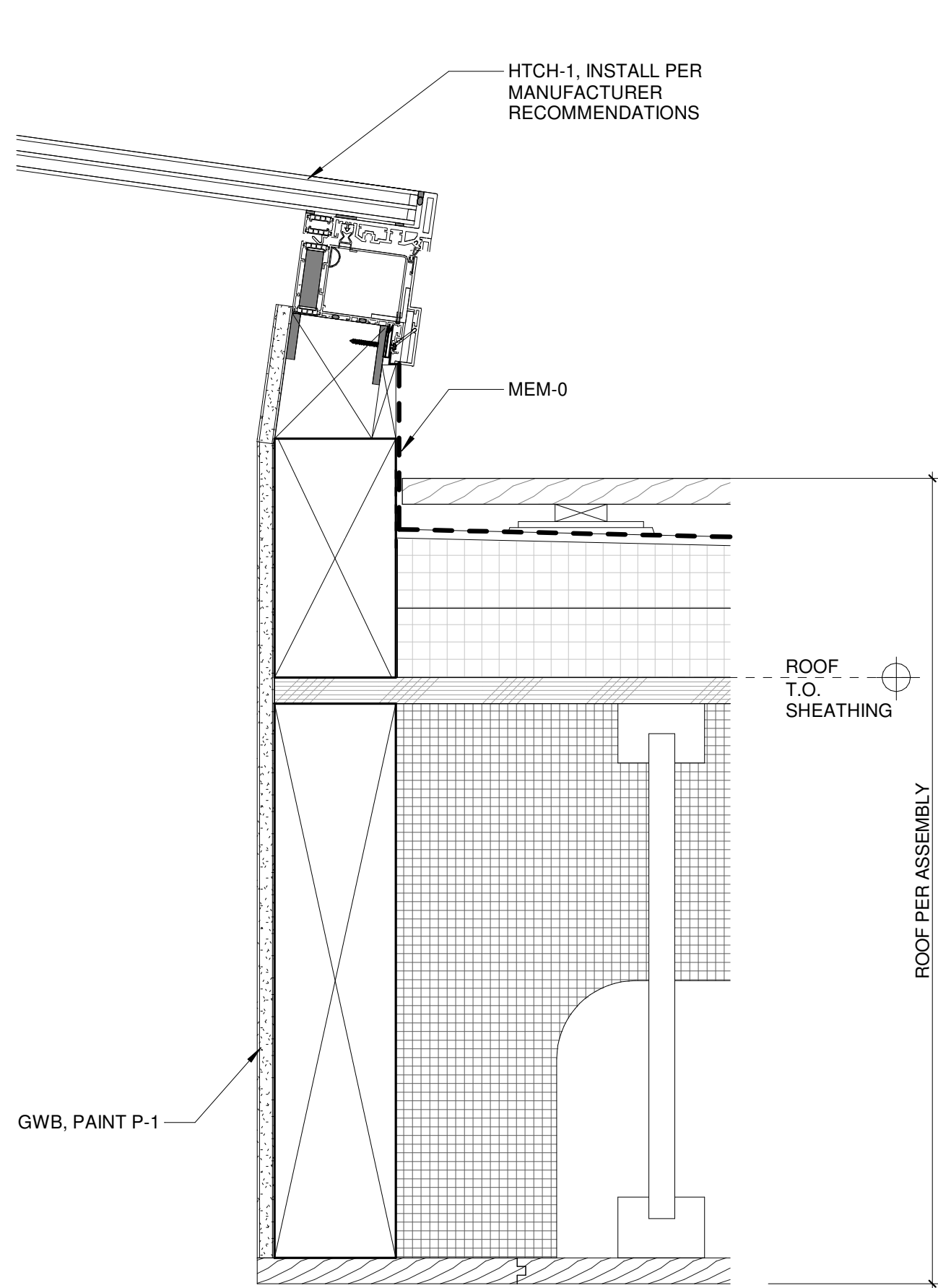


Project Number
20029
DWG EXPORTED 2/15/2021 9:53:22 AM
2/15/21

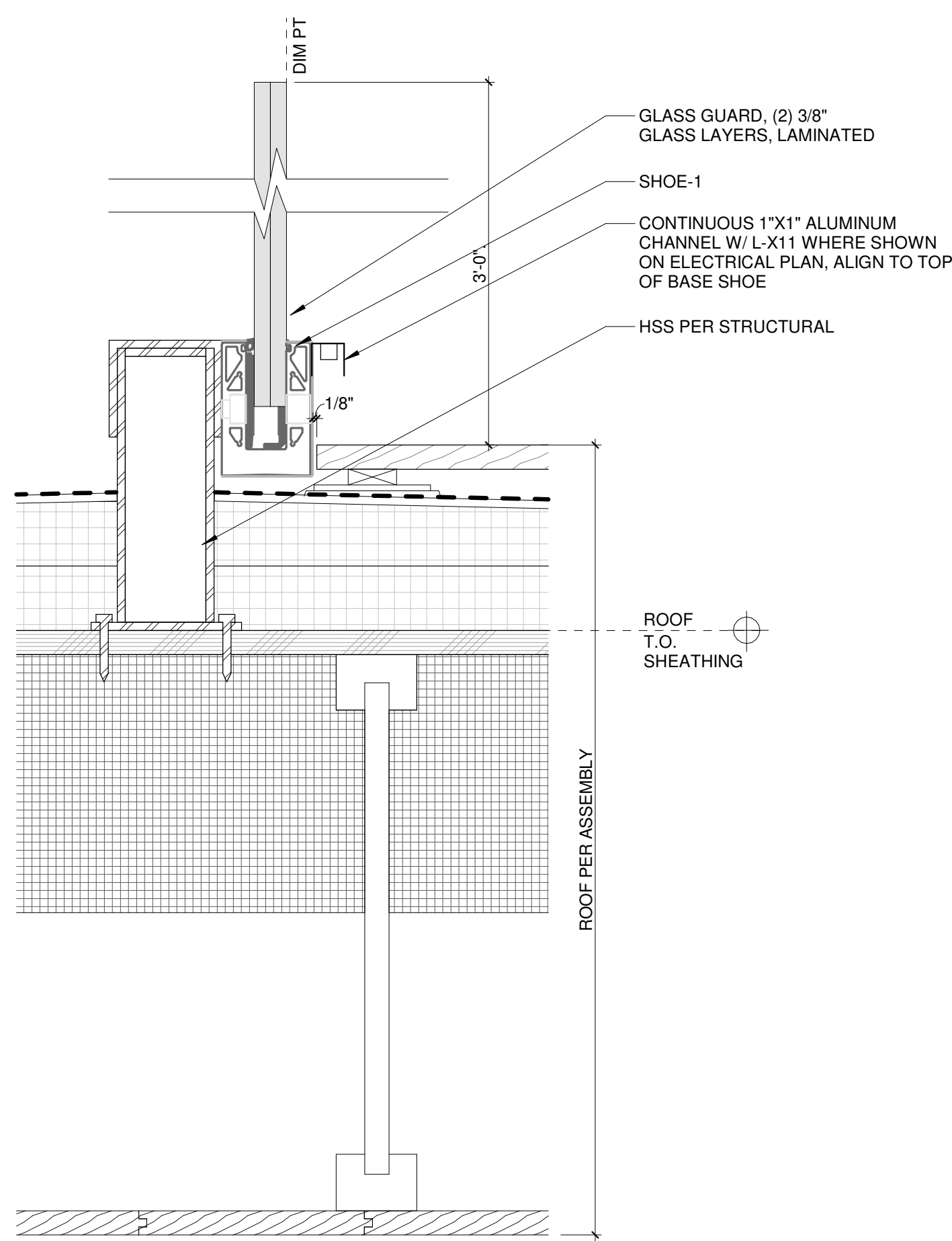
A725
EXTERIOR
DETAILS - FASCIA

CD DRAFT

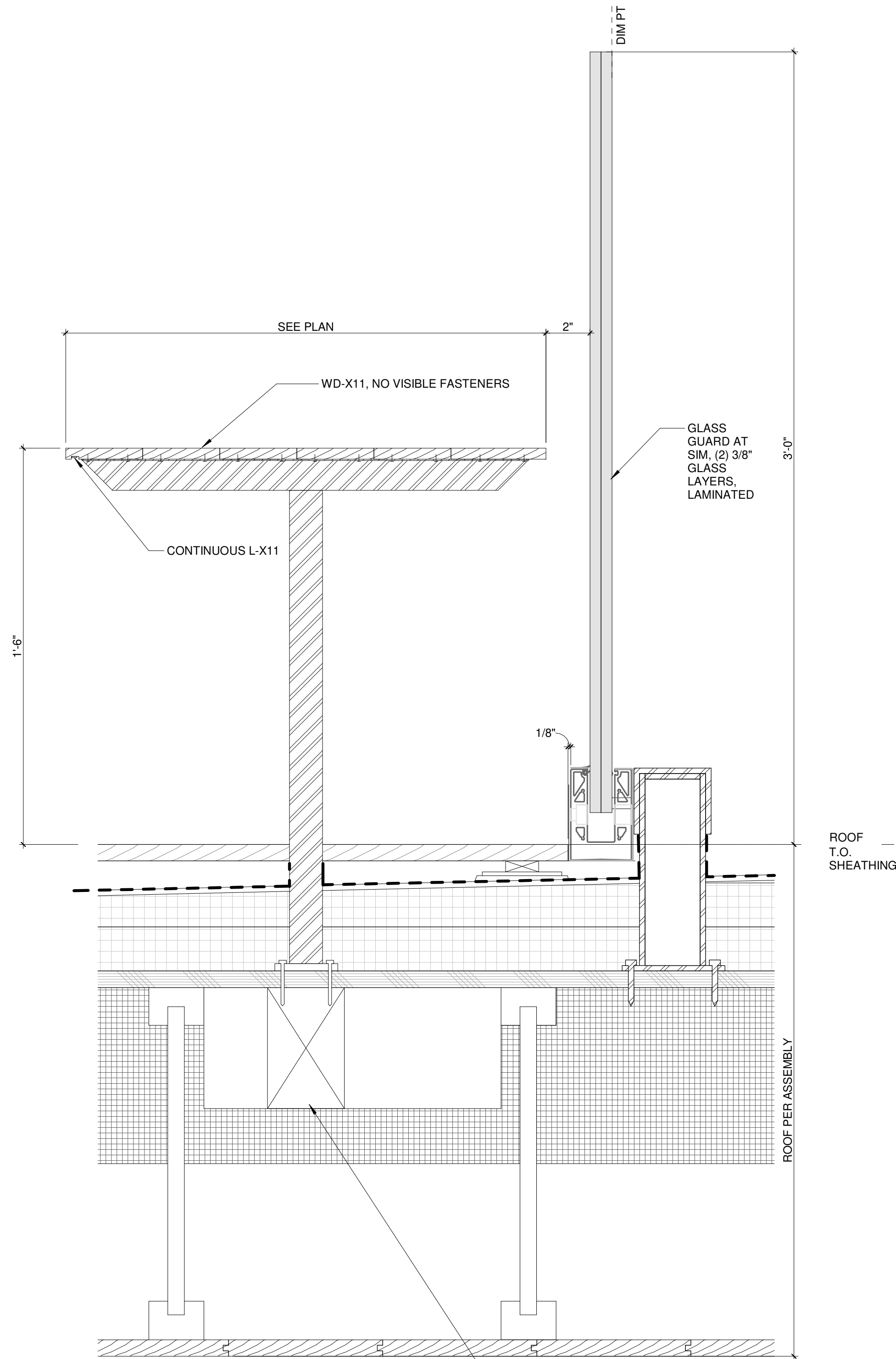
NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER



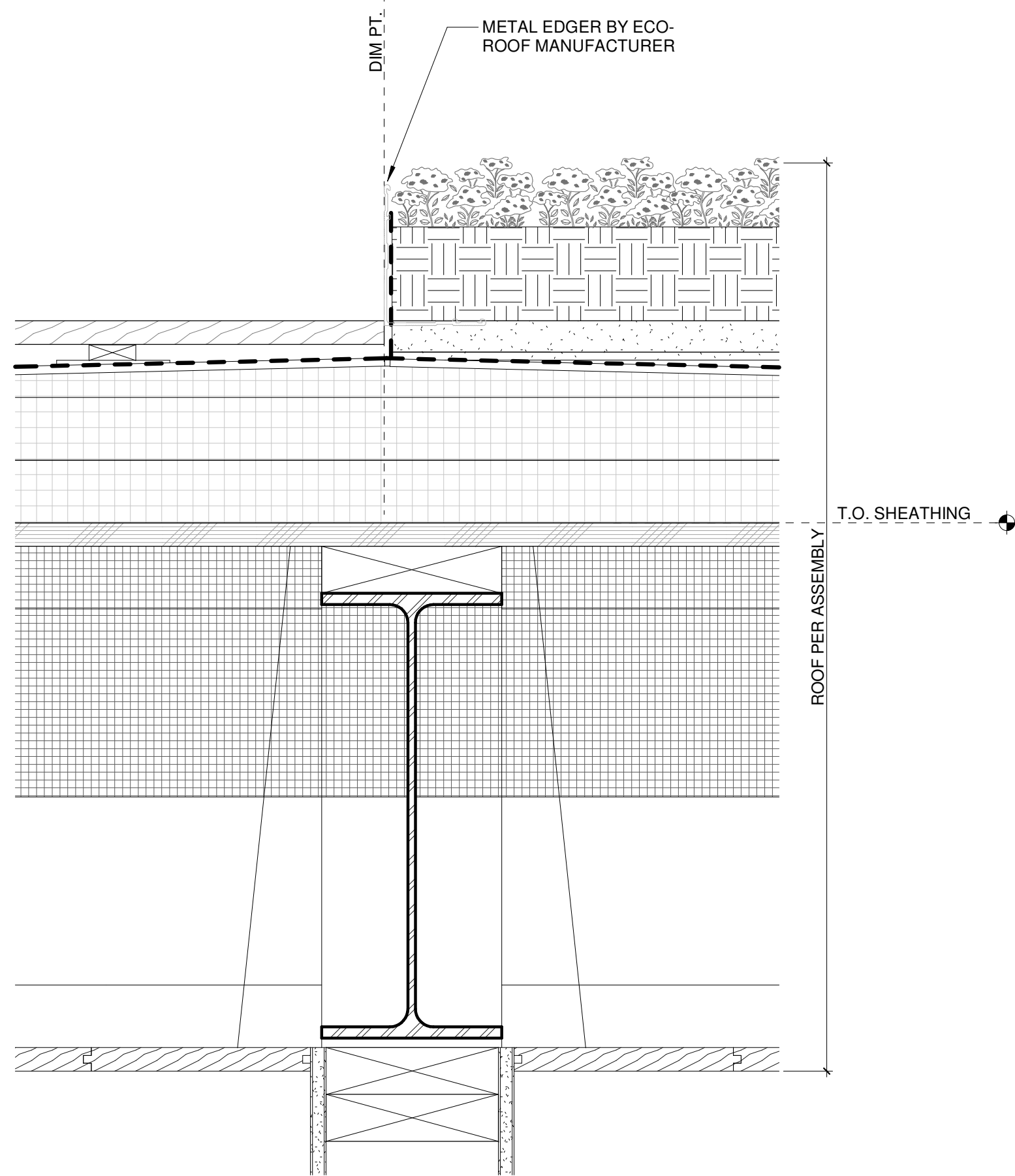
① JAMB AT ROOF HATCH
3" = 1'-0"



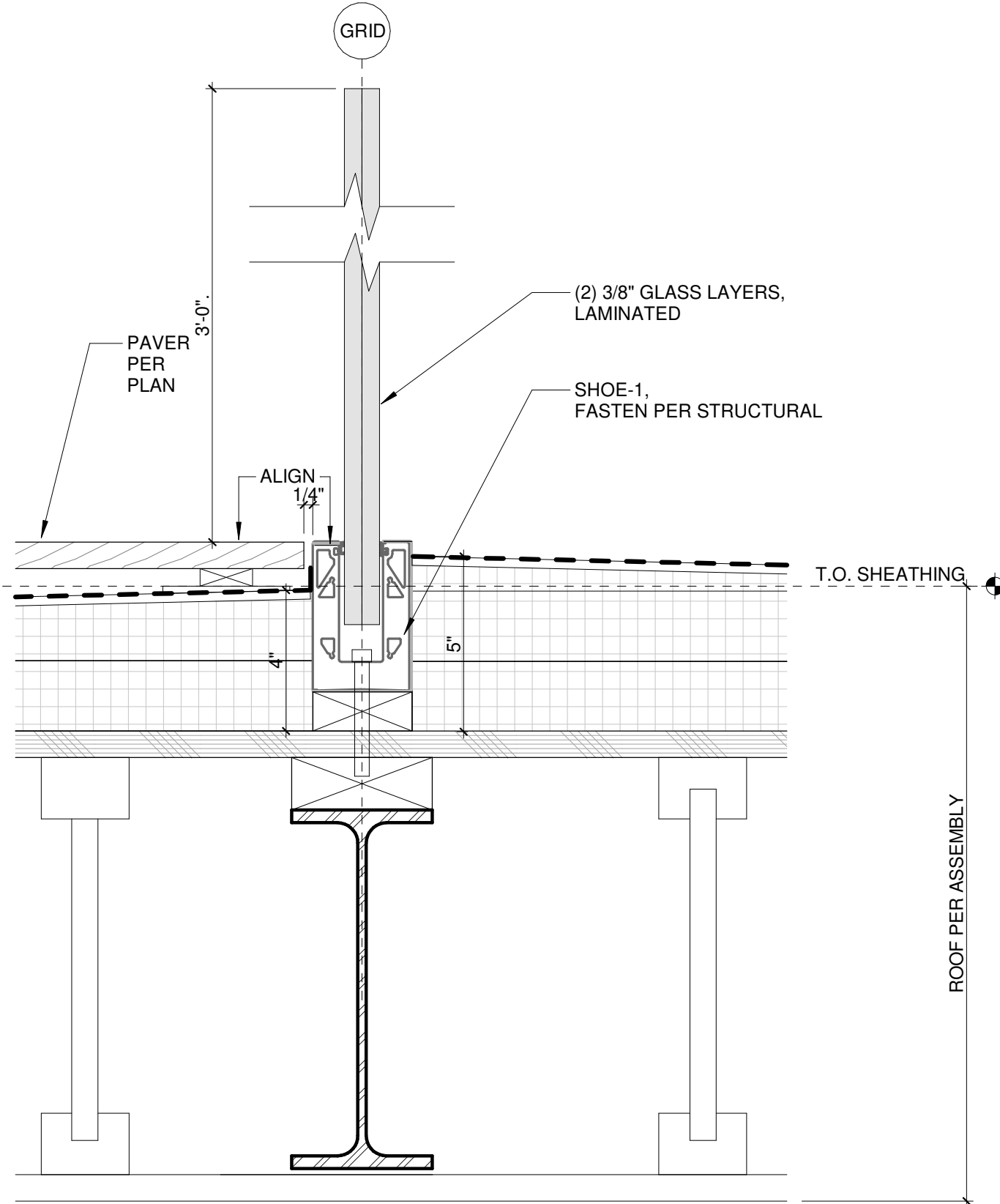
② GLASS GUARD AT ROOF
3" = 1'-0"



⑤ BENCH AT ROOF
3" = 1'-0"



③ METAL EDGER AT ECO-ROOF
3" = 1'-0"



④ GLASS GUARD - PAVER TO ROOFING
3" = 1'-0"



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

#	REVISION	DATE

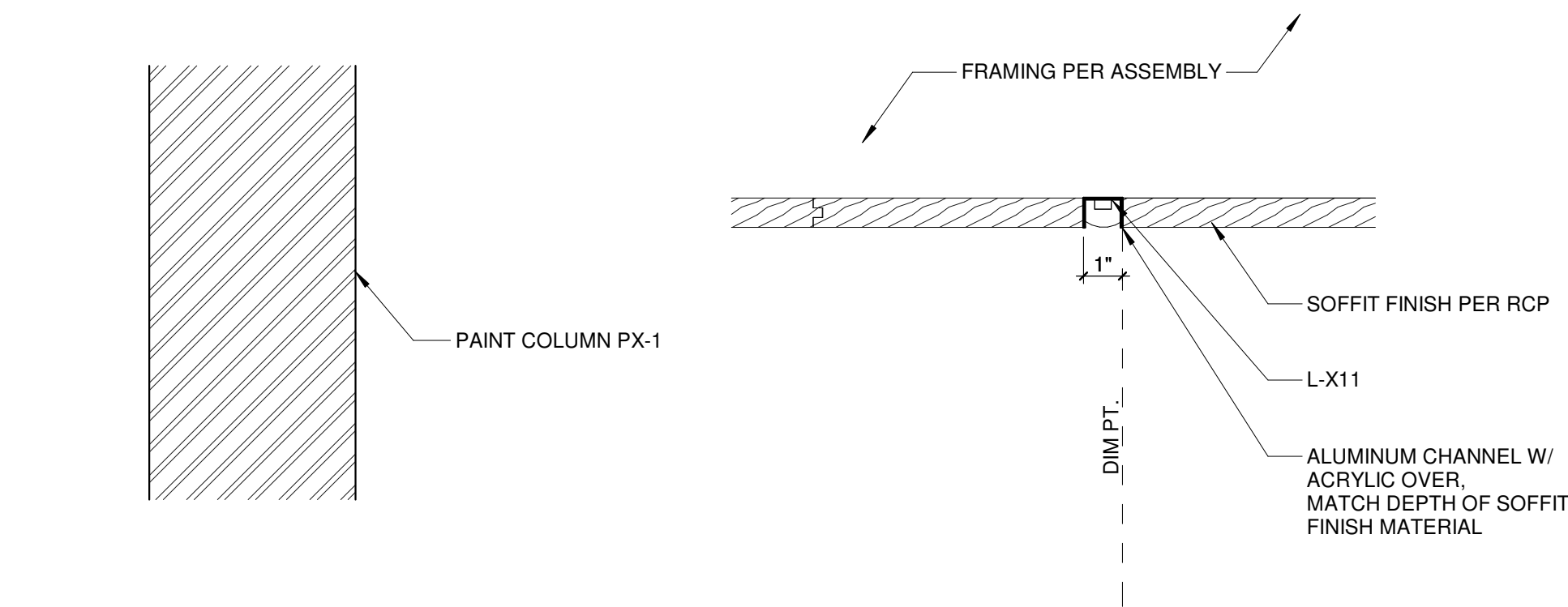


Project Number
20029
DWG EXPORTED 2/15/2021 9:53:22 AM
2/15/21

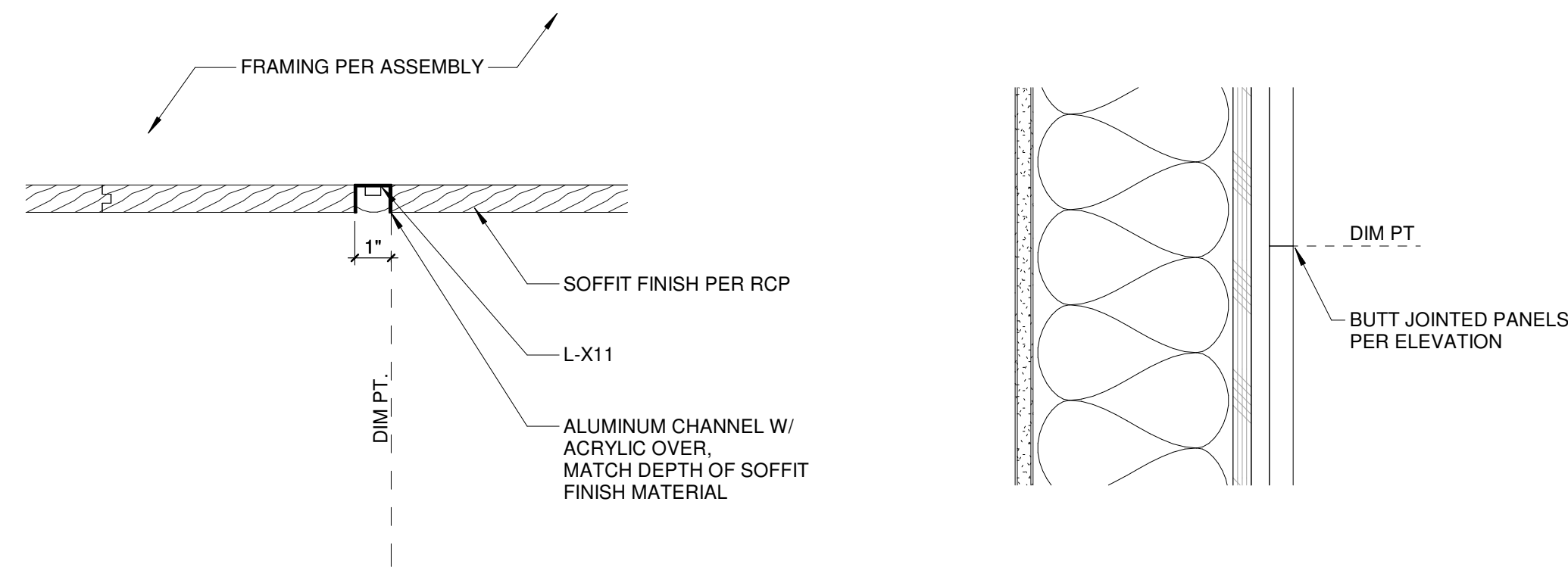
A726
EXTERIOR
DETAILS - ROOF

CD DRAFT

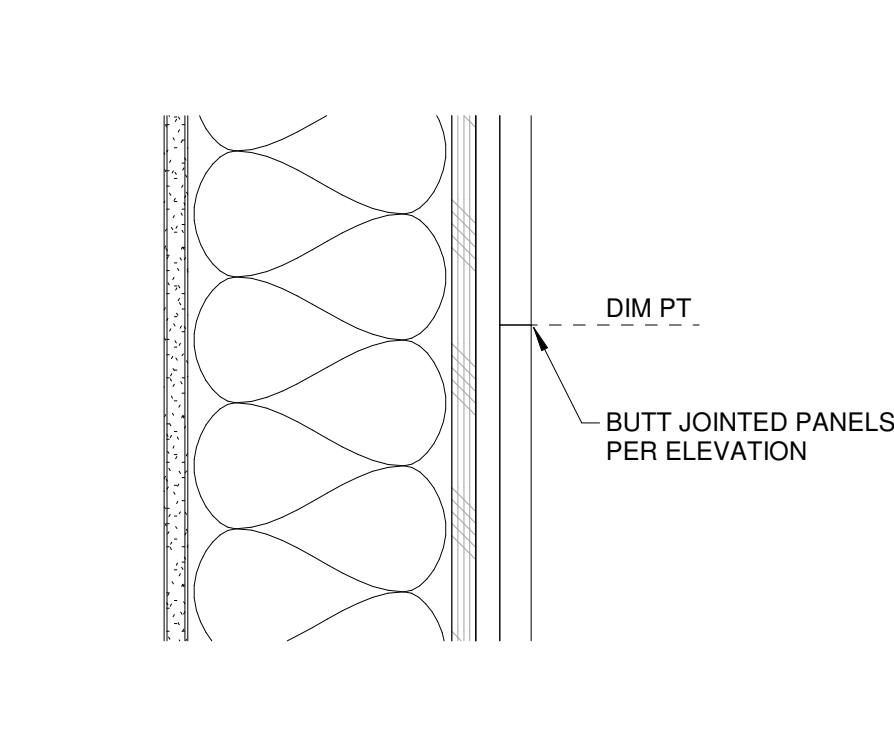
NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"X42" PAPER



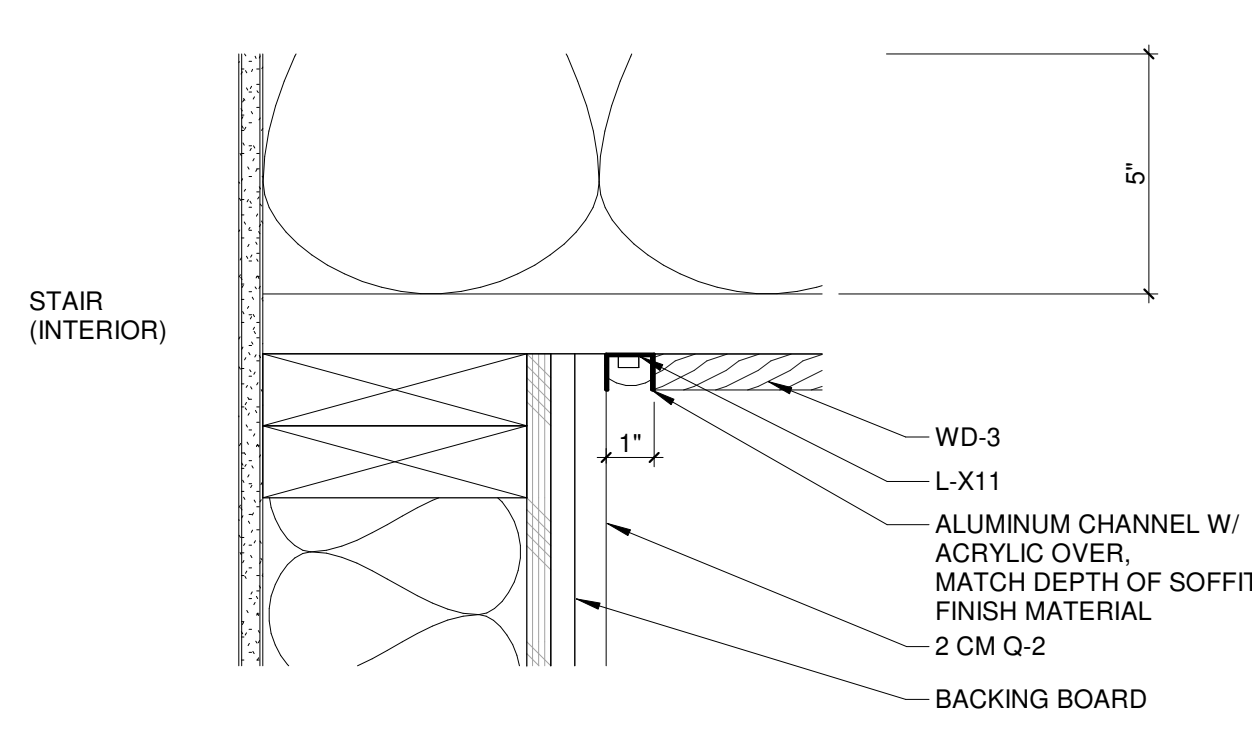
① STEEL COLUMN AT POOL
3" = 1'-0"



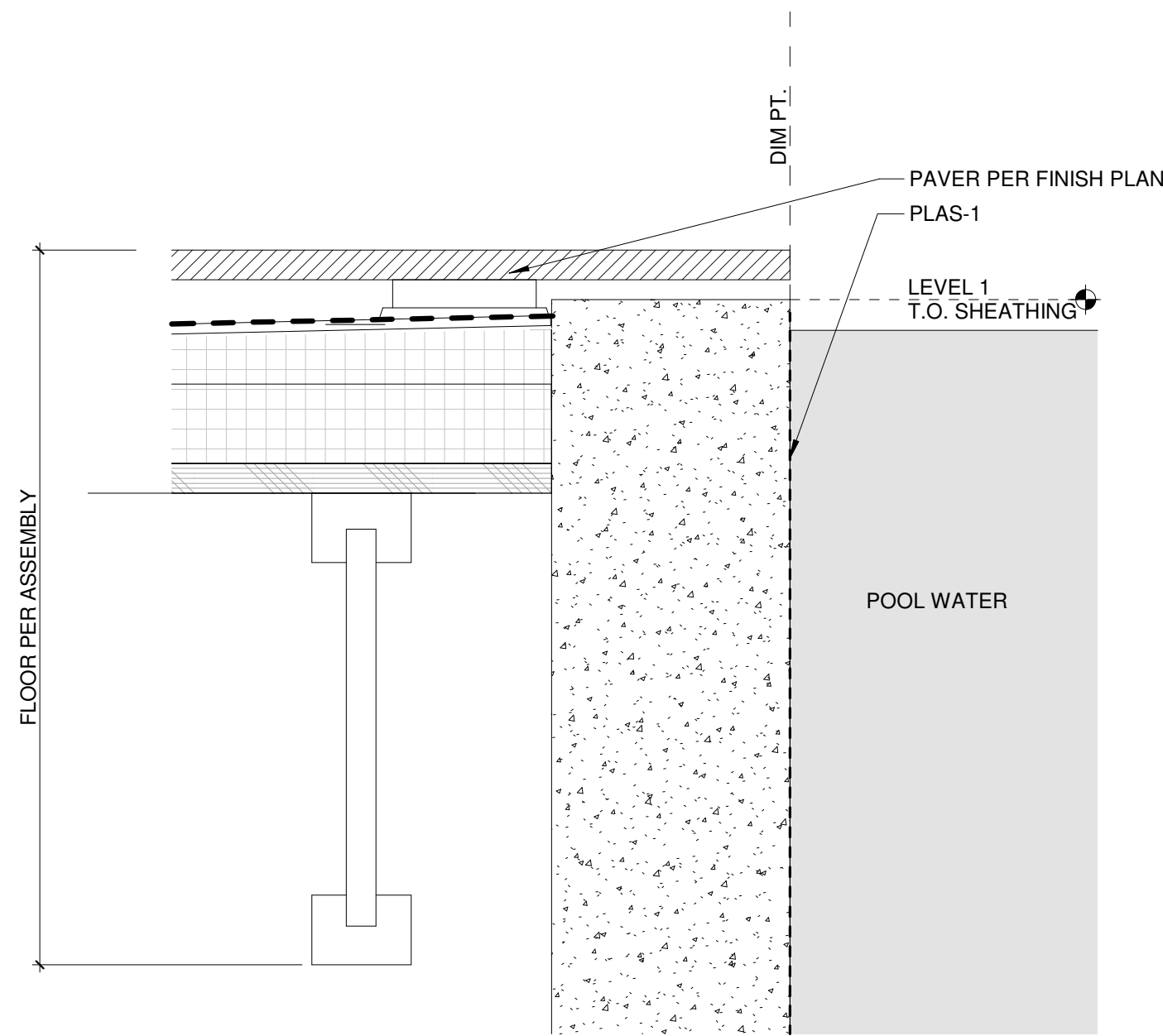
② EXTERIOR LIGHT STRIP AT SOFFIT
3" = 1'-0"



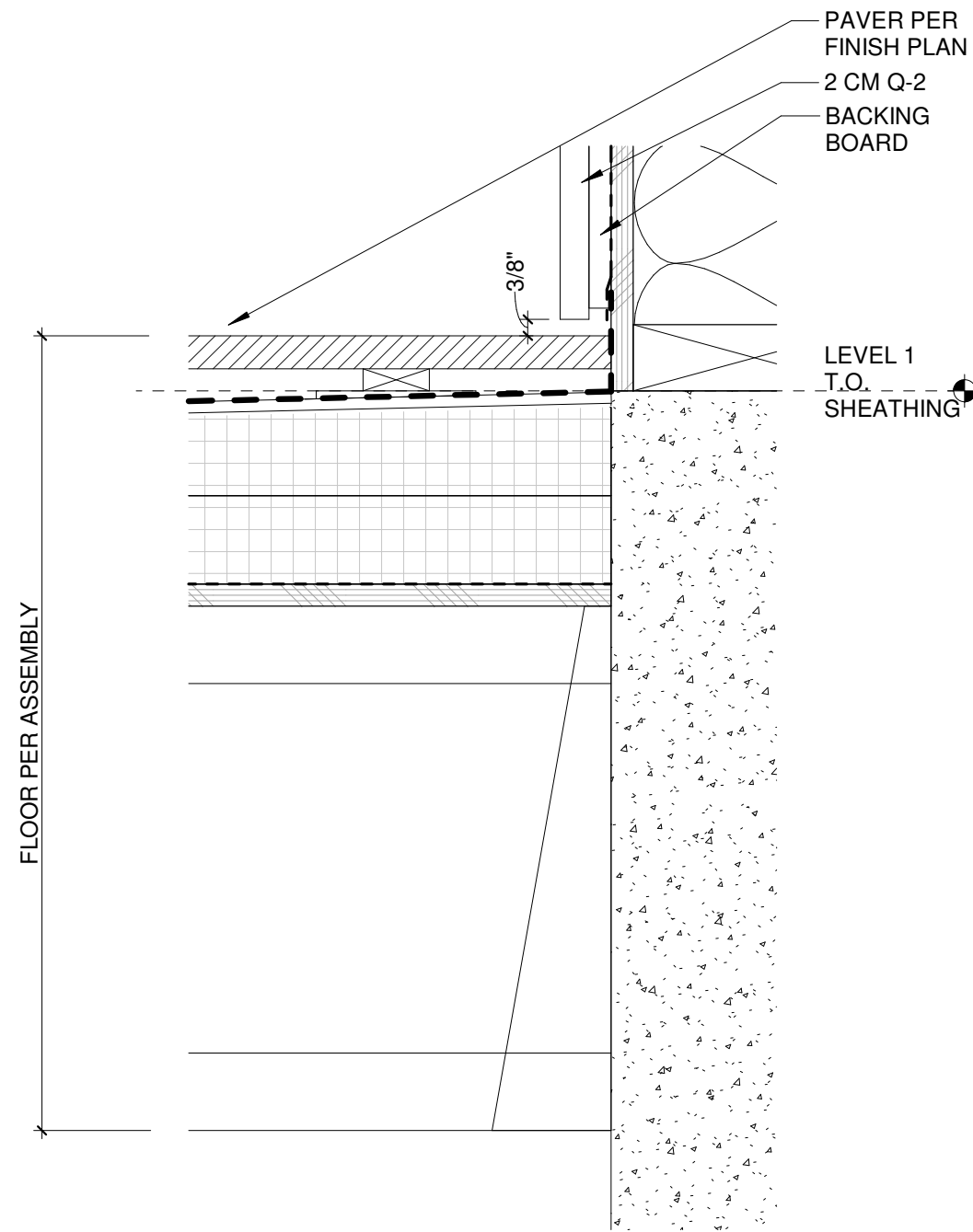
③ Q-2 JOINT
3" = 1'-0"



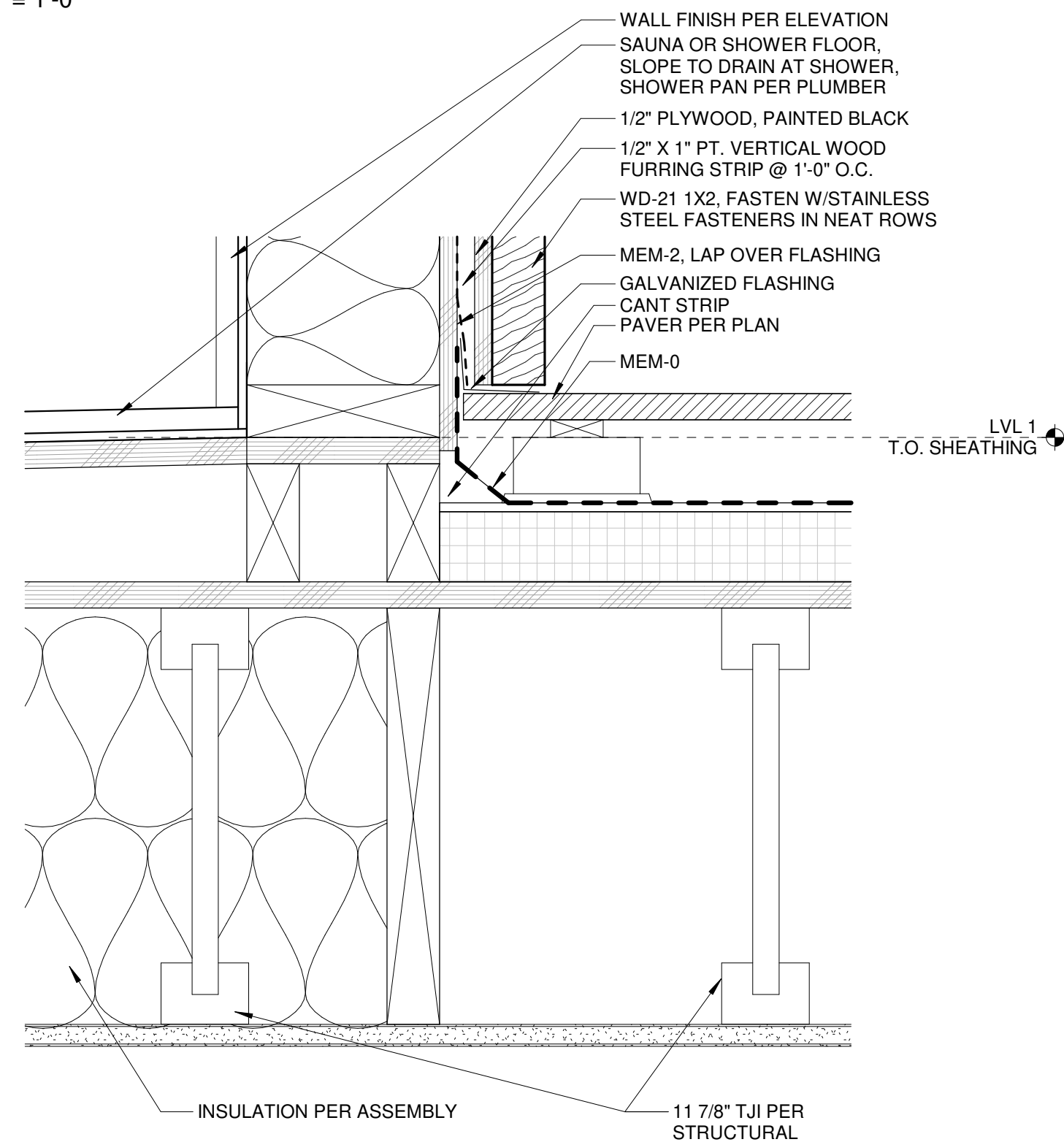
④ Q-2 WALL PANEL AND LIGHT AT POOL
3" = 1'-0"



⑤ POOL COPING
3" = 1'-0"

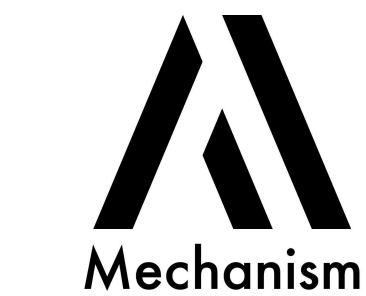


⑥ Q2 BASE AT EXTERIOR
3" = 1'-0"



⑦ LEVEL 1 TRANSITION TO SHOWER & SAUNA
3" = 1'-0"

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

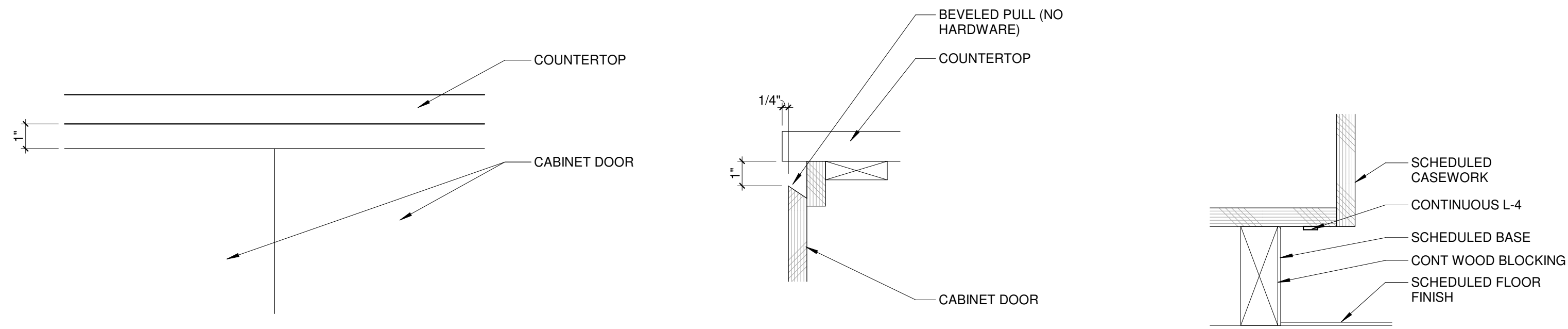
#	REVISION	DATE
---	----------	------



Project Number
20029
DWG EXPORTED 2/15/2021 9:53:23 AM
2/15/21

A730
EXTERIOR
DETAILS - MISC

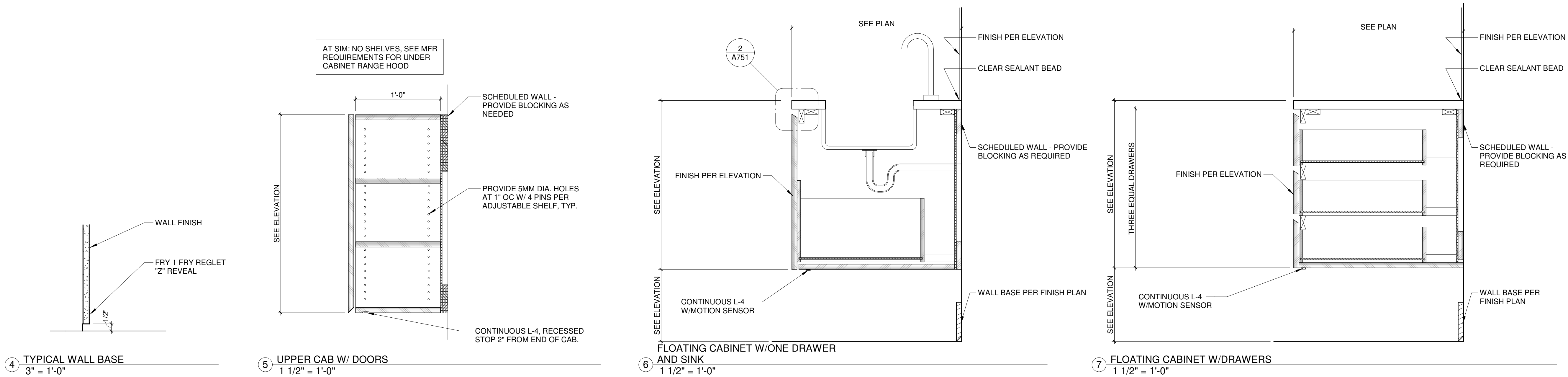
CD DRAFT



1 INTEGRAL PULL @ BASE - ELEVATION
3" = 1'-0"

2 NOSING - SECTION
3" = 1'-0"

3 CASEWORK BASE
3" = 1'-0"

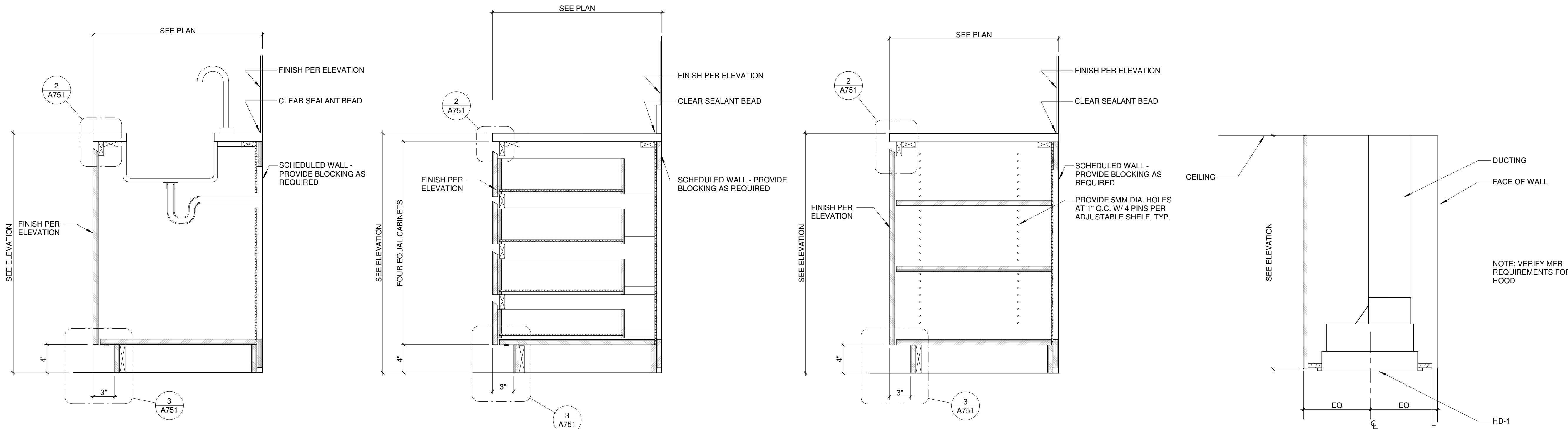


4 TYPICAL WALL BASE
3" = 1'-0"

5 UPPER CAB W/ DOORS
1 1/2" = 1'-0"

6 FLOATING CABINET W/ONE DRAWER AND SINK
1 1/2" = 1'-0"

7 FLOATING CABINET W/DRAWERS
1 1/2" = 1'-0"

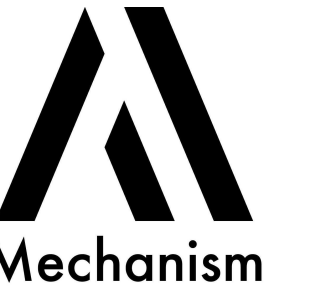


8 BASE CABINET W/SINK
1 1/2" = 1'-0"

9 BASE CABINET W/ DRAWERS
1 1/2" = 1'-0"

10 BASE CABINET W/DOOR
1 1/2" = 1'-0"

11 CONCEALED HOOD
1 1/2" = 1'-0"



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER

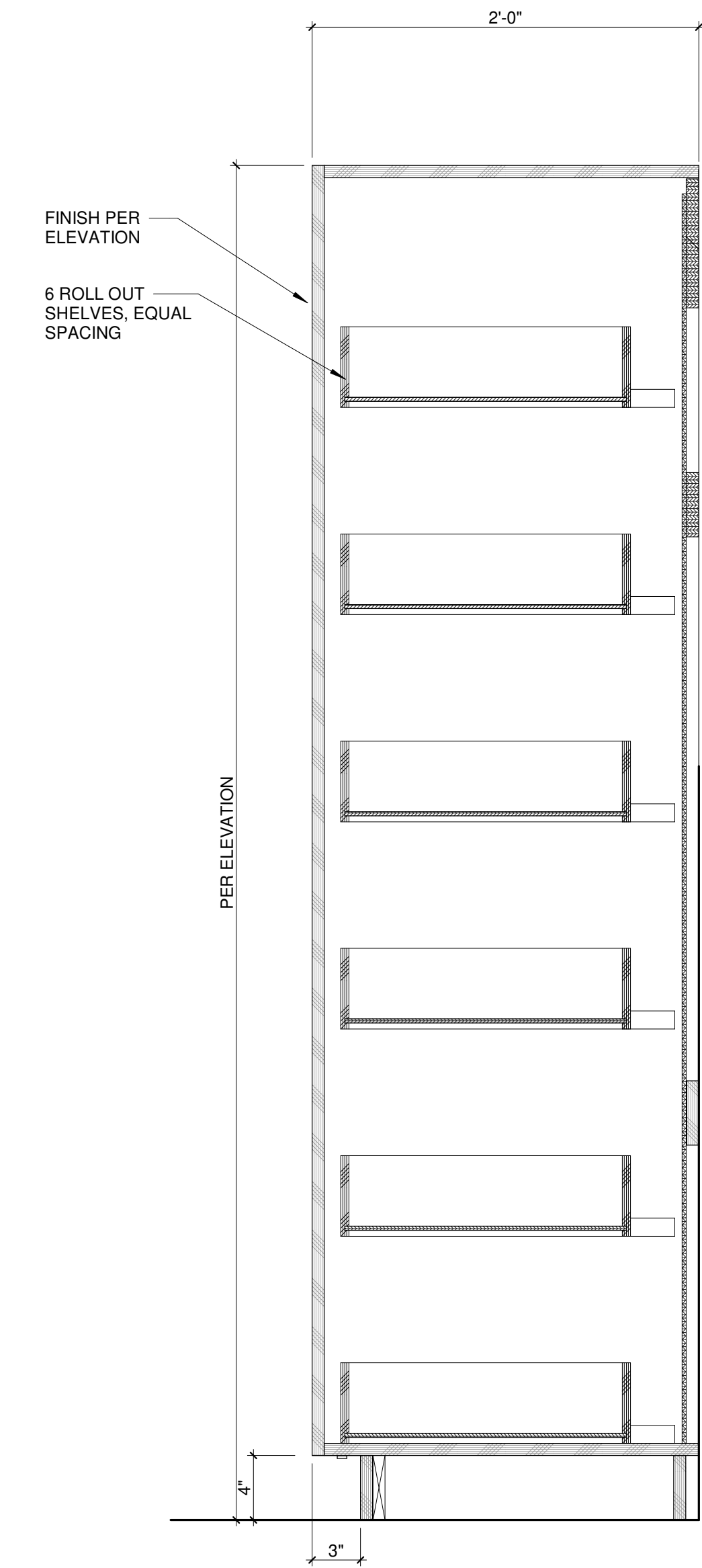
#	REVISION	DATE
---	----------	------



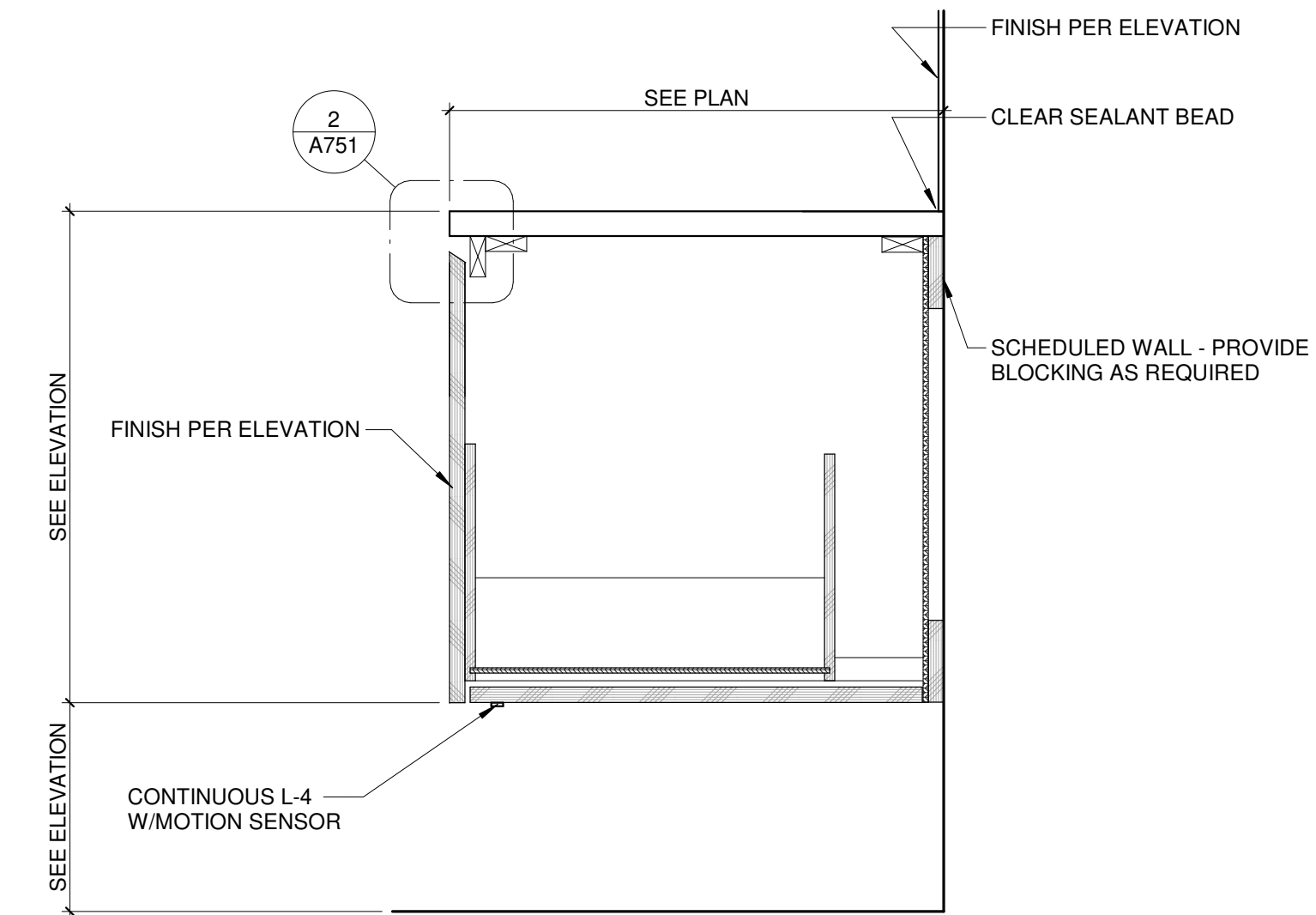
Project Number
20029
DWG EXPORTED 2/15/2021 9:53:24 AM
2/15/21

A751
INTERIOR
DETAILS -
CASEWORK

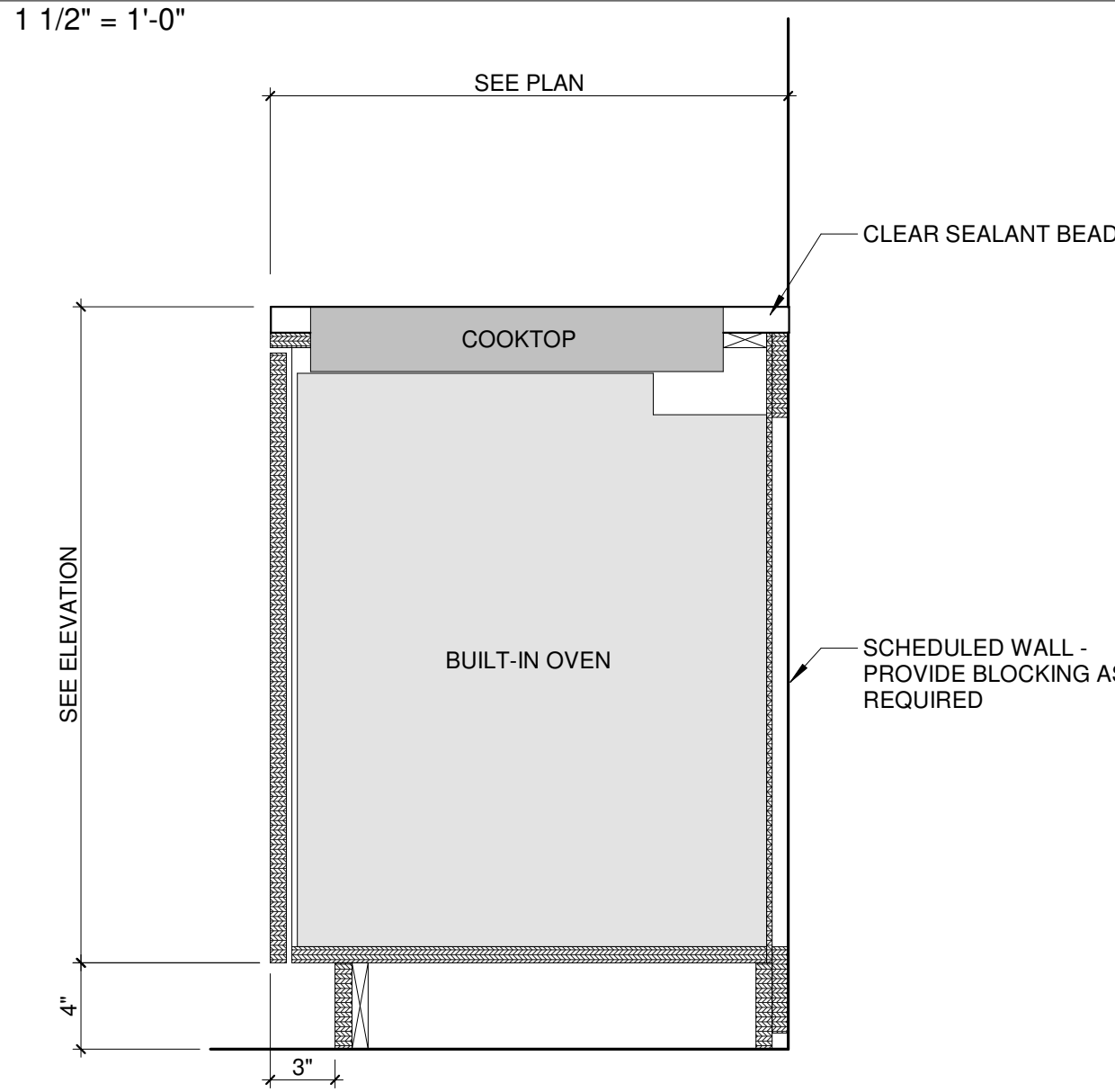
CD DRAFT



① CABINET FULL HEIGHT W/ DRAWERS
1 1/2" = 1'-0"



② FLOATING CABINET W/ONE DRAWER
1 1/2" = 1'-0"



③ ELECTRIC COOK TOP AND BUILT IN OVEN
1 1/2" = 1'-0"

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

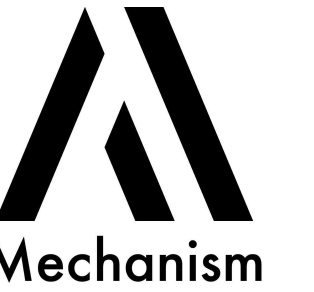
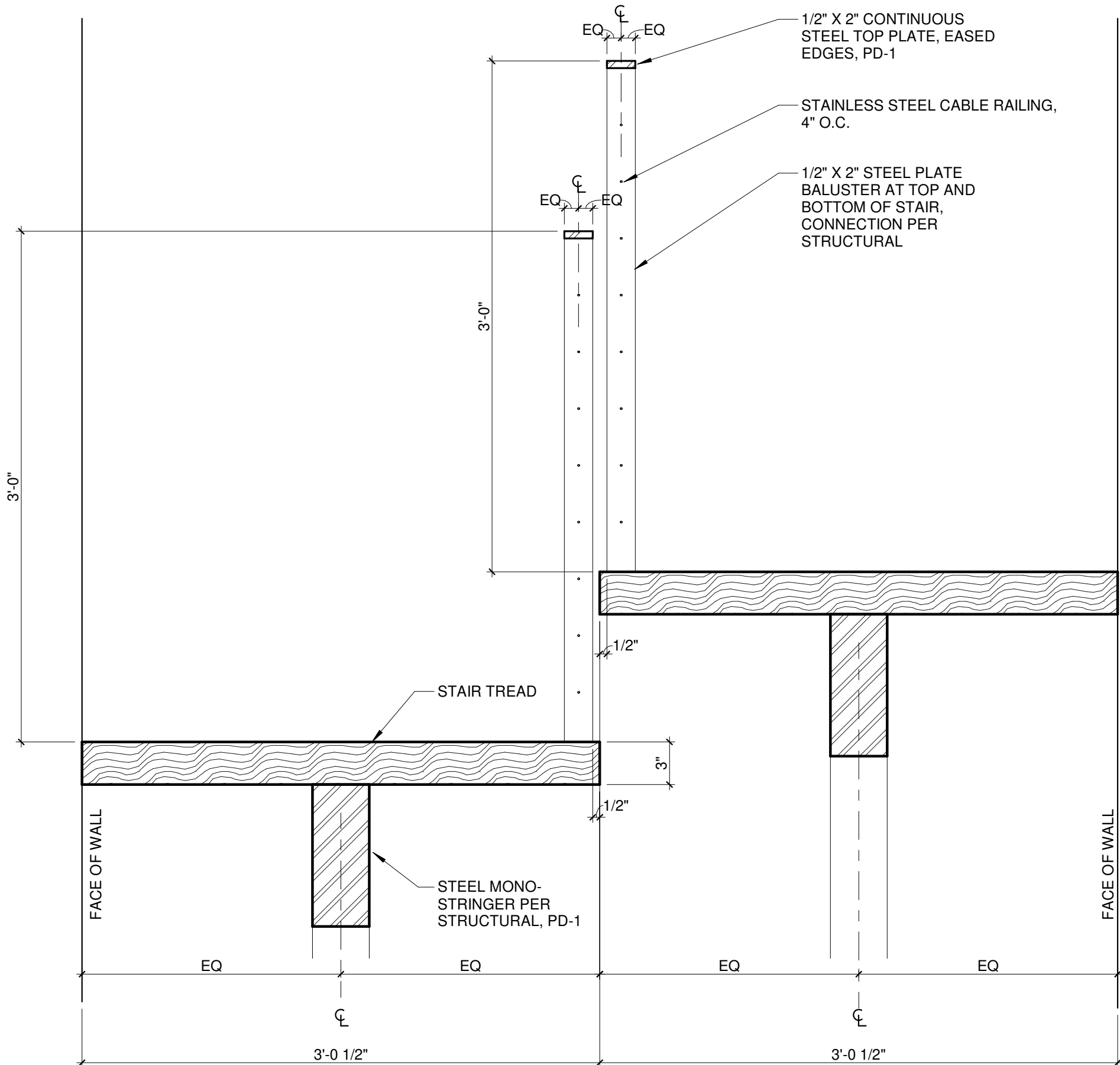
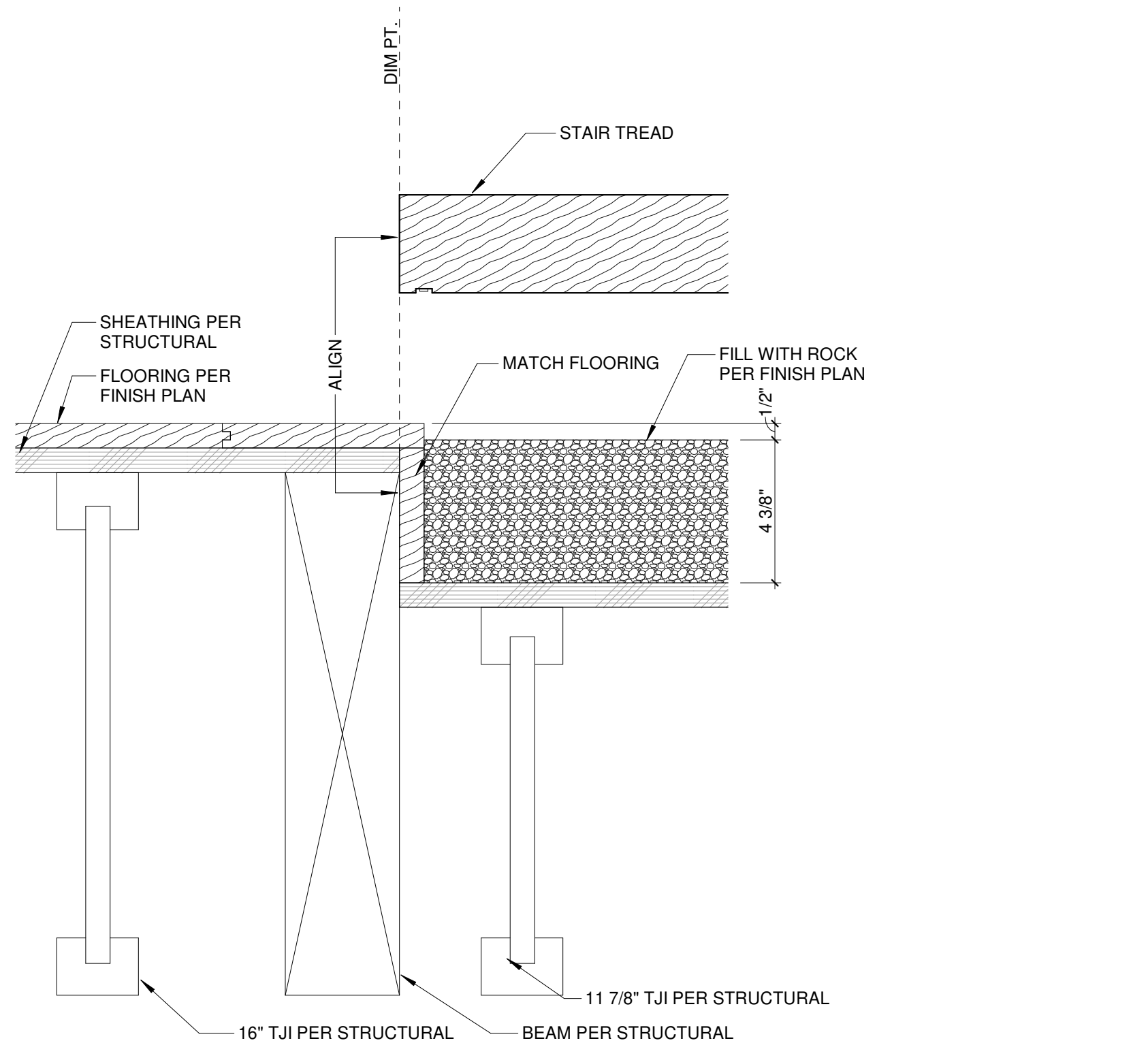
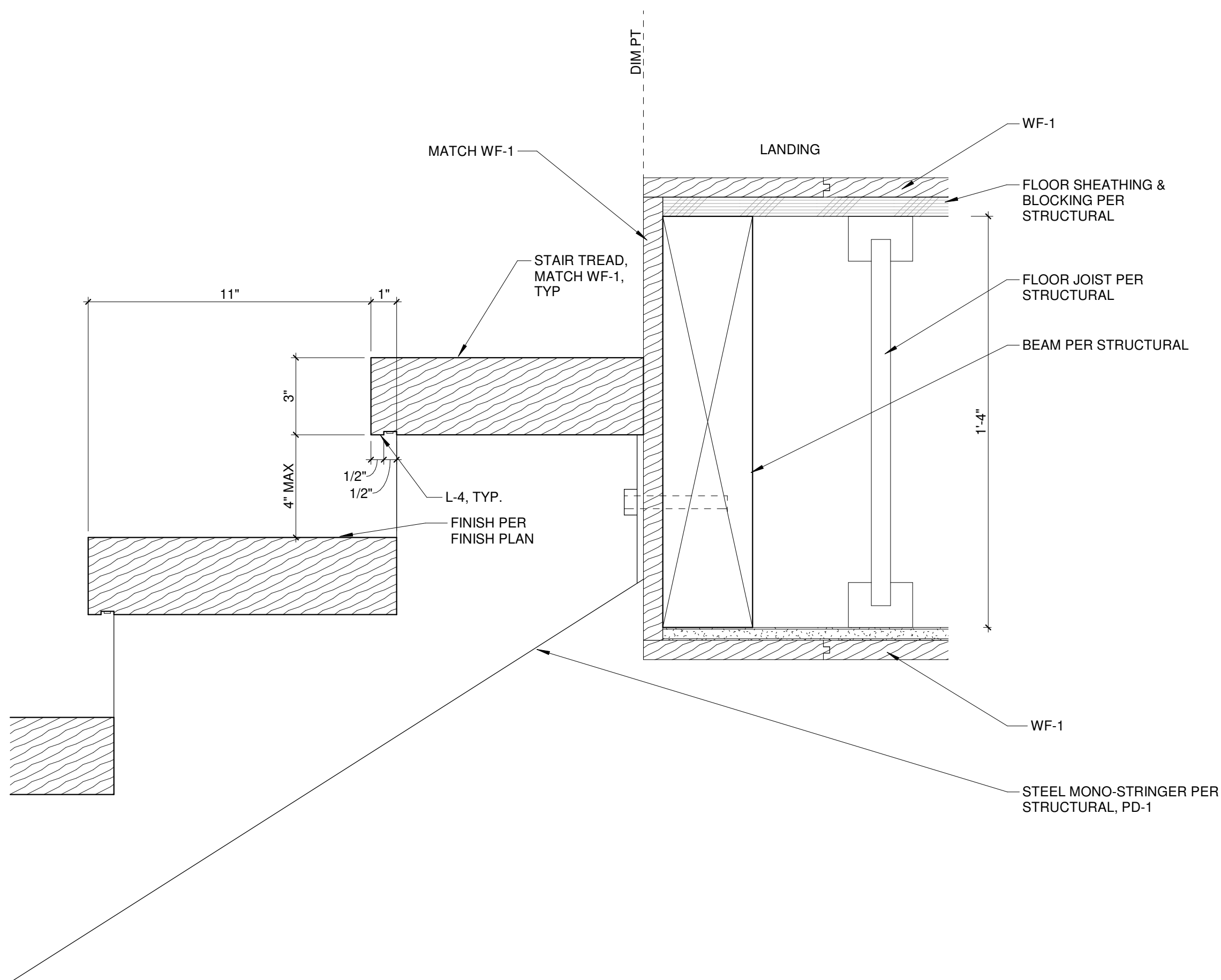
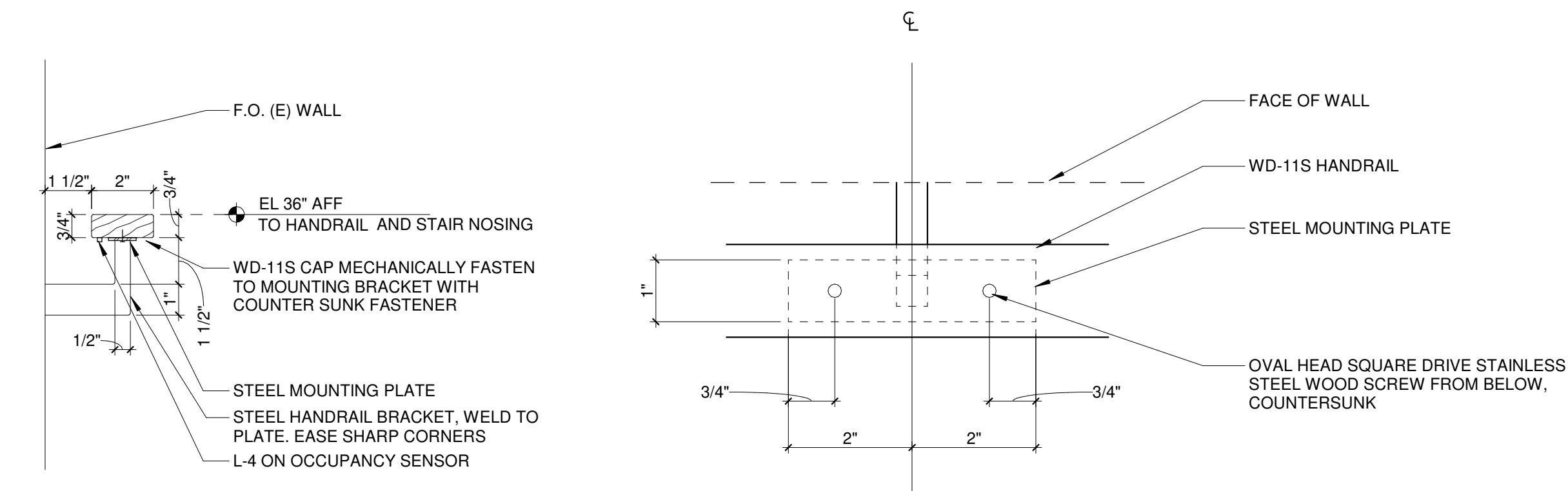
#	REVISION	DATE
---	----------	------



Project Number
20029
DWG EXPORTED 2/15/2021 9:53:25 AM
2/15/21

A752
INTERIOR
DETAILS -
CASEWORK

CD DRAFT



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

#	REVISION	DATE
---	----------	------

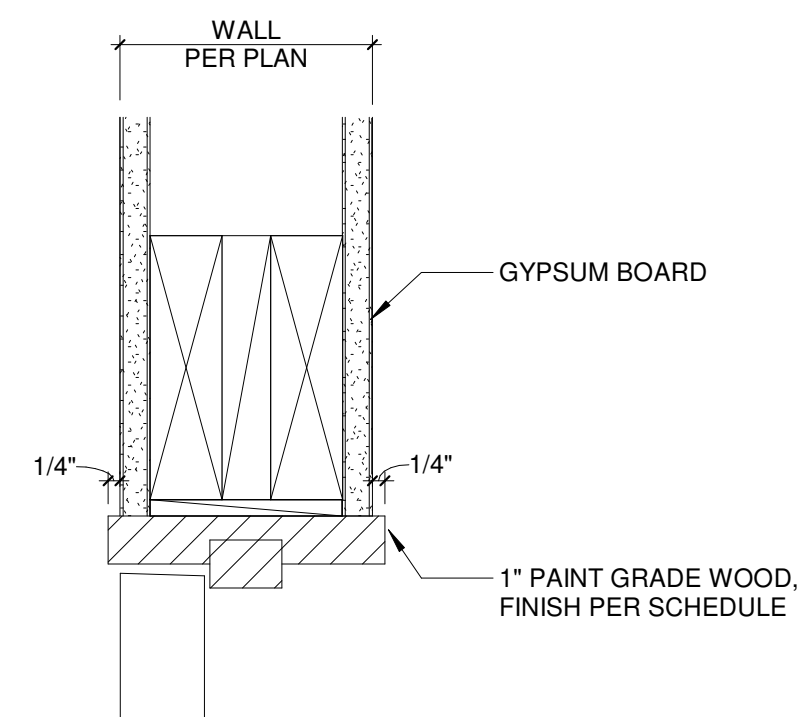


Project Number
20029
DWG EXPORTED 2/15/2021 9:53:25 AM
2/15/21

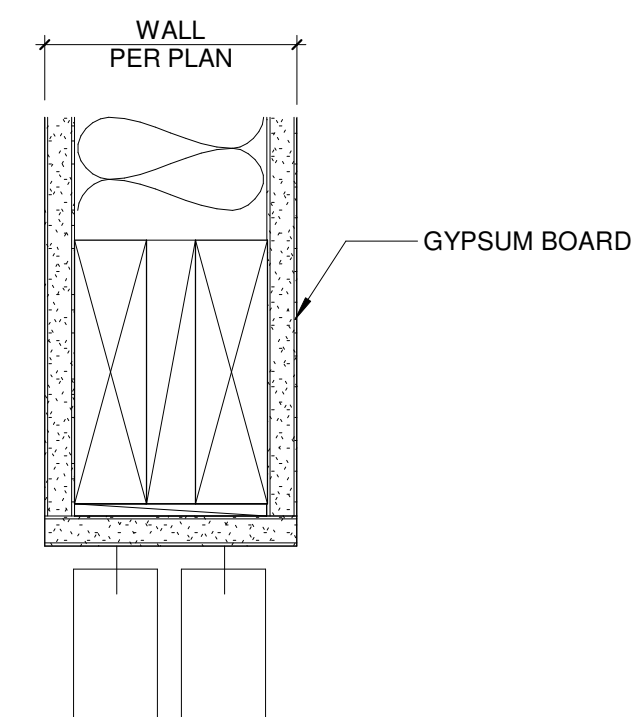
A753
INTERIOR
DETAILS - STAIR &
HANDRAIL

CD DRAFT

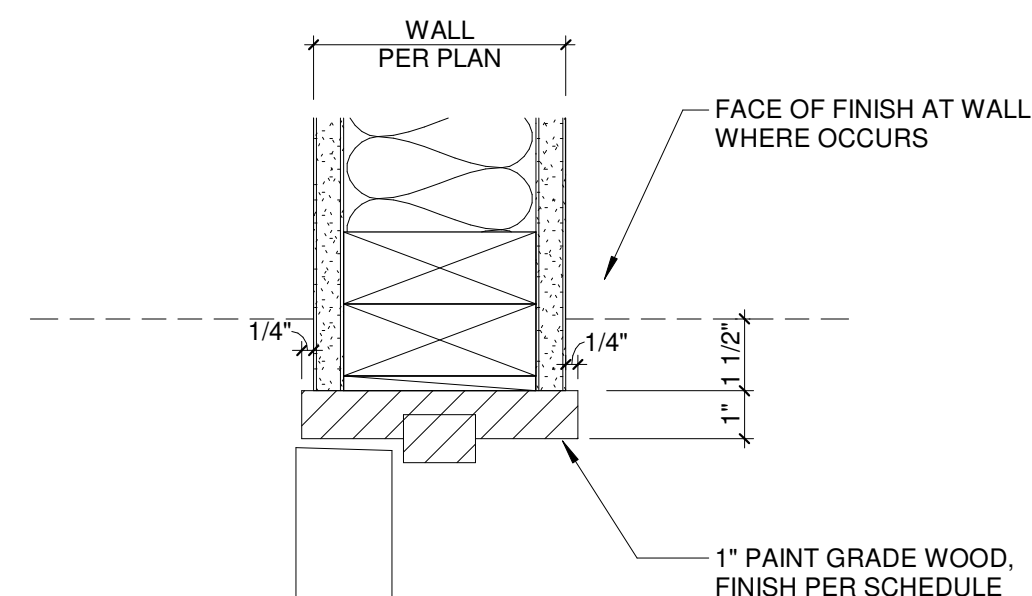
NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER



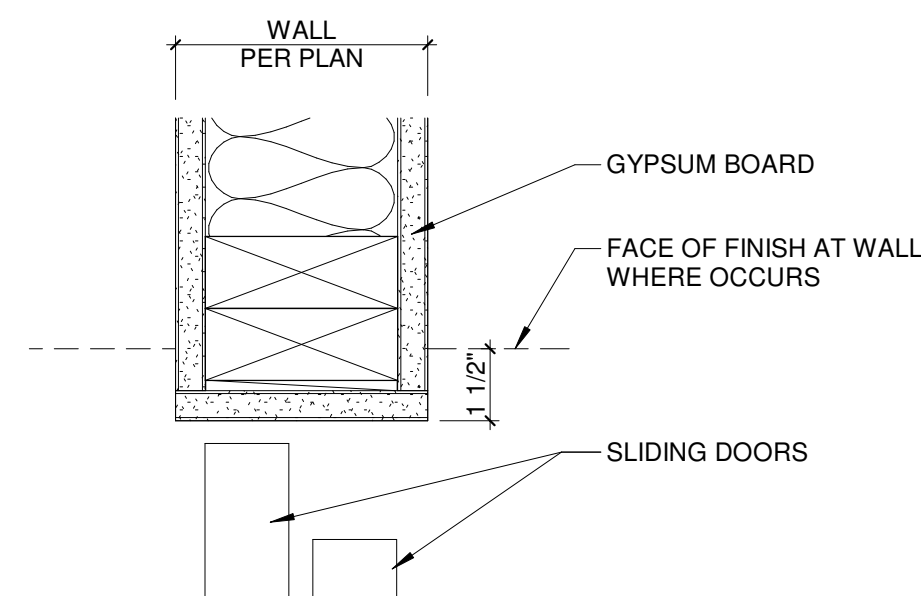
① WOOD DOOR FRAME - HEAD
3" = 1'-0"



3 SLIDING DOOR HEAD (POCKET DOOR SIM)
3" = 1'-0"



② WOOD DOOR FRAME - JAMB
3" = 1'-0"



4 SLIDING DOOR JAMB (POCKET DOOR SIM)
3" = 1'-0"

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"X22" PAPER

UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

#	REVISION	DATE
---	----------	------

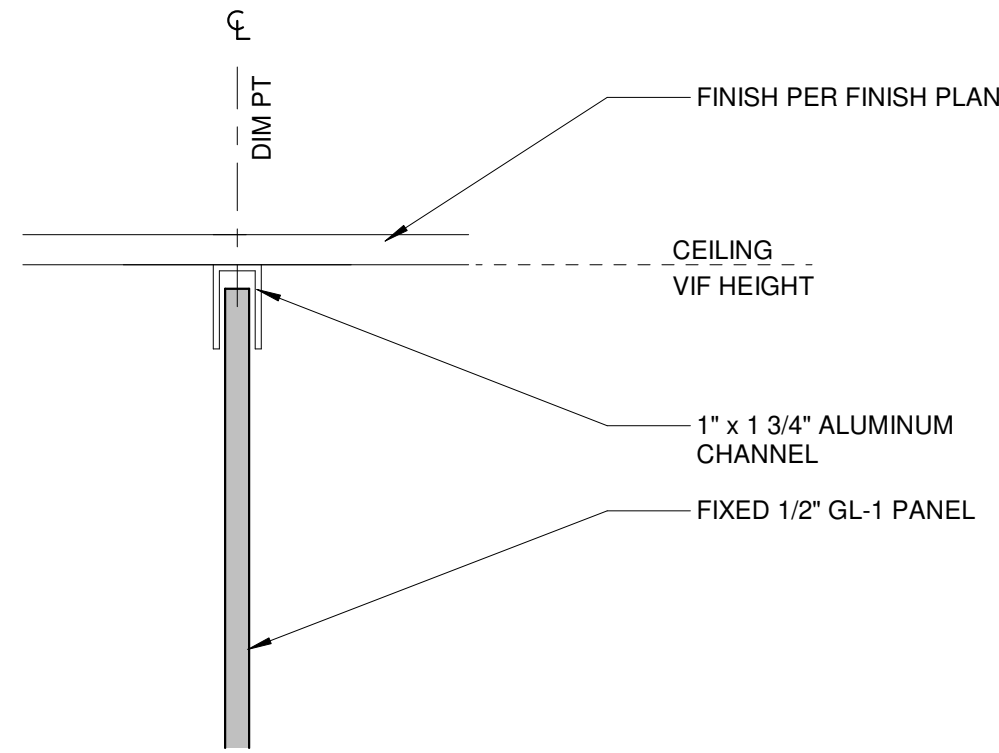


Project Number
20029
DWG EXPORTED 2/15/2021 9:53:26 AM
2/15/21

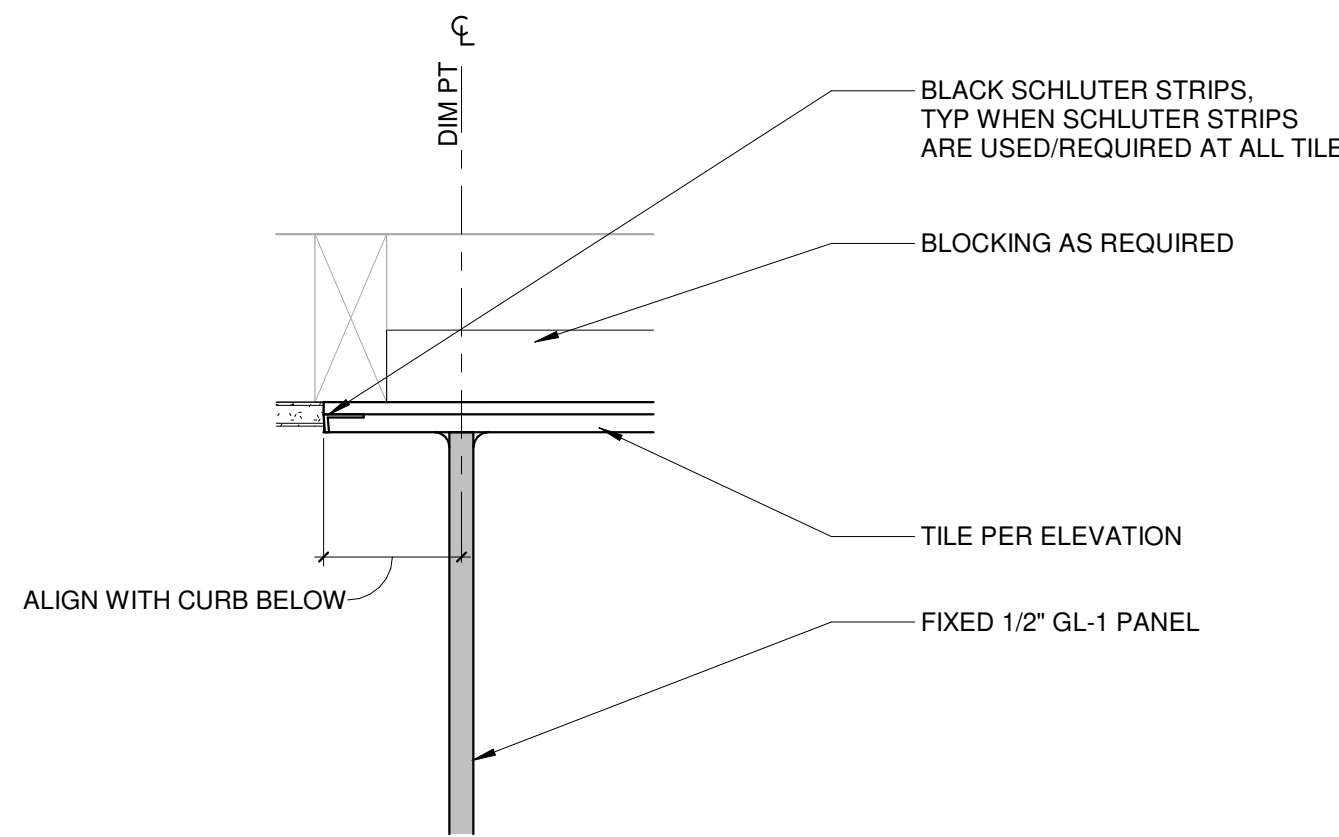
A754

INTERIOR
DETAILS - DOORS

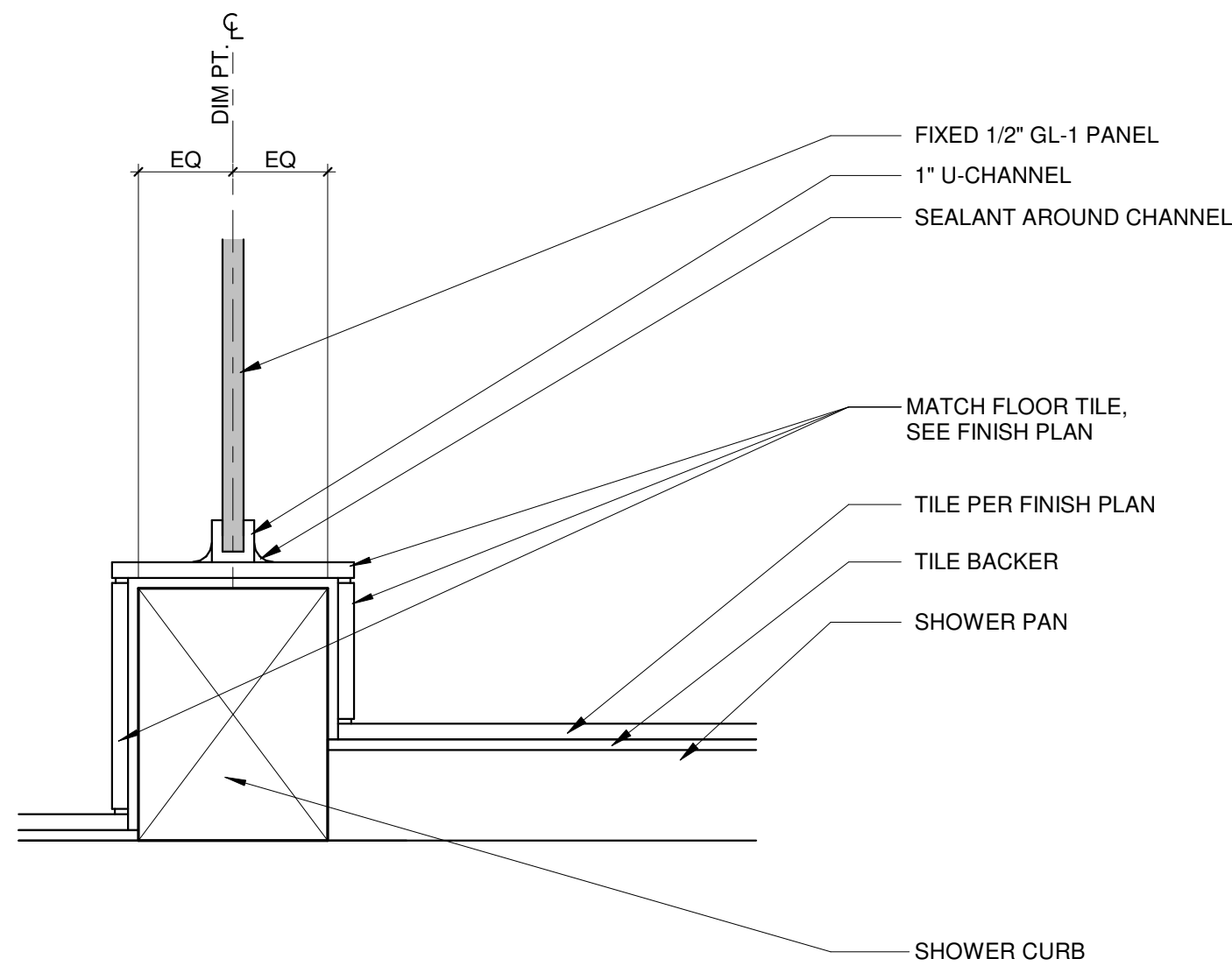
CD DRAFT



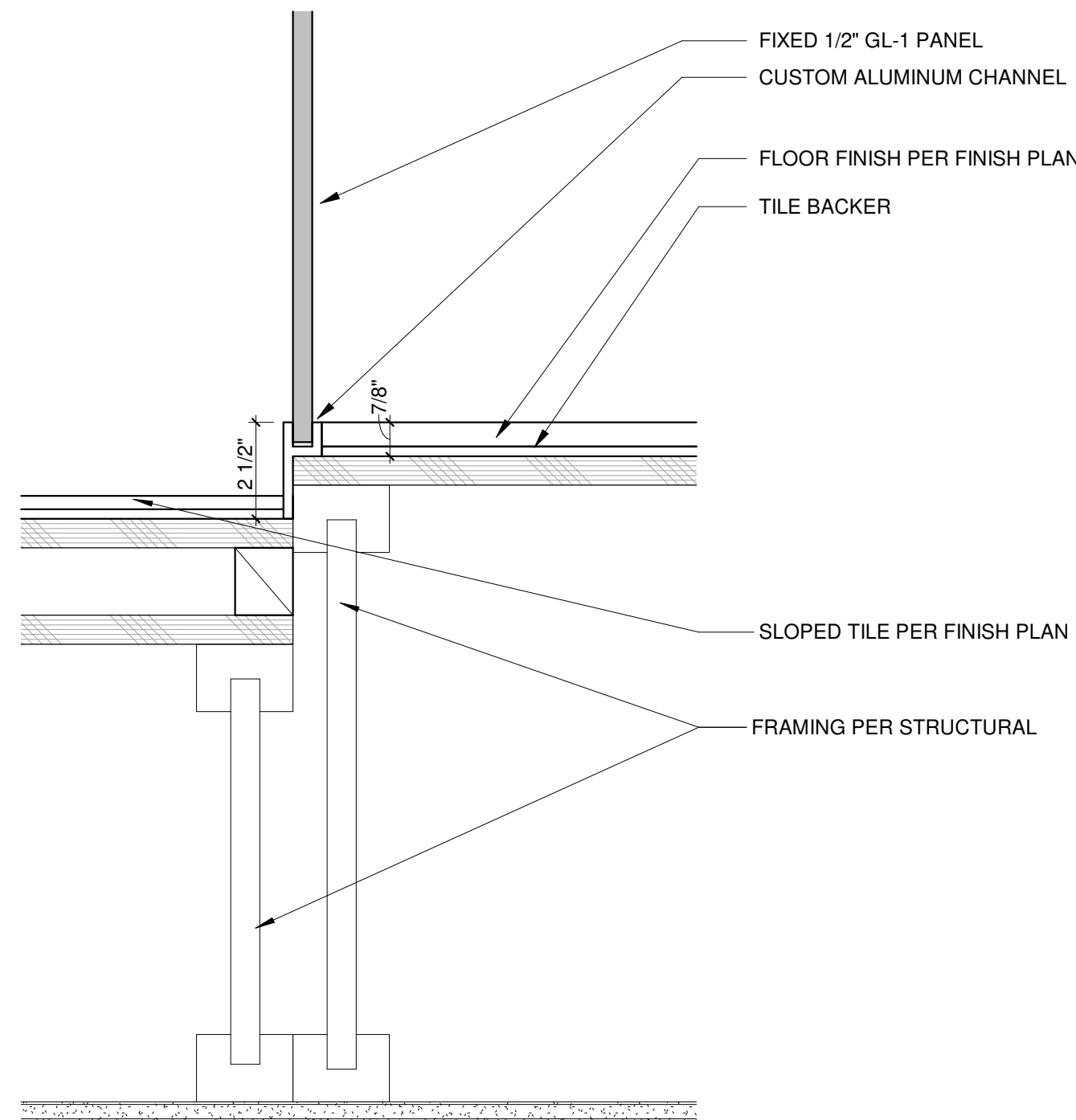
① HEAD AT GLASS
3" = 1'-0"



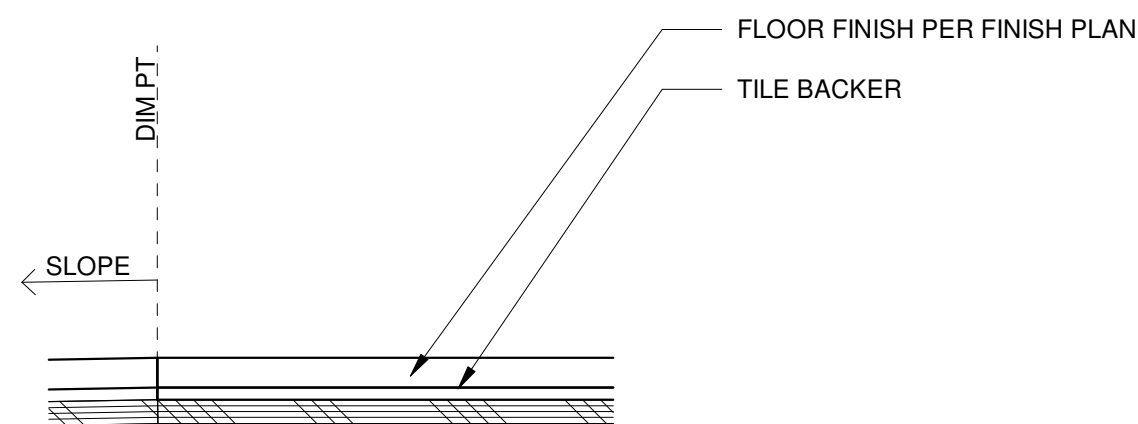
② JAMB AT GLASS
3" = 1'-0"



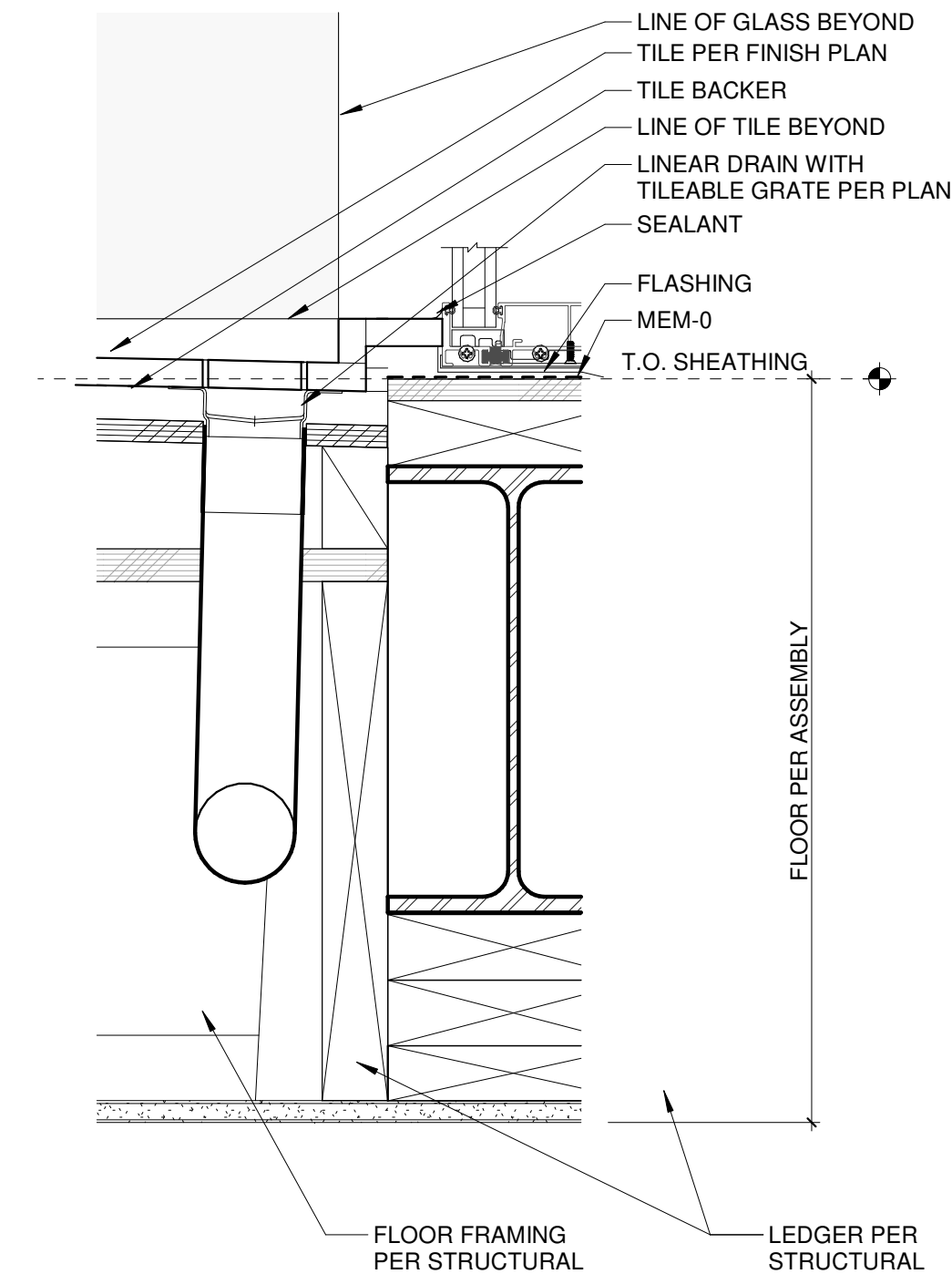
③ SHOWER CURB/GLASS SILL
3" = 1'-0"



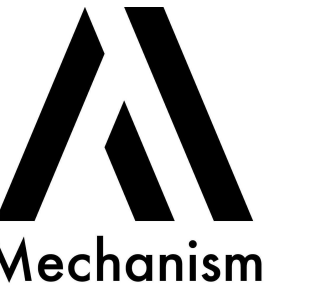
④ BASE OF GLASS AT MASTER SHOWER
3" = 1'-0"



⑤ TRANSITION AT MASTER SHOWER
3" = 1'-0"



⑥ LINEAR DRAIN AT MASTER SHOWER
3" = 1'-0"



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

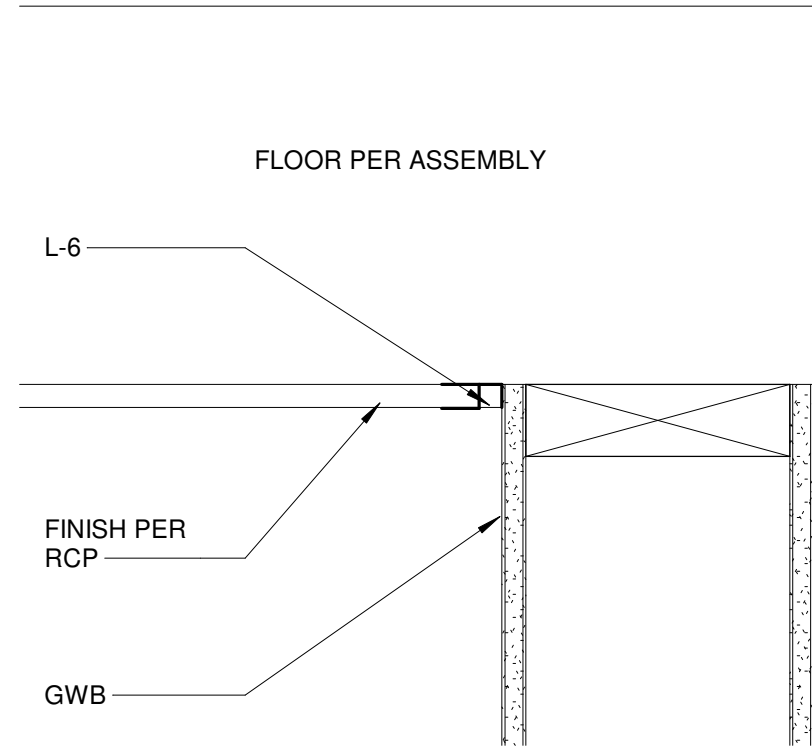
#	REVISION	DATE
---	----------	------



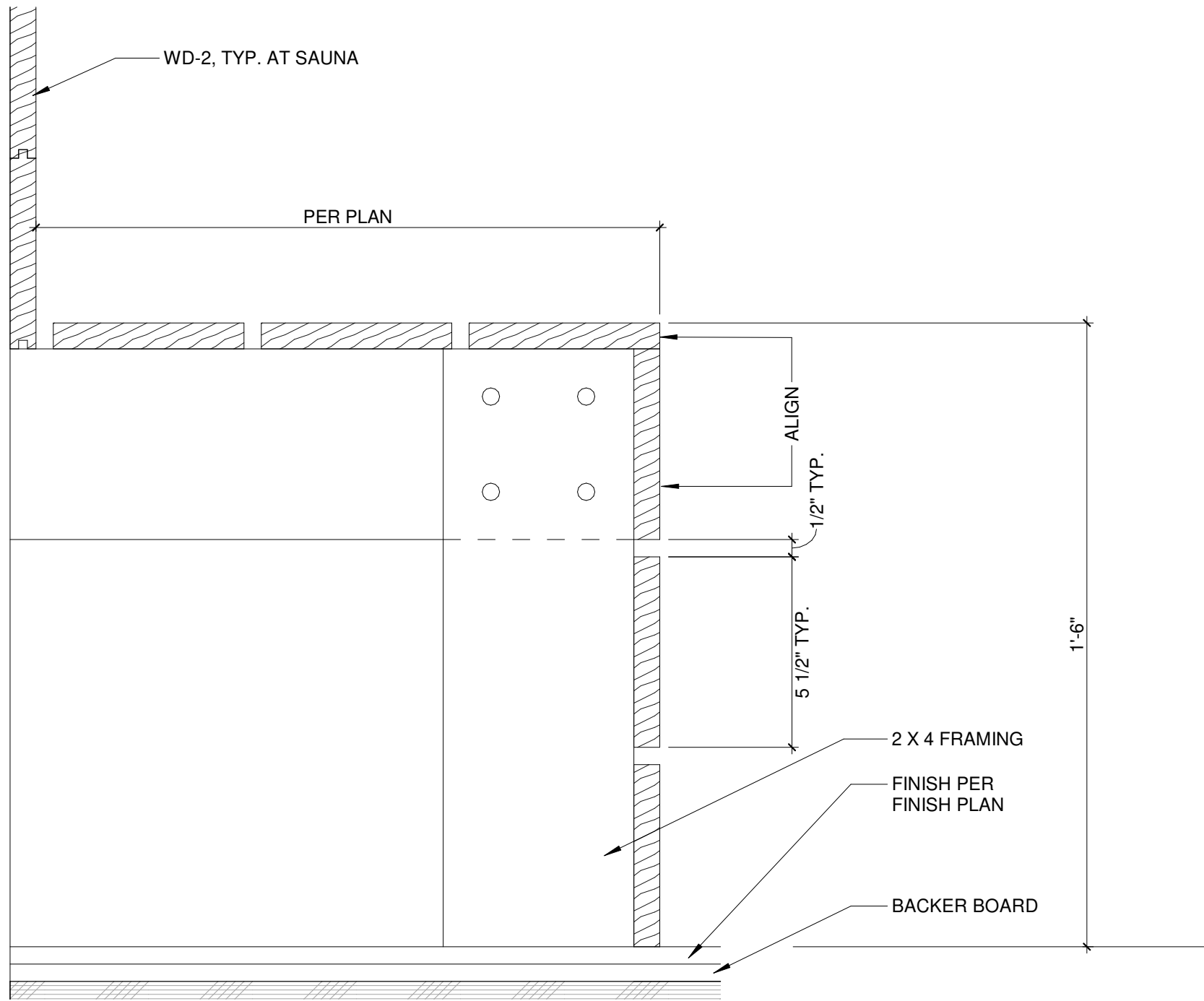
Project Number
20029
DWG EXPORTED 2/15/2021 9:53:26 AM
2/15/21

A755
INTERIOR
DETAILS - GLASS

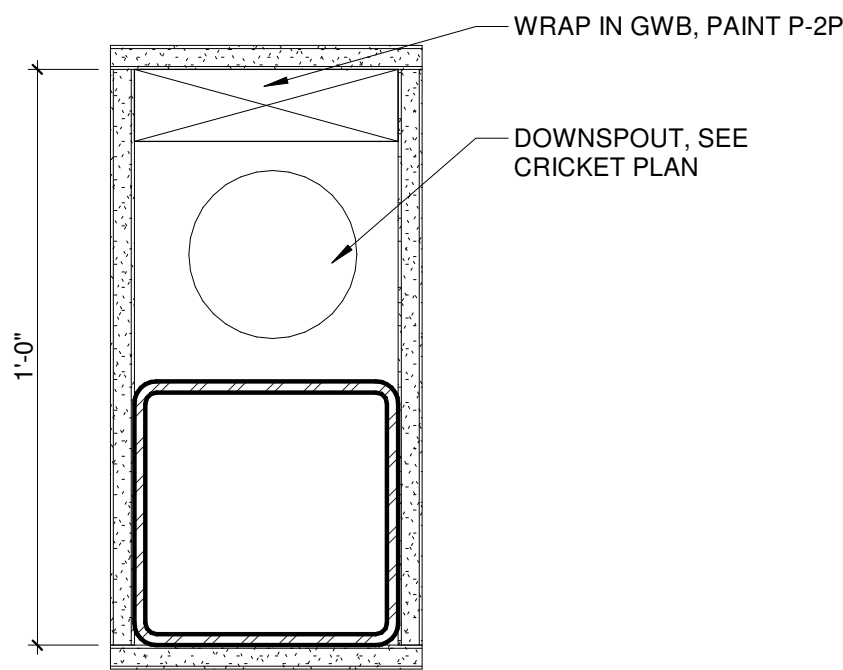
CD DRAFT



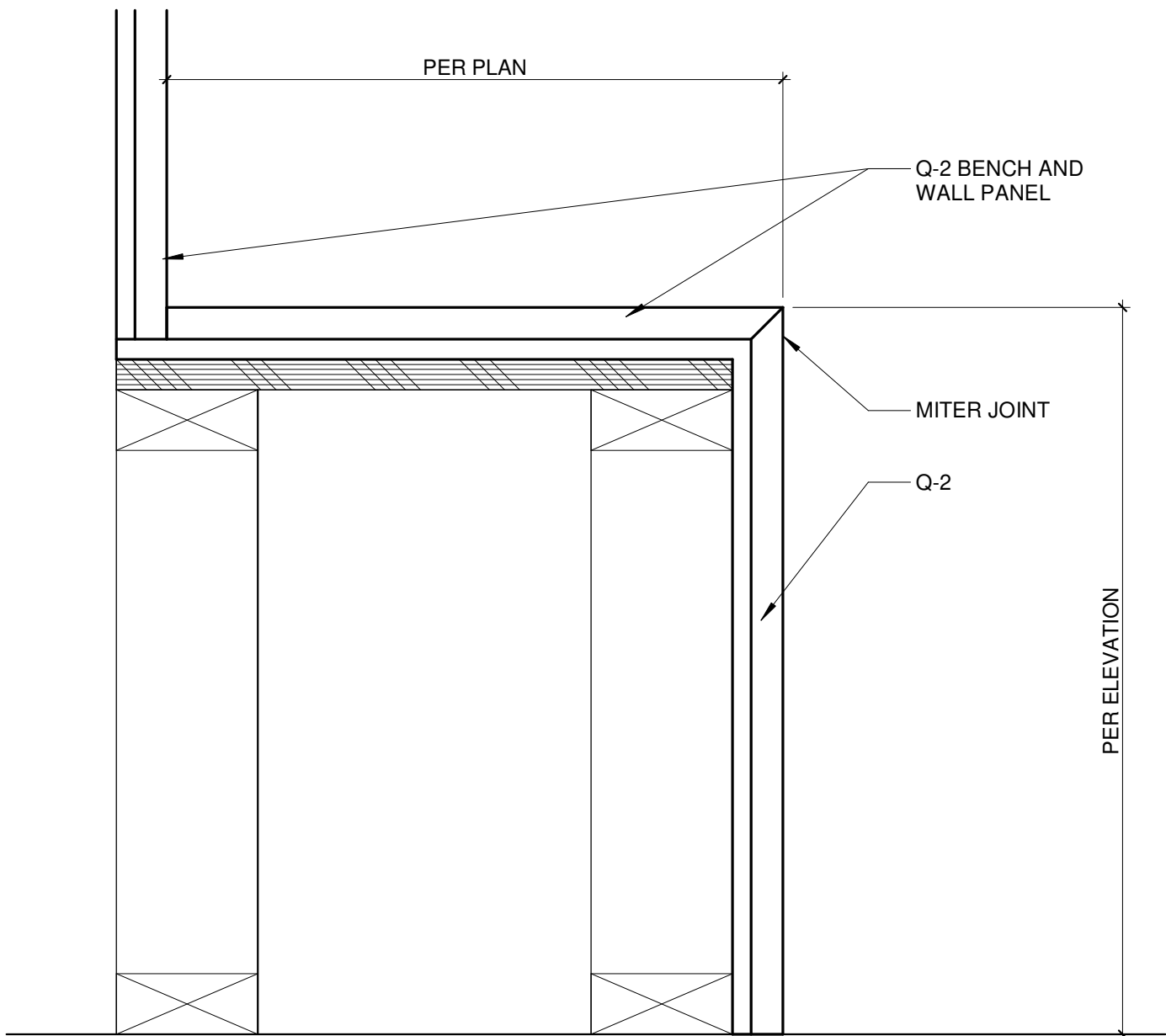
1 RECESSED L-6 AT CEILING
3" = 1'-0"



2 BENCH - SAUNA
3" = 1'-0"



3 LIVING ROOM COLUMN AT GRID A
3" = 1'-0"



4 BENCH - STONE
3" = 1'-0"



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x42" PAPER

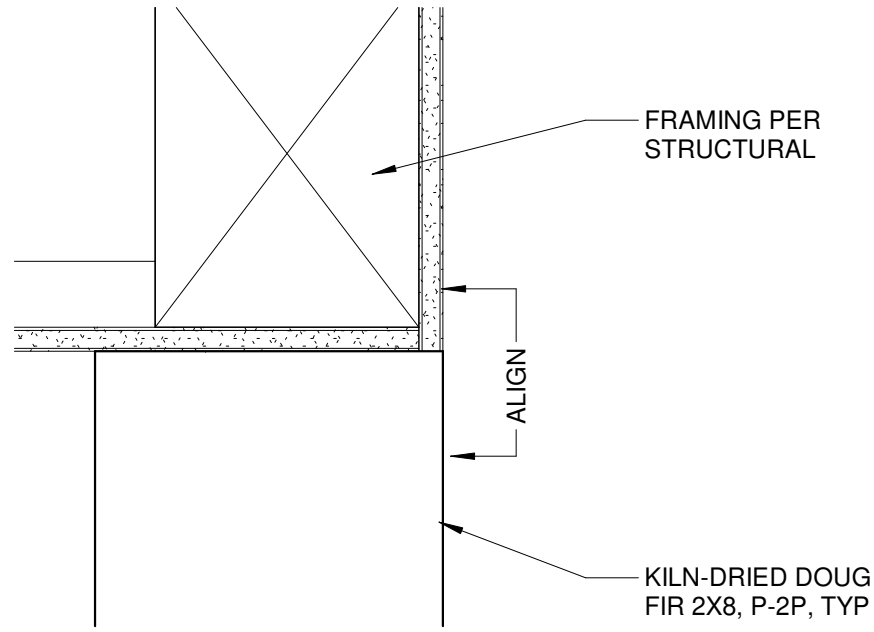
#	REVISION	DATE
---	----------	------



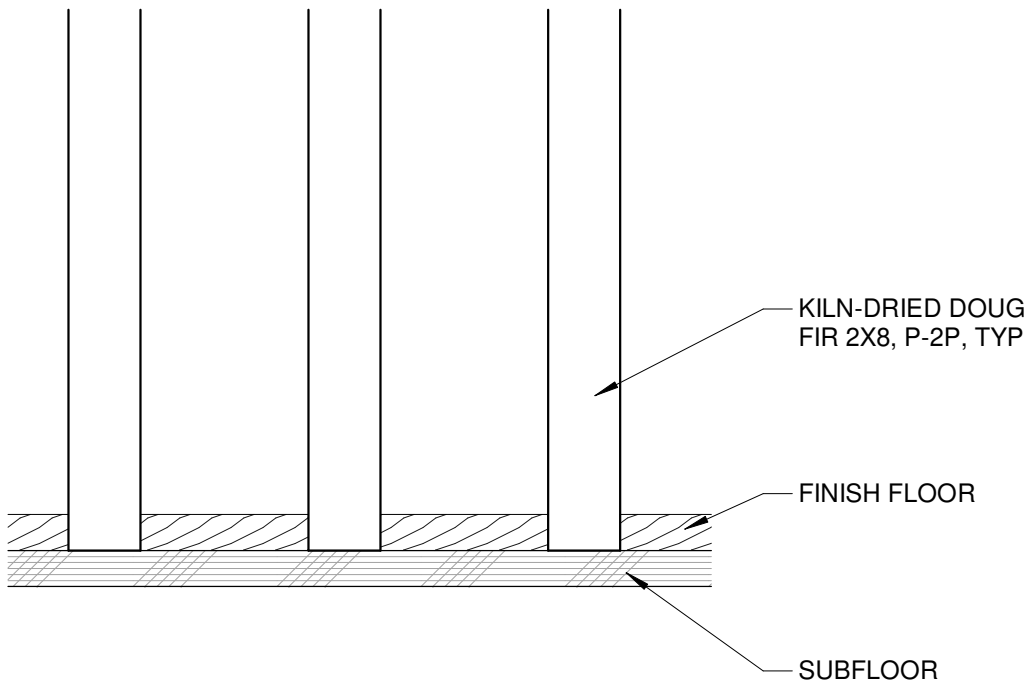
Project Number
20029
DWG EXPORTED 2/15/2021 9:53:27 AM
2/15/21

A756
INTERIOR
DETAILS

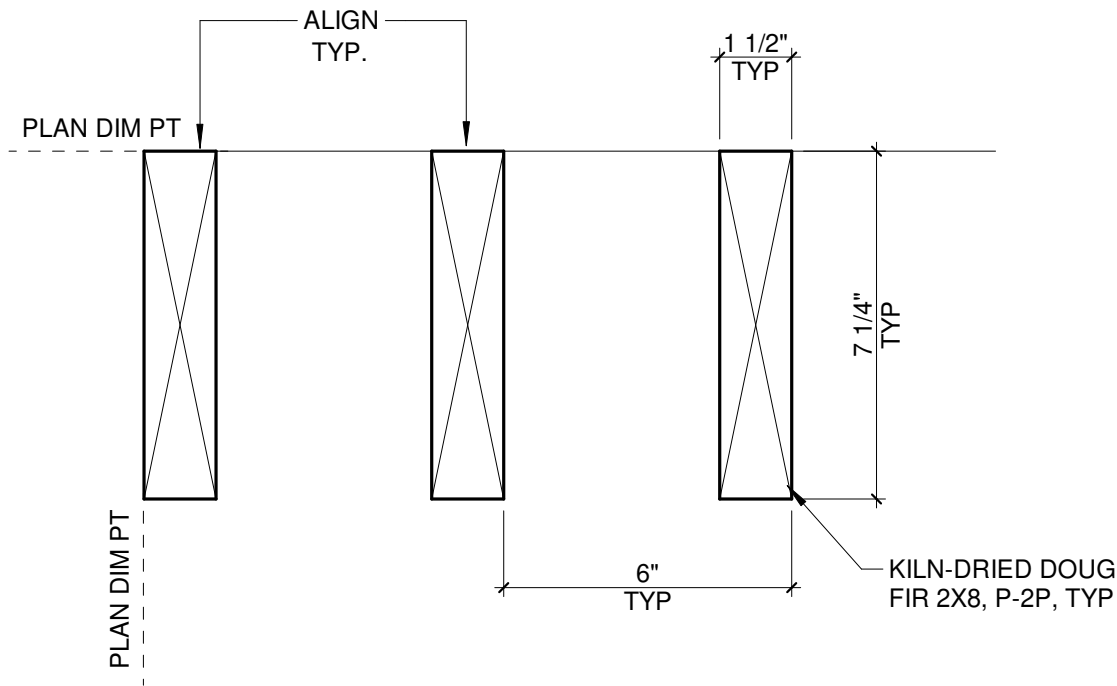
CD DRAFT



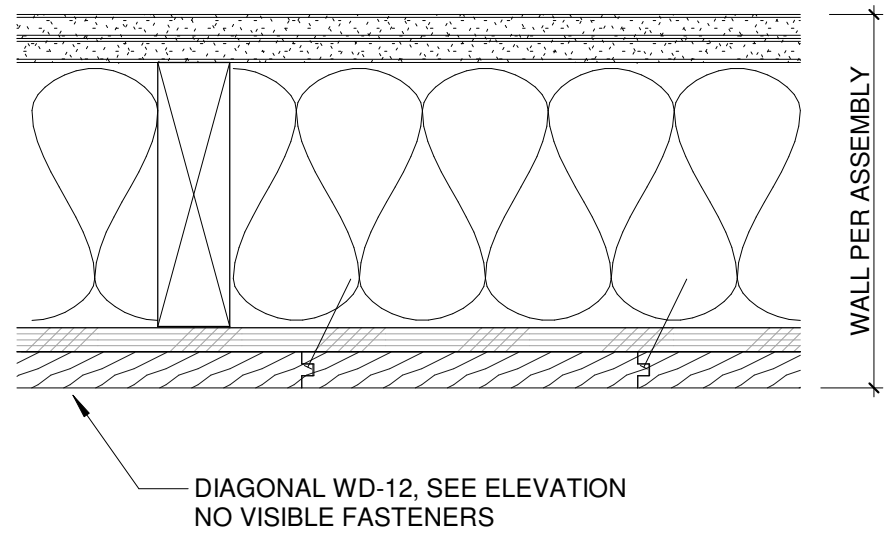
① SCREEN - HEAD
3" = 1'-0"



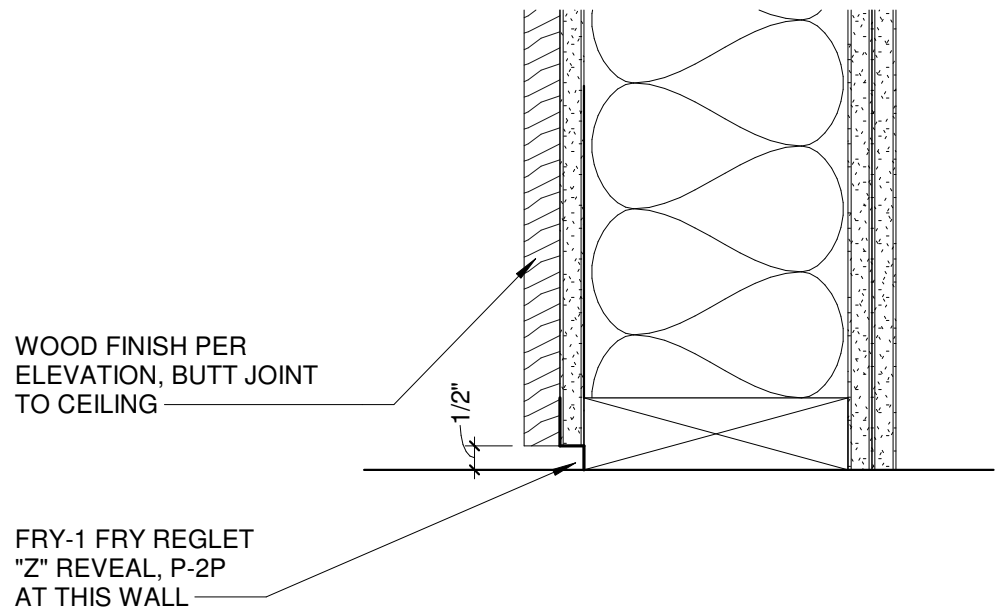
② SCREEN - BASE
3" = 1'-0"



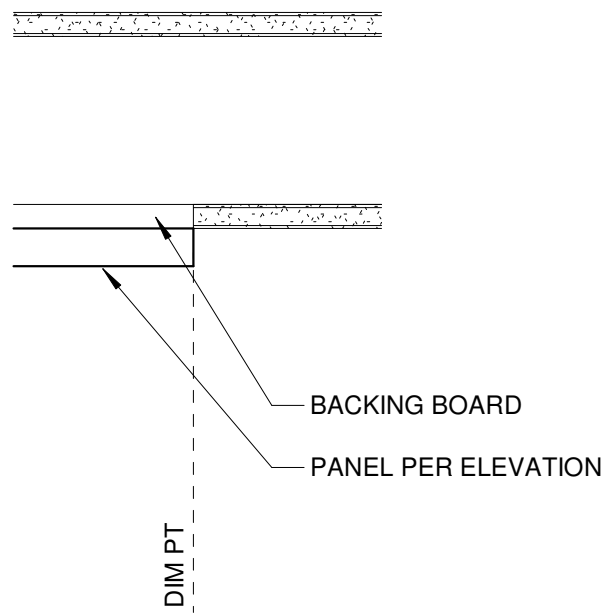
③ SCREEN - PLAN
3" = 1'-0"



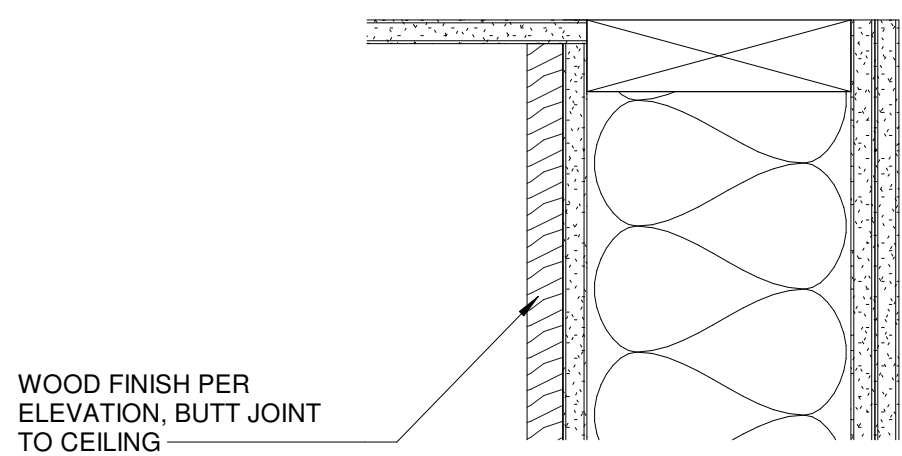
④ LIVING ROOM WOOD JOINTS
3" = 1'-0"



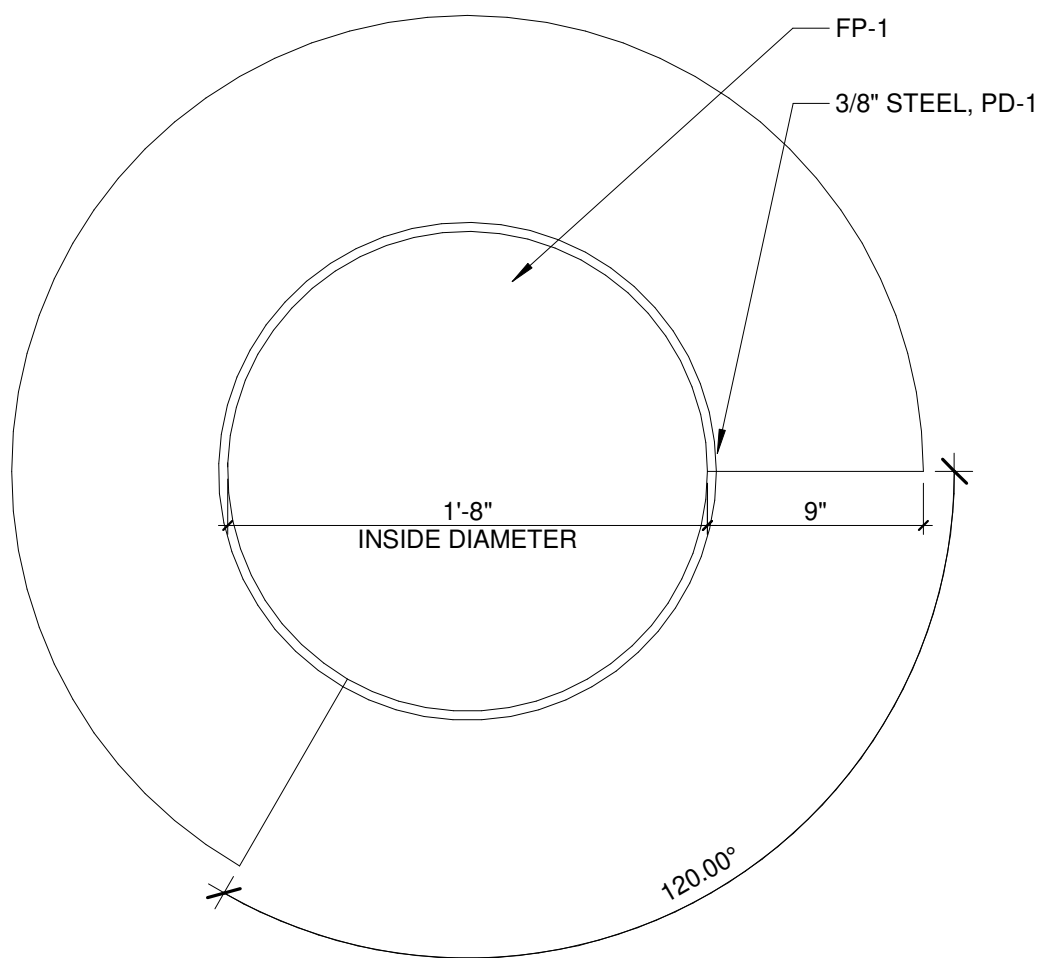
⑤ WOOD WALL TO FLOOR
3" = 1'-0"



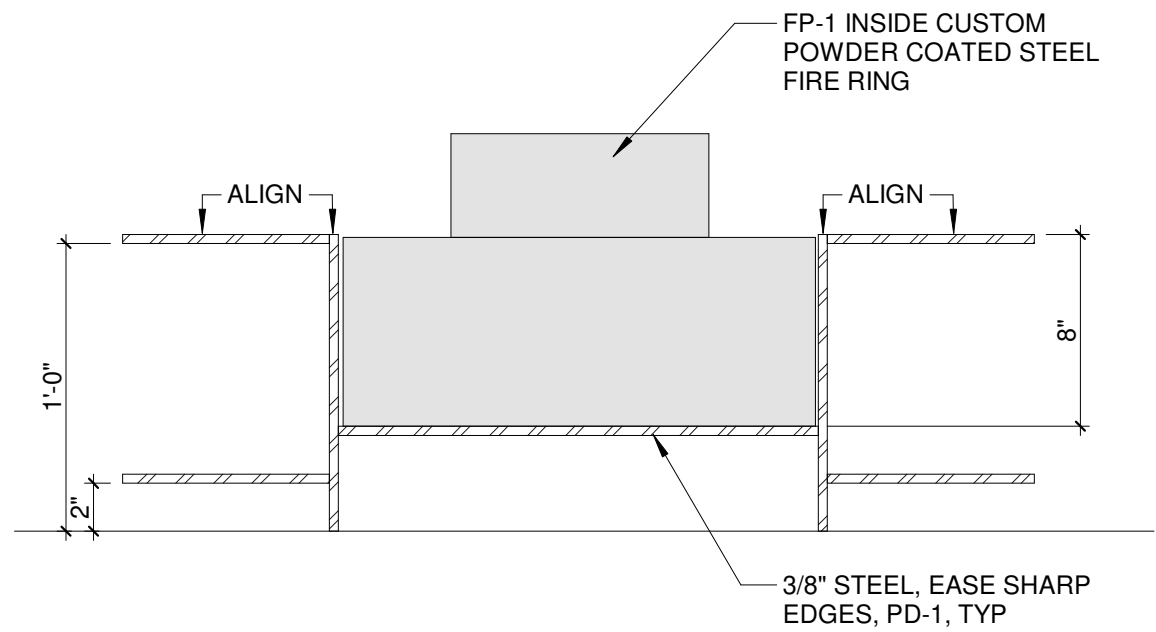
⑥ GWB TO Q-2
3" = 1'-0"



⑦ WOOD WALL TO CEILING
3" = 1'-0"



⑧ BIOETHANOL FIREPLACE - PLAN
1 1/2" = 1'-0"



⑨ BIOETHANOL FIREPLACE - SECTION
1 1/2" = 1'-0"

NOTE: DRAWINGS PRINTED AT SCALE SHOWN WHEN PRINTED ON 34"x22" PAPER

#	REVISION	DATE
---	----------	------

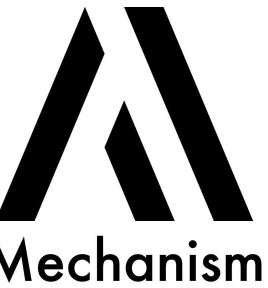


Project Number
20029
DWG EXPORTED 2/15/2021 9:53:27 AM
2/15/21

A757
INTERIOR
DETAILS

CD DRAFT

UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN & KENZIE MICHALSKI



Stormwater Management Facilities

Private Stormwater Report

Upper Hall Residence

HDG Job #: MAR001

Prepared For: Kenton Reichen
206 Hendricks Blvd
Amherst, NY 14226

Prepared By:



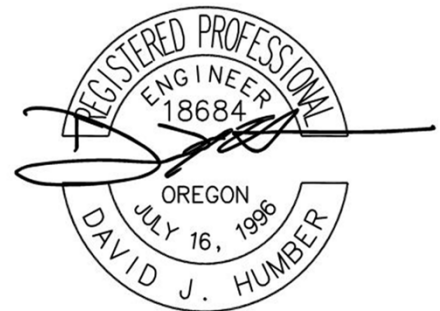
**Humber
Design
Group, Inc.**

110 SE Main St. Suite 200
Portland, OR 97214
(P) 503 946 6690

'I hereby certify that this Stormwater Management Report for the Upper Hall Residence project has been prepared by me or under my supervision and meets minimum standards of and normal standards of engineering practice.

I hereby acknowledge and agree that the jurisdiction does not and will not assume liability for the sufficiency, suitability, or performance of drainage facilities designed by me.'

Date: February 12, 2021



EXPIRES 6-30-21

Table of Contents

Project Overview and Description	2
Vicinity Map	3
Methodology	4
Analysis	5
Engineering Conclusions	6
 APPENDICES	
Appendix A Stormwater Facility Details / Exhibits	A
Private Lined Stormwater Planter	
Catchment Map	
 Appendix B Support Calculations	 B
PAC Calculations	
 Appendix C Additional Forms & Associated Reports	 D
Geotechnical Engineering Report	

Project Overview and Description

Location of Project	00 SW Montgomery Dr
Site Area/Acreage	0.11
Proposed Impervious Area	
Nearest Cross Street	SW Upper Hall St
Property Zoning	R5c
Existing Conditions	Undeveloped steeply sloping site

Proposed Development	Single family residence
-----------------------------	-------------------------

Watershed Description	Willamette River
Subwatershed	Tanner

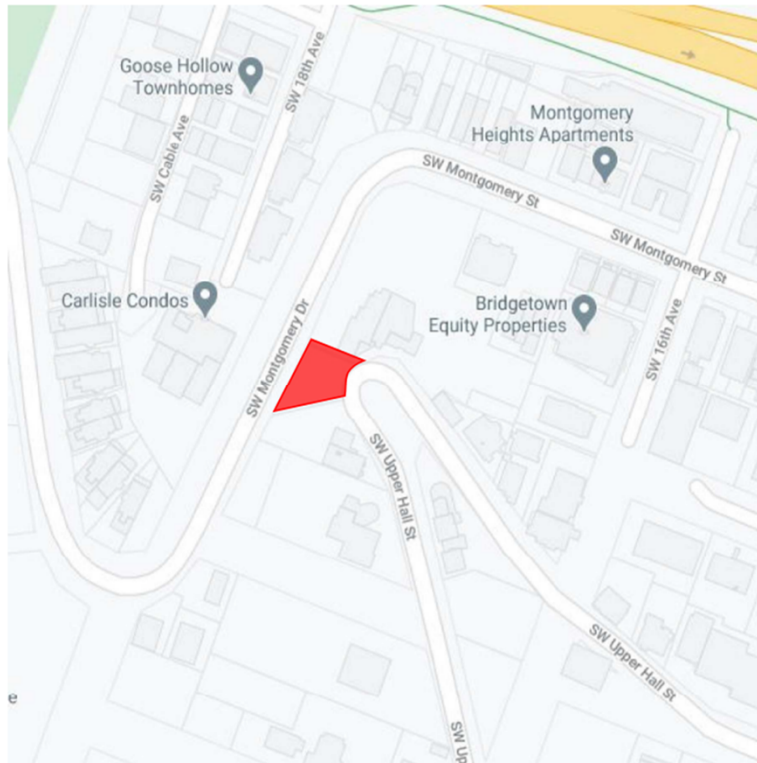
R#	128255
-----------	--------

Tax Map	1S1E04BD
Tax Lot	4400

Flood Zone	N/A
-------------------	-----

Permits Required	Building Permit
-------------------------	-----------------

Vicinity Map



Site Location

LU 21-015135 EN

Methodology

Existing Drainage

Existing site sheet flows downhill to SW Montgomery Dr where it is collected in a public inlet.

Infiltration Results

Due to the excessively steep site, exceeding 20%, infiltration is not feasible.

PRIVATE Proposed Stormwater Management Techniques

Stormwater will be managed with a combination of lined stormwater planter and small area of ecoroof.

PUBLIC Proposed Stormwater Management Techniques

There are no public improvements required by PBOT. A concrete new driveway will replace the existing concrete sidewalk, so there will no net new impervious area.

Discharge Point

Combined Sewer

Stormwater Hierarchy Justification

Due to the excessively steep site, exceeding 20%, category 1 and 2 are not feasible. There are no existing storm-only sewers in the vicinity of the site, so therefore Category 3 is not feasible. The only discharge location available is the public combined sewer located in SW Montgomery St, therefore this project will fall under Category 4 of the stormwater hierarchy.

Analysis

Computational Method Used

The Presumptive Approach Calculator (PAC) was used to calculate the stormwater management facility area needed to treat the water quality storm and the peak flows of the catchment area. See attached PAC Calculations. Below is a summary of the results.

Hydrologic Soil Group

Table 1 – Curve Numbers

Predeveloped Pervious CN	81
Predeveloped Impervious CN	98
Post-Developed Pervious CN	81
Post-Developed Impervious CN	98

Table 2 – Design Storms

WQ Storm	1.66 inches
2-year	2.40 inches
10-year	3.40 inches
25-year	3.80 inches
100-year	4.40 inches

Table 3 – Time of Concentration

Predeveloped TOC	5 min
Post-Developed TOC	5 min

Stormwater Management Narrative

A 105 SF lined stormwater planter will manage the new 1,800 SF of impervious roof area. 74 SF of ecoroof will be provided on the roof as well.

Table 4 – Catchment Areas and Facility Table

Catchment/ Facility ID	Source (roof, road, etc.)	Treatment Area (sf)	Ownership (private/ public)	Facility Type/ Function	Facility Size
A	Roof	1,800	Private	Planter	105
B	Ecoroof	74	Private	Ecoroof	75

Table 5 - Flow Rates

Catchment/ Facility ID	10-Year Pre- Developed	25-Year Post- Developed Without Planter	25-Year Post- Developed With Planter
A	0.017	0.041	0.015
B	N/A	N/A	N/A

Engineering Conclusions

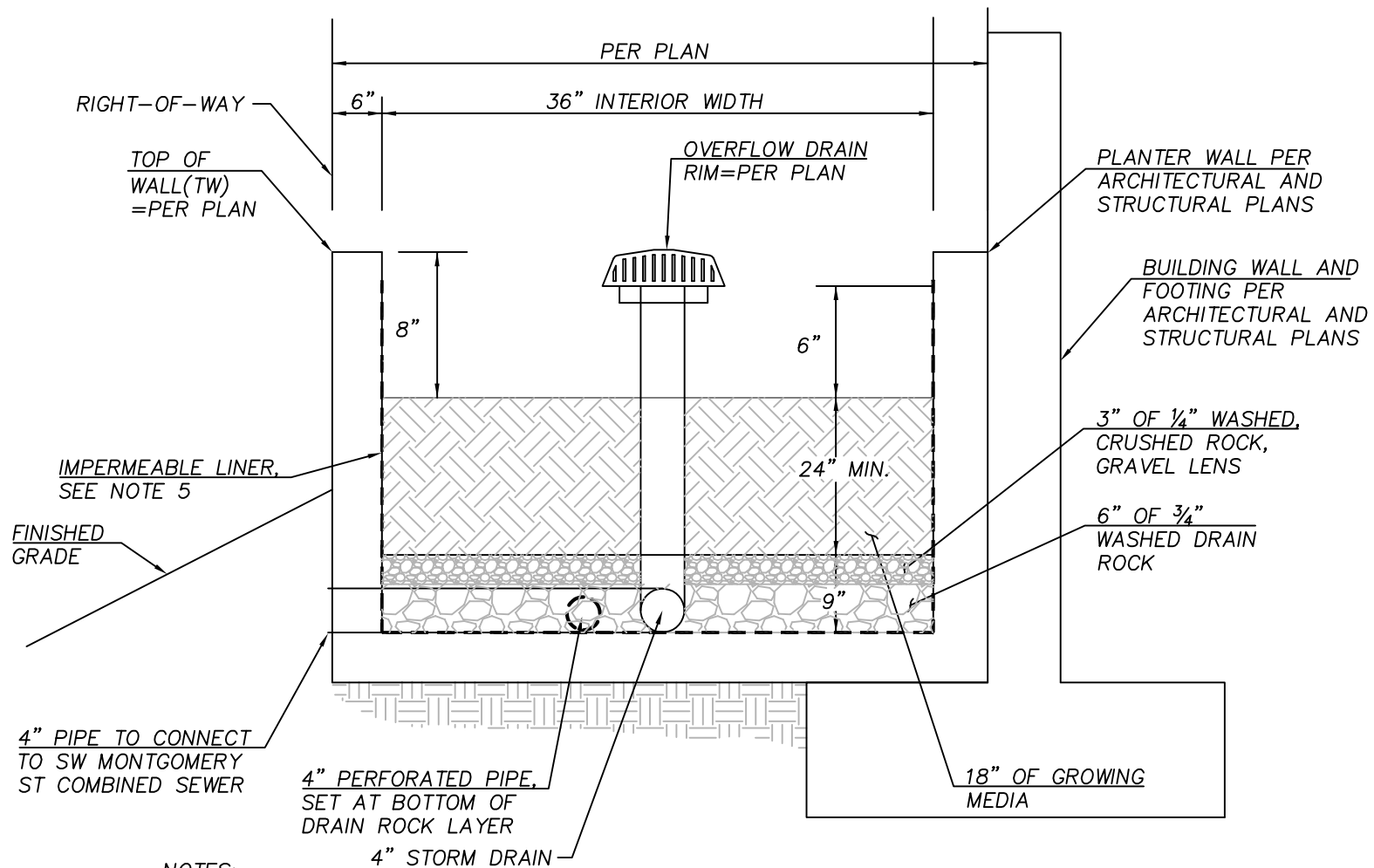
The preceding methodologies and calculations presented indicate compliance with the current jurisdictional stormwater management codes and requirements. A summarized breakdown is presented below:

Water Quality	The proposed development will meet the provisions for water quality per the 2020 Portland Stormwater Management Manual.
Water Quantity	The proposed development will meet the provisions for water quantity per the 2020 Portland Stormwater Management Manual.
Downstream / Upstream Impacts	There are no upstream or downstream impacts created by this proposed development.
100 year storm	The 100 year storm will be safely conveyed away from structures and will be conveyed to the combined sewer in SW Montgomery St via overflow drain structure. In the case of clogging, stormwater is also able to overtop planter walls, downhill to the public ROW.

Appendix A

Stormwater Facility Details / Exhibits

Private Lined Stormwater Planter
Catchment Map



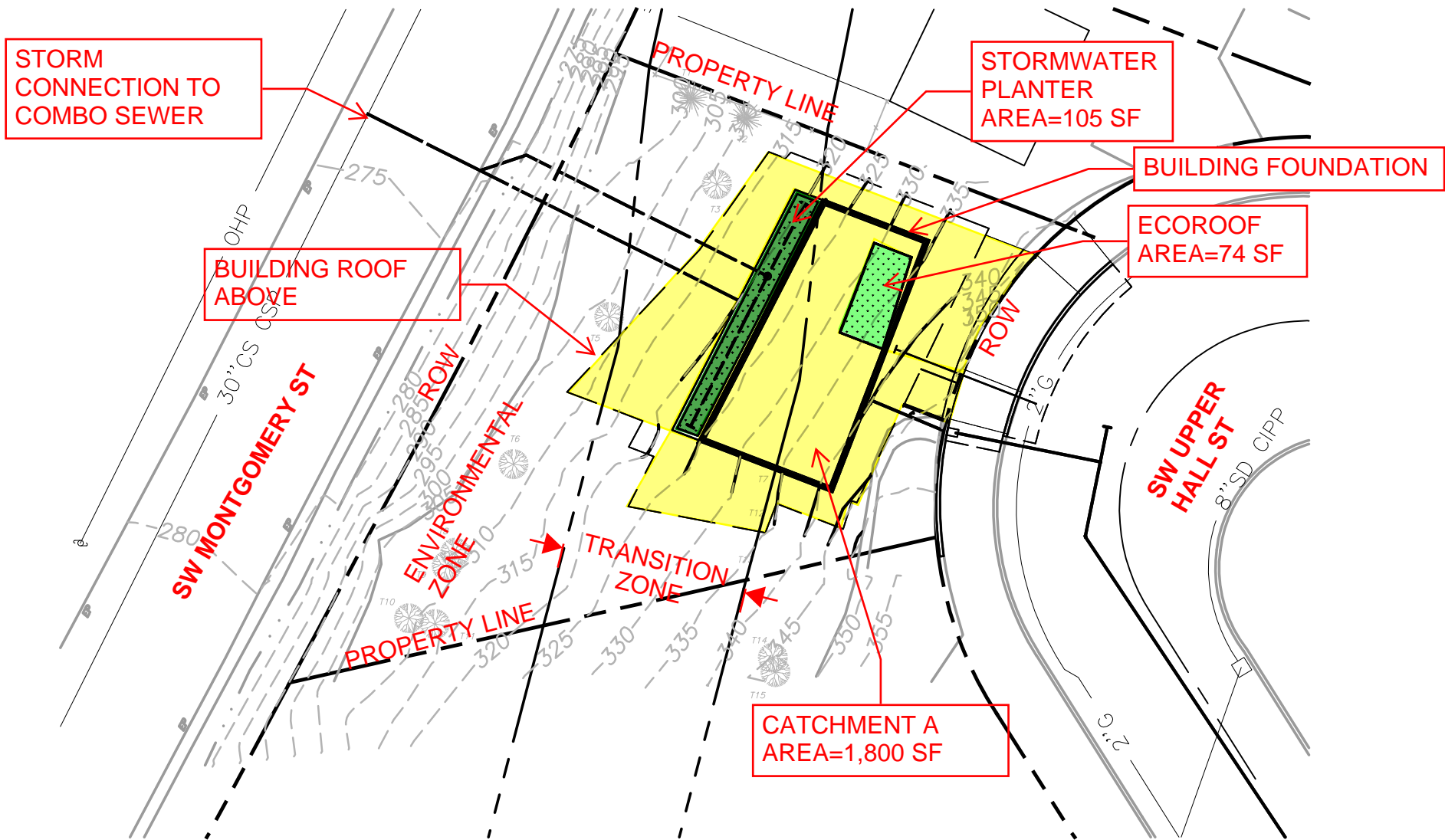
NOTES:

1. PLANTING PER LANDSCAPE DRAWINGS.
2. GROWING MEDIUM SHALL BE A SAND/LOAD/COMPOST 3-WAY MIX PER APPENDIX F OF THE PORTLAND STORMWATER MANAGEMENT MANUAL.
3. CONNECT PERFORATED PIPE TO SOLID PIPE, PER PLAN.
4. CONSTRUCT ROCK SPLASH PAD AT DOWNSPOUT LOCATIONS TO PREVENT EROSION.
5. IMPERMEABLE LINER SHALL BE 30 MIL MINIMUM. ATTACH LINER TO CONCRETE AT HIGH WATER ELEVATION.

1

STORMWATER FLOW-THROUGH PLANTER

NTS



CATCHMENT MAP
SCALE: 1"=20'

Appendix B

Support Calculations

PAC Calculations

PAC Report

Project Details

Project Name	Permit No	Created
Hinge House		2/8/2021 10:51:49 PM
Project Address	Designer	Last Modified
SW Montgomery Dr and SW Upper Hall Street	Monica Regan	2/9/2021 10:31:47 PM
	Company	Report Generated
	Humber Design Group	2/9/2021 2:52:27 PM

Project Summary

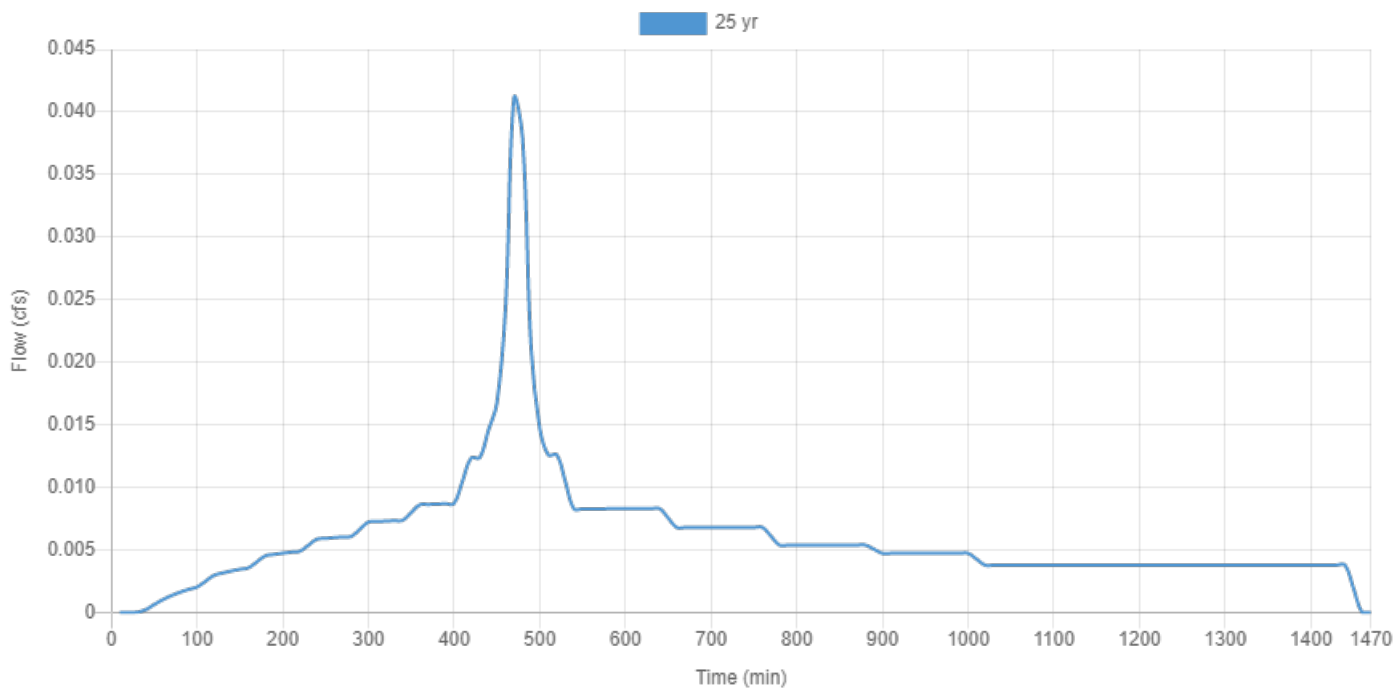
Catchment Name	Imper-vious Area (sq ft)	Native Soil Design Infiltration Rate (in/hr)	Level	Category	Config	Facility Area (excl. free board) (sq ft)	Facility Sizing Ratio (%)	PR Results	Infiltration Results	Flow Control Results
Catchment_6 3_271	1800	0.005	3	FlatPlanter	D	105.00	5.83	NA	NA	Pass

Catchment_63_271

Site Soils & Infiltration Testing	Infiltration Testing Procedure OpenPit Tested Native Soil Infiltration Rate 0.01 in/hr
Correction Factor	CF_{test} 2
Design Infiltration Rates	Native Soil 0.005 in/hr Imported Blended Soil 6 in/hr
Catchment Information	Hierarchy Level 3 Hierarchy Description Discharge to a combined sewer. Pollution Reduction Requirement N/A Infiltration Requirement N/A Flow Control Requirement Limit the 25-yr post-development peak flow to the 10-year pre-development peak flow. Impervious Area 1800 sq ft 0.041 acre Pre-Development Time of Concentration (T_{C pre}) 5 min Post-Development Time of Concentration (T_{C post}) 5 min Pre-Development Curve Number (CN_{pre}) 81 Post-Development Curve Number (CN_{post}) 98

SBUH Results

Post-Development Runoff



10-yr Pre - Development Rate and Volume		25-yr Post - Development Rate and Volume	
Peak Rate (cfs)	Total Volume (cf)	Peak Rate (cfs)	Total Volume (cf)
0.0166	244.2	0.0411	534.8

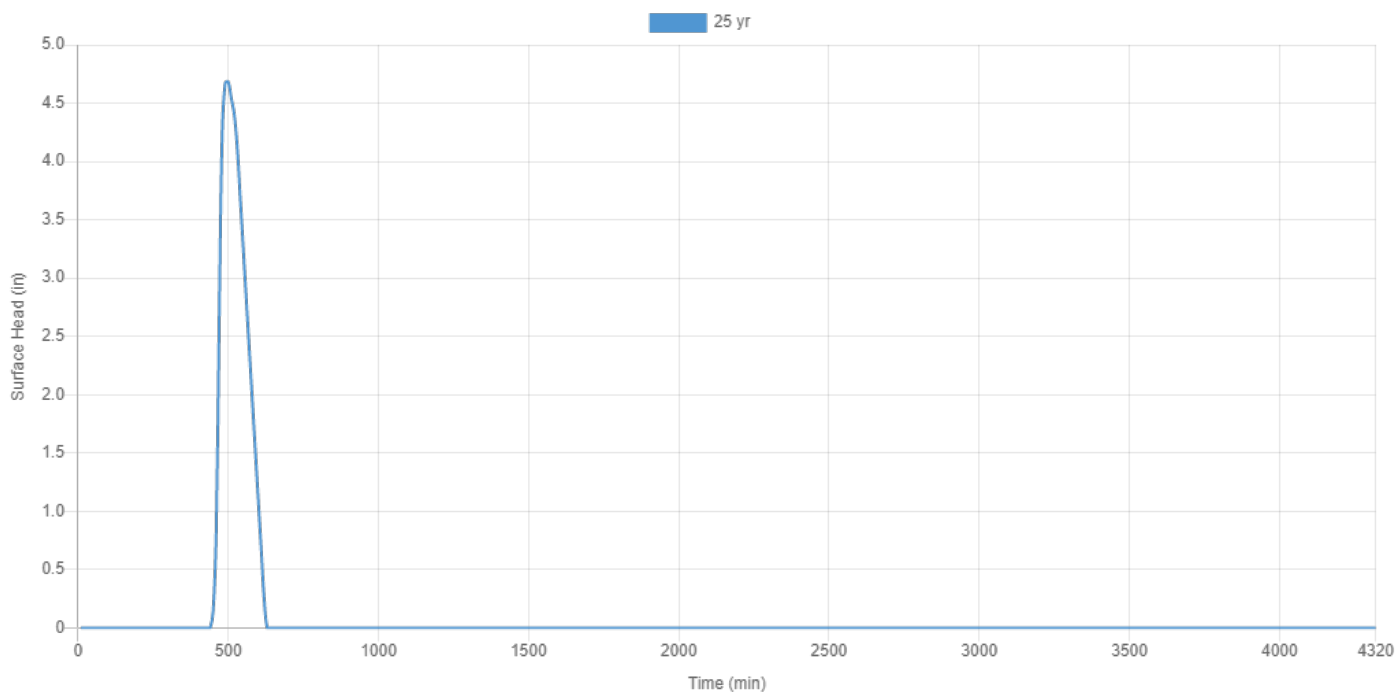
	Overflow		Underdrain Outflow		Infiltration	
	Peak Rate (cfs)	Total Volume (cf)	Peak Rate (cfs)	Total Volume (cf)	Peak Rate (cfs)	Total Volume (cf)
25-Year	0	0	0.015	534.8	0	0

Flat Planter

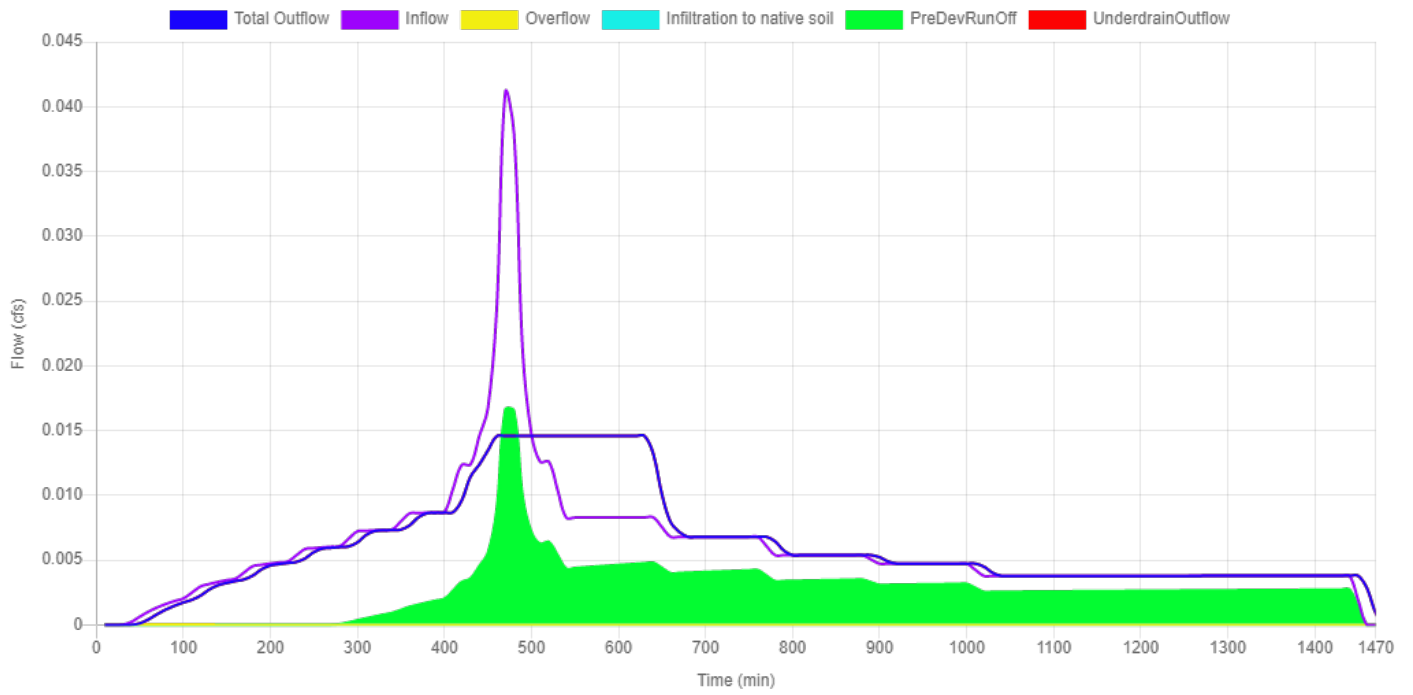
Site Soils & Infiltration Testing	Category
	Flat Planter
	Shape
	Null
	Location
	Parcel
	Configuration
	D: Lined Facility with RS and Ud
	Above Grade Storage Data
	Bottom Area
	105 sq ft
	Bottom Width
	3.00 ft
	Overflow Height
	6.0 in
	Total Depth of Blended Soil plus Rock
	24 in
	Surface Storage Capacity at Overflow
	52.5 cu ft
	Design Infiltration Rate to Soil Underlying the Facility
	0.000 cfs
	Design Infiltration Rate for Imported Blended Soil in the Facility
	0.015 cfs
	Below Grade Storage Data
	Catchment is too small for flow control?
	No
	Rock Area
	26.25 sq ft
	Rock Width
	3.00 ft
	Rock Storage Depth
	9.0 in
	Rock Porosity
	0.3
	Underdrain Height

	<div>3.0 in</div> <div>Percent of Facility Base that Allows Infiltration</div> <div>0 %</div> <div>Orifice (Y/N)?</div> <div>No</div> <div>Why no orifice</div> <div>Facility meets flow control without orifice</div>						
Facility Facts	<div>Total Facility Area (excluding freeboard)</div> <div>105.00 sq ft</div> <div>Sizing Ratio</div> <div>5.83 %</div>						
Flow Control Results	<div>Flow Control Score</div> <div>Pass</div> <table><tr><td>25 YEAR POST-DEVELOPMENT OUTFLOW (CFS)</td><td></td><td>10 YEAR PRE-DEVELOPMENT RUNOFF (CFS)</td></tr><tr><td>0.0146</td><td><=</td><td>0.0166</td></tr></table>	25 YEAR POST-DEVELOPMENT OUTFLOW (CFS)		10 YEAR PRE-DEVELOPMENT RUNOFF (CFS)	0.0146	<=	0.0166
25 YEAR POST-DEVELOPMENT OUTFLOW (CFS)		10 YEAR PRE-DEVELOPMENT RUNOFF (CFS)					
0.0146	<=	0.0166					

Surface Head



25-Year *



**Except for the predevelopment runoff, which is for the 10-yr storm event.*

Appendix C

Additional Forms & Associated Reports

Geotechnical Engineering Report

October 23, 2020
Project No: 20-2646

Mackenzie Michalski and Kenton Reichen

716.785.3539 (Mackenzie)
760.831.7123 (Kenton)
kenziemichalski@gmail.com; kentonreichen@gmail.com

Submitted digitally (pdf format) with hard copies mailed on request

**Subject: Geotechnical Engineering Report
00 SW Montgomery Drive
Future driveway access between 1551 and 1553 SW Upper Hall Street
Portland, Oregon**

This report presents the results of a geotechnical engineering study conducted by Hardman Geotechnical Services Inc. (HGSI) for the proposed new residence at the property designated 00 SW Montgomery Drive (Figure 1). The purpose of this study was to evaluate subsurface conditions at the site and to provide geotechnical recommendations for site development. This geotechnical study was performed in accordance with HGSI Proposal No. 20-526, dated September 1, 2020, and your subsequent authorization of our proposal and *General Conditions for Geotechnical Services*.

SITE DESCRIPTION AND PROPOSED DEVELOPMENT

Available information indicates the property is approximately 0.11 acres (4,616 square feet) and is currently undeveloped. The site slopes steeply down to the west-northwest, with a near-vertical weathered basalt rock face ascending from SW Montgomery Drive (Figures 2 and 3). A concrete retaining wall up to about 13 feet in exposed height descends from the edge of SW Upper Hall Street to the site. In the southeast corner of the property is a concrete debris fill/wall which transitions to a decayed and rusted old soldier pile wall that has maximum height of about 9 feet (Figure 2).

We understand the project will involve construction of a single family residence in the upper, less steep portion of the site near SW Upper Hall Street. The proposed driveway access, between parcels at 1551 and 1553 SW Upper Hall Street, will span across an existing retaining wall that is up to about 13 feet high. The planned garage will need to be structurally supported to avoid placement of fill soils that could destabilize the existing slope.

The City maps the entire site as a “steep slope” area (greater than 20% inclination). As we understand current agency requirements, a Landslide Hazard Study should not be required, because there is no proposed land division as part of the project. Although a formal Landslide Hazard Study should not be needed, HGSI has evaluated slope stability hazards related to the project, due to the mapped steep slope zone.

LU 21-015135 EN

We anticipate that the proposed improvements will involve minimal earthwork, other than excavation that will be needed to accommodate the planned house foundations.

REGIONAL GEOLOGIC SETTING

Regionally, the subject site lies within the Willamette Valley/Puget Sound lowland, a broad structural depression situated between the Coast Range on the west and the Cascade Range on the east. A series of discontinuous faults subdivide the Willamette Valley into a mosaic of fault-bounded, structural blocks (Yeats et al., 1996). Uplifted structural blocks form bedrock highlands, while down-warped structural blocks form sedimentary basins. Valley-fill sediment in the adjacent basin achieves a maximum thickness of 1,500 feet and overlies Miocene Columbia River Basalt at depth (Madin, 1990; Yeats et al., 1996).

The subject site is located on the east flank of the Tualatin Mountains (Portland Hills), which were formed by uplifted and faulted Columbia River Basalt. Columbia River Basalt is differentiated into several members that are further subdivided into several units. The basalt underlying the subject site is part of the Sentinel Bluffs unit, a division of the Grande Ronde Basalt member. The Sentinel Bluffs unit is typically light to dark gray and displays blocky to columnar jointing (Beeson et al, 1991). Interflow zones between flows are typically vesicular, scoriaceous, and brecciated, and sometimes include sedimentary rocks. Where highly weathered, the upper portion of the basalt is altered to a distinctive red-brown clayey silt known as laterite or residual soil. Residual soils are generally thin or absent on steep slopes as a result of erosion.

At least three major source zones capable of generating damaging earthquakes are thought to exist in the vicinity of the subject site. These include the Portland Hills Fault Zone, the Gales Creek-Newberg-Mt. Angel Structural Zone, and the Cascadia Subduction Zone. These potential source zones are included in the probabilistic seismic design parameters specified by the current building code (see the *Seismic Design* section below).

FIELD EXPLORATION

Subsurface conditions were explored on September 16, 2020 by excavating three hand auger borings to refusal in medium hard (R-3) rock at depths of 1 to 3.5 feet below ground surface (bgs). Hand auger borings are designated HA-1 through HA-3, at the approximate locations shown on Figure 2. A previous geotechnical study performed by ADaPT Engineering, Inc. (ADaPT, 2000) on the adjacent property to the north included test pits using a limited-access “spider-hoe”. Three of these test pits are near enough to the subject site that the subsurface data can be extrapolated as representative of site conditions. The locations of these three test pits, TP-3, TP-6 and TP-7, are shown on Figure 2. Logs of these test pits are attached to this report.

During excavation of the hand auger borings, HGSI observed and recorded soil information such as color, stratigraphy, strength, and soil moisture. Soils were classified in general accordance with the Unified Soil Classification System (USCS). Rock hardness was classified in accordance with Table 1, modified from the ODOT Rock Hardness Classification Chart, on the following page.

Results of the exploration program are shown on the test pit logs attached to this report. At the completion of each boring, the excavation was backfilled using the excavated soils, and tamped into place. This backfill should not be expected to behave as engineered fill and some settling and/or erosion of the ground surface may occur.

Table 1. Rock Hardness Classification Chart

ODOT Rock Hardness Rating	Field Criteria	Unconfined Compressive Strength	Typical Equipment Needed For Excavation
Extremely Soft (R-0)	Indented by thumbnail	<100 psi	Small excavator
Very Soft (R-1)	Scratched by thumbnail, crumbled by rock hammer	100 - 1,000 psi	Small excavator
Soft (R-2)	Not scratched by thumbnail, indented by rock hammer	1,000 - 4,000 psi	Medium excavator (slow digging with small excavator)
Medium Hard (R-3)	Scratched or fractured by rock hammer	4,000 - 8,000 psi	Medium to large excavator (slow to very slow digging), typically requires chipping with hydraulic hammer or mass excavation)
Hard (R-4)	Scratched or fractured w/ difficulty	8,000 - 16,000 psi	Slow chipping with hydraulic hammer and/or blasting
Very Hard (R-5)	Not scratched or fractured after many blows, hammer rebounds	>16,000 psi	Blasting

SUBSURFACE CONDITIONS

Soil and Rock

The following report sections summarize subsurface conditions anticipated at the site, based on our exploration program and the results of the previous study on the adjacent site (ADaPT, 2000). On-site soils consist of undocumented fill, topsoil, weathered basalt rock, and Columbia River Basalt Bedrock, as described below.

Undocumented Fill: Hand auger HA-1 and Test pits TP-6 and TP-7 encountered undocumented fill, extending to depths of 2, 7.5 and 7 feet bgs respectively. The undocumented fill typically consisted of non-homogeneous stiff silt with angular cobbles and gravel. A basalt boulder about 3 feet in diameter was encountered in TP-6 within the fill.

Topsoil: Hand auger HA-2 encountered topsoil to a depth of about 4 inches. The topsoil consisted of slightly organic silt with some gravel and trace roots.

Weathered Basalt Rock: Directly underlying the undocumented fill in HA-1, and beneath topsoil in HA-2 and TP-3, basalt rock with varying degrees of weathering and hardness was encountered. Refer to Table 1 for a summary of the rock hardness classification system used for this study. The basalt encountered was typically highly weathered and was generally Extremely Soft (R-0) to Medium Hard (R-3), with hardness generally increasing with depth. Excavated materials were generally less than about 6 to 8 inches in maximum size, although some larger materials and a few boulders were encountered in the test pits.

Columbia River Basalt Bedrock: Medium Hard (R-3) Columbia River Basalt was encountered beneath the weathered basalt rock in HA-1, HA-2 and TP-3, from the ground surface in HA-3, and

beneath the undocumented fill in TP-6 and TP-7. All explorations met practical refusal on Medium Hard (R-3) basalt bedrock materials at depths ranging from 1 to 3.5 feet in the hand auger borings, and at depths ranging from 3.5 to 8.5 feet bgs in the test pits. Practical refusal is defined for the purposes of this report as hard excavating conditions with little or no progress, for the hand auger equipment and the “spider-hoe” used for the previous study. It is possible that greater depth of excavation could have been reached using larger machinery, a single-tooth ripper bucket, and/or by mass excavation.

Anticipated subsurface conditions on site are shown schematically on Section A-A', Figure 3. Depth to Medium Hard (R-3) rock is anticipated to be quite shallow across the site; and rock of Medium Hard consistency is exposed on the steep bluff face above SW Montgomery Drive. However, please note that the depth of explorations was limited and bedrock on site likely increases in hardness with depth. There is a potential for Hard (R-4) to Very Hard (R-5) rock to be encountered during construction.

Groundwater

Groundwater was not encountered in any of the hand auger borings conducted for this study, or in the test pits conducted by ADaPT (2000). United States Geological Survey mapping of the subject area indicates groundwater lies at an estimated depth of about 120 to 160 feet below the ground surface (Snyder, 2008). It is anticipated that groundwater conditions will vary depending on the season, local subsurface conditions, changes in site utilization, and other factors.

CONCLUSIONS AND RECOMMENDATIONS

Results of this study indicate that the proposed development is geotechnically feasible, provided that the recommendations of this report are incorporated into the design and construction phases of the project. The primary geotechnical constraint to the project is the presence of medium hard to hard weathered basalt rock present within the zone of excavation needed for the house structure. The proposed home may be supported on shallow foundations bearing on competent undisturbed native soils, or engineered fill, designed and constructed as recommended in this report. A 10-foot setback is recommended from the top of the existing steep bluff face; encroaching closer to the bluff would require use of deep foundations and/or ground anchors.

Recommendations are presented below for slope stability, constructability concerns, site preparation, engineered fill, seismic design, structural foundations, below-grade structural walls, concrete slabs-on-grade floors, footing drains, excavation conditions and utility trench backfill, pavement sections, and erosion control considerations.

Slope Stability

For the purpose of evaluating slope stability, we reviewed published geologic and hazard mapping, reviewed regional site topography and lidar images, performed a field reconnaissance, and evaluated subsurface soil conditions in hand auger borings and nearby test pits.

Regional geologic mapping and the Oregon Department of Geology and Mineral Industries (DOGAMI) online landslide database (SLIDO) show no mapped landslides, either on or in the vicinity of the subject site (Madin, 1990; DOGAMI, 2017). During our review of LiDAR imagery available from DOGAMI, we did not observe any topographic expression that would be considered indicative of slope instability.

Reconnaissance observations indicate that the topography at the site is generally smooth and uniform, consistent with stable slope conditions. No geomorphic evidence of prior slope instability (such as hummocky topography, benches or old scarps) was observed. During our site reconnaissance, we did not

observe indications of unstable slope conditions. No seeps or springs were noted on the subject slopes. The property is underlain by hard basalt bedrock materials with a relatively thin veneer of surface soils. In our opinion, the slopes on site have a very low potential for slope instability and erosion.

HGSI does not recommend placement of engineered fill soils on this site in order to maintain slope stability. The driveway for the house will need to be structurally supported to avoid placement of fill between the house and SW Upper Hall Street.

A near-vertical bluff is present along the western property boundary (Figures 2 and 3). The planned structure should be located a minimum of 10 feet from the top of the bluff. With this configuration it is HGSI's opinion that the on-site bedrock can accommodate the house loading without causing slope instability, provided the recommendations of this report are incorporated.

Based on our observations and results of the slope stability evaluation, it is our opinion that no special design or construction provisions are needed to address slope issues on the site. Development of the site is not anticipated to negatively impact slope stability of the site or adjacent properties. The project will be designed and constructed per current building codes, City of Portland requirements, and the current standard-of-practice in geotechnical engineering. As such, it is our opinion that adequate slope stability factors of safety will be maintained for both temporary construction, and long-term conditions.

There is some potential for surficial erosion and sloughing onto SW Montgomery Drive below the site. City personnel indicate that this portion of Montgomery is a chronic maintenance issue due to sloughing of the soil overlying rock and frequent smallish rockfall from the cut face. Hence, the jersey barriers down below that are meant to catch the smaller ones so PBOT can come through periodically and clear it out. It's not unusual to have bigger (yet still relatively small) failures in wet years that need to be scooped up off the roadway. The photograph attached to this report is from a surficial failure in 2017 a bit to the southwest of the site.

Storm water management systems should be designed such that potential overflow is discharged in a controlled manner away from structures and slopes. Retaining walls should be constructed with subsurface drainage behind the wall face.

Constructability Considerations

At present the house design is not complete. We understand preliminary designs call for a 23-foot height above the level of SW Upper Hall Street, as shown on the cross section, Figure 3. For a three-story structure, this will result in a very tall crawlspace that will require in-depth structural analysis. House foundations may consist of conventional spread footings, designed per the recommendations of this report and applicable Building Code requirements.

Although the site is considered suitable for the planned home construction, detailed evaluation of constructability issues is beyond the scope of this study. Of major concern would be limitations regarding the type and size of construction equipment that can access the site. We anticipate any equipment used on site will need to be lifted over the concrete wall on SW Upper Hall Street with a crane. Construction aggregate and concrete will need to be delivered via conveyor trucks and pump trucks.

Excavations will be difficult due to anticipated hard rock conditions, particularly considering the limited size of equipment that will be able to be used. The foundation system for the home will need to step up rapidly to conform to existing topography, as shown on Figure 3. For preliminary planning purposes, we suggest assuming near-vertical cuts can be made in the hard rock up to 8 feet high to accommodate the individual steps in the foundation walls. HGSI should review house plans when available to confirm this recommendation. It will also be critical for HGSI to be on site during excavation to verify stability of the

materials during excavation. If any soft/weak zones, fracture planes or other potential sources of slope instability are encountered during construction, it may be necessary to implement additional measures such as rock anchors.

HGSI strongly recommends installation of a rockfall protection fence along the top of the steep bluff above SW Montgomery Drive, to prevent rockfall from impacting street use and public safety. Please note that HGSI is not responsible for any part of jobsite safety. Analysis, installation and maintenance of the rockfall protection system, and performing the site work in a manner that eliminates the potential for rockfall, will be the responsibility of others.

Site Preparation

Proposed structure areas should be cleared of debris. The existing rusted and decayed soldier pile wall should be removed as part of site development. Undocumented fill within the proposed building footprint or other settlement-sensitive improvements, should be completely removed and replaced with engineered fill.

If encountered within the proposed building footprint, soft to medium stiff soils may need to be overexcavated and replaced with engineered fill. The depth of over-excavation should be determined on the basis of a foundation excavation observation during construction.

Exposed subgrade soils should be evaluated by HGSI. For large areas, this evaluation is normally performed by proof-rolling the exposed subgrade with fully loaded construction equipment. For smaller areas where access is restricted, the subgrade should be evaluated by probing the soil with a steel probe. Soft/loose soils identified during subgrade preparation should be compacted to a firm and unyielding condition or over-excavated and replaced with engineered fill, as described below. The depth of overexcavation, if required, should be evaluated by HGSI at the time of construction.

Engineered Fill

As discussed above, HGSI does not recommend placement of any fill soils as part of the project. This section is included in the report to provide compaction specifications for backfill soils, in the event that overexcavations are needed.

Fill materials (if used) should be compacted in horizontal lifts not exceeding 12 inches using conventional compaction equipment. We recommend that engineered fill be compacted to at least 90 percent of the maximum dry density determined by ASTM D1557 (Modified Proctor) or equivalent. Soils or crushed rock materials will need to be moisture conditioned to near optimum moisture content, to enable meeting the compaction specification.

Proper test frequency and earthwork documentation usually requires daily observation and testing during stripping, rough grading, and placement of engineered fill. Field density testing should generally conform to ASTM D2922 and D3017, or D1556. Engineered fill should be periodically observed and tested by HGSI. Typically, one density test is performed for at least every 2 vertical feet of fill placed or every 500 cubic yards, whichever requires more testing. Because testing is performed on an on-call basis, we recommend that the earthwork contractor be held contractually responsible for test scheduling and frequency.

Seismic Design

Structures should be designed to resist earthquake loading in accordance with the methodology described in the current Oregon Structural Specialty Code (OSSC). We recommend Site Class C (Very Dense Soil and Soft Rock) be used for design per the OSSC, which references ASCE 7. Design values determined for the

site using the ASCE 7-16 Hazard Tool are summarized on Table 2, for Risk Category I, II or III. A copy of the Hazard Tool output is attached at the end of this report.

Table 2. Recommended Earthquake Ground Motion Parameters (ASCE 7-16)

Parameter	Value
Location (Lat, Long), degrees	45.5139, -122.6939
Mapped Spectral Acceleration Values (MCE, Site Class B):	
Short Period, S_s	0.89 g
1.0 Sec Period, S_1	0.399 g
Design Values for Site Class C (Very Dense Soil and Soft Rock):	
Peak Ground Acceleration PGA_M	0.481 g
F_a	1.2
F_v	1.5
$SD_s = 2/3 \times F_a \times S_s$	0.712 g
$SD_1 = 2/3 \times F_v \times S_1$	0.399 g

Soil liquefaction is a phenomenon wherein saturated soil deposits temporarily lose strength and behave as a liquid in response to earthquake shaking. Soil liquefaction is generally limited to loose, granular soils located below the water table. Weathered basalt bedrock was encountered in our subsurface explorations to the maximum depth of exploration. Static groundwater level lies at depths of about 120 to 160 feet bgs in the site area. Therefore, soils under the project site are not considered susceptible to liquefaction. It is our opinion that special design or construction measures are not required to mitigate the effects of liquefaction.

Based on our review of geologic literature, there are no recent fault zones on or near the subject site. Therefore the risk of faulting hazard to the proposed improvements is considered very low to non-existent.

Structural Foundations

Based on our understanding of the proposed project and the results of our exploration program, and assuming our recommendations for site preparation are followed, weathered basalt bedrock, or Columbia River Basalt materials should be encountered at or near the foundation level of the proposed structure. These materials are considered suitable to provide adequate support of the structural loads.

Shallow, conventional isolated or continuous spread footings may be used to support the proposed structures, provided they are founded on weathered rock or better. We recommend a maximum allowable bearing pressure of 4,000 pounds per square foot (psf) for designing footings under these conditions. The recommended maximum allowable bearing pressures may be increased by a factor of 1.33 for short term transient conditions such as wind and seismic loading. Exterior footings should be founded at least 18 inches below the lowest adjacent finished grade. Minimum footing widths should be determined by the project engineer/architect in accordance with applicable design codes.

Assuming construction is accomplished as recommended herein, and for the foundation loads anticipated, we estimate total settlement of spread foundations of less than about 1 inch and differential settlement between two adjacent load-bearing components supported on competent soil of less than about ½ inch. We anticipate that the majority of the estimated settlement will occur during construction, as loads are applied.

Wind, earthquakes, and unbalanced earth loads will subject the proposed structure to lateral forces. Lateral forces on a structure will be resisted by a combination of sliding resistance of its base or footing on the underlying soil and passive earth pressure against the buried portions of the structure. For use in design, a coefficient of friction of 0.6 may be assumed along the interface between the base of the footing and subgrade soils. Passive earth pressure for buried portions of structures may be calculated using an equivalent fluid weight of 420 pounds per cubic foot (pcf), assuming footings are cast against dense, natural soils or engineered fill. The recommended coefficient of friction and passive earth pressure values do not include a safety factor. The upper 12 inches of soil should be neglected in passive pressure computations unless it is protected by pavement or slabs on grade.

Footing excavations should be trimmed neat and the bottom of the excavation should be carefully prepared. Loose, wet or otherwise softened soil should be removed from the footing excavation prior to placing reinforcing steel bars.

The above foundation recommendations are for dry weather conditions. Due to the high moisture sensitivity of on-site soils, construction during wet weather may require overexcavation of footings and backfill with compacted, crushed aggregate. HGSJ should observe foundation excavations prior to placing formwork and reinforcing steel, to verify that adequate bearing soils have been reached.

Below-Grade Structural Walls

Retaining wall footings founded on competent native soils or engineered fill may be designed using an allowable bearing pressure of 4,000 psf. The recommended maximum allowable bearing pressure may be increased by a factor of 1.33 for short term transient conditions such as wind and seismic loading.

Lateral earth pressures against below-grade retaining walls will depend upon the inclination of any adjacent slopes, type of backfill, degree of wall restraint, method of backfill placement, degree of backfill compaction, drainage provisions, and magnitude and location of any adjacent surcharge loads. At-rest soil pressure is exerted on a retaining wall when it is restrained against rotation. In contrast, active soil pressure will be exerted on a wall if its top is allowed to rotate or yield a distance of roughly 0.001 times its height or greater.

Table 3 provides recommended lateral earth pressure values for unrestrained and restrained walls, for both level backfill conditions and 2H:1V (Horizontal:Vertical) sloping ground conditions at the top of the wall. These values assume that the recommended drainage provisions are incorporated, and hydrostatic pressures are not allowed to develop against the wall.

Table 3. Lateral Earth Pressures for Below-Grade Retaining Wall Design

Earth Pressure Condition	Level at Top of Wall	2H:1V Slope at Top of Wall
Active (unrestrained wall)	30	50
At-rest (restrained wall)	50	70

During a seismic event, lateral earth pressures acting on below-grade structural walls will increase by an incremental amount that corresponds to the earthquake loading. However, if at-rest earth pressures are used in design, a conservative structural design that can readily accommodate the temporary seismic overloading conditions generally results. Therefore, it is our opinion that the dynamic incremental pressures from earthquake loading may be neglected if the below-grade structures are designed based on at-rest earth pressures. For unrestrained walls, seismic loading should be modeled using the active earth pressure listed in the above table, plus an incremental rectangular-shaped seismic load of magnitude 6H, where H is the total

height of the wall. Alternatively, a peak horizontal acceleration coefficient of 0.12g may be used for analysis using conventional pseudostatic procedures.

We recommend passive earth pressure of 420 pcf for use in design, assuming wall footings are cast against competent native soils or engineered fill. If the ground surface slopes down and away from the base of any of the walls steeper than about 10H:1V, HGSI should be contacted for additional recommendations.

A coefficient of friction of 0.6 may be assumed along the interface between the base of the wall footing and subgrade soils. The recommended coefficient of friction and passive earth pressure values do not include a safety factor, and an appropriate safety factor should be included in overall design. The upper 12 inches of soil should be neglected in passive pressure computations unless it is protected by pavement or slabs on grade.

The above recommendations for lateral earth pressures assume that the backfill behind the subsurface walls will consist of properly compacted structural fill, and no adjacent surcharge loading. If the walls will be subjected to the influence of surcharge loading within a horizontal distance equal to or less than the height of the wall, the walls should be designed for the additional horizontal pressure. For uniform surcharge pressures, a uniformly distributed lateral pressure of 0.3 times the surcharge pressure should be added. Traffic surcharges may be estimated using an additional vertical load of 250 psf (2 feet of additional fill), in accordance with local practice.

The recommended equivalent fluid densities assume a free-draining condition behind the walls so that hydrostatic pressures do not build-up. This can be accomplished by placing a 12-inch wide zone of crushed drain rock containing less than 5 percent fines against the walls. A 3-inch minimum diameter perforated, plastic drain pipe should be installed at the base of the walls and connected to a sump to remove water from the crushed drain rock zone. The drain pipe should be wrapped in filter fabric (Mirafi 140N or other as approved by the geotechnical engineer) to minimize clogging. The above drainage measures are intended to remove water from behind the wall to prevent hydrostatic pressures from building up. Additional drainage measures may be specified by the project architect or structural engineer, for damp-proofing or other reasons.

HGSI should be contacted during construction to verify subgrade strength in wall keyway excavations, to verify that backslope soils are in accordance with our assumptions, and to take density tests on the wall backfill materials.

Concrete Slab-on-grade Floors

Preparation of areas beneath concrete slab-on-grade floors should be performed as recommended in the *Site Preparation* section. Care should be taken during excavation for foundations and floor slabs, to avoid disturbing subgrade soils. If subgrade soils have been adversely impacted by wet weather or otherwise disturbed, the surficial soils should be scarified to a minimum depth of 8 inches, moisture conditioned to within about 3 percent of optimum moisture content, and compacted to engineered fill specifications. Alternatively, disturbed soils may be removed and the removal zone backfilled with additional crushed rock.

For evaluation of the concrete slab-on-grade floors using the beam on elastic foundation method, a modulus of subgrade reaction of 250 kcf (145 pci) should be assumed for the native materials anticipated at floor slab depth. This value assumes the concrete slab system is designed and constructed as recommended herein, with a minimum thickness of crushed rock of 8 inches beneath the slab.

Interior slab-on-grade floors should be provided with an adequate moisture break. The capillary break material should consist of Open-Graded Aggregate per ODOT Standard Specifications Section 02630.11. The minimum recommended thickness of capillary break materials on re-compacted soil subgrade is 8 inches. The total thickness of crushed aggregate will be dependent on the subgrade conditions at the time of

construction, and should be verified visually by proof-rolling. Under-slab aggregate should be compacted to at least 90 percent of its maximum dry density as determined by ASTM D1557 or equivalent.

In areas where moisture will be detrimental to floor coverings or equipment inside the proposed structure, appropriate vapor barrier and damp-proofing measures should be implemented. A commonly applied vapor barrier system consists of a 10-mil polyethylene vapor barrier placed directly over the capillary break material. Other damp/vapor barrier systems may also be feasible. Appropriate design professionals should be consulted regarding vapor barrier and damp proofing systems, ventilation, building material selection, radon and mold prevention issues, which are outside HGSI's area of expertise.

Footing and Roof Drains

We recommend the outside edge of perimeter footings for the new buildings be provided with a footing drain system. The retaining wall drains recommended around the perimeter of the new below-grade walls for the building will take the place of perimeter footing drains and a separate, shallow footing drain system is not needed.

Footing drains should consist of 3-inch minimum diameter perforated plastic pipe embedded in a minimum of 1 ft³ per lineal foot of clean, crushed rock or 1"- ¼" drain rock. The drain pipe and surrounding drain rock should be wrapped in non-woven geotextile (Mirafi 140N, or approved equivalent) to minimize the potential for clogging and/or ground loss due to piping. Water collected from the footing drains should be directed into the local storm drain system or other suitable outlet. A minimum 0.5 percent fall should be maintained throughout the drain and non-perforated pipe outlet. The footing drains should include clean-outs to allow periodic maintenance and inspection.

Down spouts and roof drains should collect roof water in a system separate from the footing drains in order to reduce the potential for clogging. Roof drain water should be directed to an appropriate discharge point well away from structural foundations. Grades should be sloped downward and away from buildings to reduce the potential for ponded water near structures.

Excavating Conditions and Utility Trench Backfill

The contractor should expect difficult excavation of the on-site rock materials. Hard rock should be anticipated, particularly in the deeper portions of excavations. The contractor should anticipate the potential presence of hard rock that will require heavy ripping, use of pneumatic rock breaker attachments, and possibly blasting to remove. Due to the proximity of SW Montgomery Drive and nearby existing structures, we do not recommend use of blasting on this site without additional investigation of the ground motion particle velocities and frequencies generated during the blasting operation and the effects thereof. The potential for fly rock would also need to be carefully considered. Due to the urban setting, it is highly doubtful that blasting would be feasible for rock removal. Drilling of tightly spaced holes and use of expansive compounds may be another alternative for rock removal.

Maintenance of safe working conditions, including temporary excavation stability, is the responsibility of the contractor. Actual slope inclinations at the time of construction should be determined based on safety requirements and actual soil and groundwater conditions. All temporary cuts in excess of 4 feet in height should be sloped in accordance with U.S. Occupational Safety and Health Administration (OSHA) regulations, or be shored. The existing native soils classify as Type A Soil and temporary excavation side slope inclinations as steep as ½H : 1V (Horizontal:Vertical) may be assumed for planning purposes. This cut slope inclination is applicable to excavations above the water table only. Flatter temporary excavation slopes will be needed if groundwater is present, or if significant thicknesses of sandy soils are present in excavation sidewalls.

Shallow, perched groundwater may be encountered during the wet weather season and should be anticipated in excavations and utility trenches. Vibrations created by traffic and construction equipment may cause some caving and raveling of excavation walls. In such an event, lateral support for the excavation walls should be provided by the contractor to prevent loss of ground support and possible distress to existing or previously constructed structural improvements.

PVC pipe should be installed in accordance with the procedures specified in ASTM D2321. We recommend that structural trench backfill be compacted to at least 90% of the maximum dry density obtained by Modified Proctor (ASTM D1557) or equivalent.

Adequate density testing should be performed during construction to verify that the recommended relative compaction is achieved. Typically, at least one density test is taken for every 4 vertical feet of backfill on each 200-lineal-foot section of trench.

Erosion Control Considerations

During our field exploration program, we did not observe soil types that would be considered highly susceptible to erosion. In our opinion, the primary concern regarding erosion potential will occur during construction, in areas that have been stripped of vegetation. Erosion at the site during construction can be minimized by implementing the project erosion control plan, which should include judicious use of straw bales and silt fences. If used, these erosion control devices should be in place and remain in place throughout site preparation and construction.

Erosion and sedimentation of exposed soils can also be minimized by quickly re-vegetating exposed areas of soil, and by staging construction such that large areas of the project site are not denuded and exposed at the same time. Areas of exposed soil requiring immediate and/or temporary protection against exposure should be covered with either mulch or erosion control netting/blankets. Areas of exposed soil requiring permanent stabilization should be seeded with an approved grass seed mixture, or hydroseeded with an approved seed-mulch-fertilizer mixture.

UNCERTAINTIES AND LIMITATIONS

We have prepared this report for the owner and their consultants for use in design of this project only. This report should be provided in its entirety to prospective contractors for bidding and estimating purposes; however, the conclusions and interpretations presented in this report should not be construed as a warranty of the subsurface conditions. Experience has shown that soil and groundwater conditions can vary significantly over small distances. Inconsistent conditions can occur between explorations that may not be detected by a geotechnical study. If, during future site operations, subsurface conditions are encountered which vary appreciably from those described herein, HGSJ should be notified for review of the recommendations of this report, and revision of such if necessary.

Sufficient geotechnical monitoring, testing and consultation should be provided during construction to confirm that the conditions encountered are consistent with those indicated by explorations. Recommendations for design changes will be provided should conditions revealed during construction differ from those anticipated, and to verify that the geotechnical aspects of construction comply with the contract plans and specifications.

Within the limitations of scope, schedule and budget, executed these services in accordance with generally accepted professional principles and practices in the field of geotechnical engineering at the time the report was prepared. No warranty, expressed or implied, is made. The scope of our work did not include environmental assessments or evaluations regarding the presence or absence of wetlands or hazardous or toxic substances in the soil, surface water, or groundwater at this site.



We appreciate this opportunity to be of service.

Sincerely,

HARDMAN GEOTECHNICAL SERVICES INC.



EXPIRES: 06-30-2021

Scott L. Hardman, P.E., G.E.
Principal Geotechnical Engineer

Attachments: References
 Photos
 Figure 1 – Vicinity Map
 Figure 2 – Site and Exploration Plan
 Figure 3 – Cross Section A-A'
 Logs of Hand Auger Borings HA-1 through HA-3
 Lots of Test Pits TP-3, TP-6 and TP-7 (ADaPT, 2000)

REFERENCES

- ADaPT Engineering, Inc. (2000), *Revised Preliminary Geotechnical Investigation, [1551] SW Upper Hall Street House*; consultant report dated April 24, 2000.
- Beeson, M.H., Tolan, T.L., and Anderson, J.L., 1989, The Columbia River Basalt Group in western Oregon; Geologic structures and other factors that controlled flow emplacement patterns: Geological Society of America Special Paper 239, in *Volcanism and tectonism in the Columbia River flood-basalt province* published by the Geological Society of America, p. 223-246.
- Gannett, M.W., and Caldwell, R.R., 1998, Geologic framework of the Willamette lowland aquifer system, Oregon and Washington: U.S. Geological Survey, Professional Paper PP-1424-A, scale 1:250,000.
- Madin, I.P., 1990, Earthquake hazard geology maps of the Portland metropolitan area, Oregon: Oregon Department of Geology and Mineral Industries Open-File Report 0-90-2, scale 1:24,000, 22 p.
- Oregon Department of Geology and Mineral Industries, SLIDO, Version 3.4, updated December 14, 2017 viewed March 16, 2019: <https://gis.dogami.oregon.gov/slido/>
- Snyder, D.T., 2008, Estimated Depth to Ground Water and Configuration of the Water Table in the Portland, Oregon Area: U.S. Geological Survey Scientific Investigations Report 2008-5059, 41 p., 3 plates.
- Yeats, R.S., Graven, E.P., Werner, K.S., Goldfinger, C., and Popowski, T., 1996, Tectonics of the Willamette Valley, Oregon: in *Assessing earthquake hazards and reducing risk in the Pacific Northwest*, Vol. 1: U.S. Geological Survey Professional Paper 1560, P. 183-222, 5 plates, scale 1:100,000.



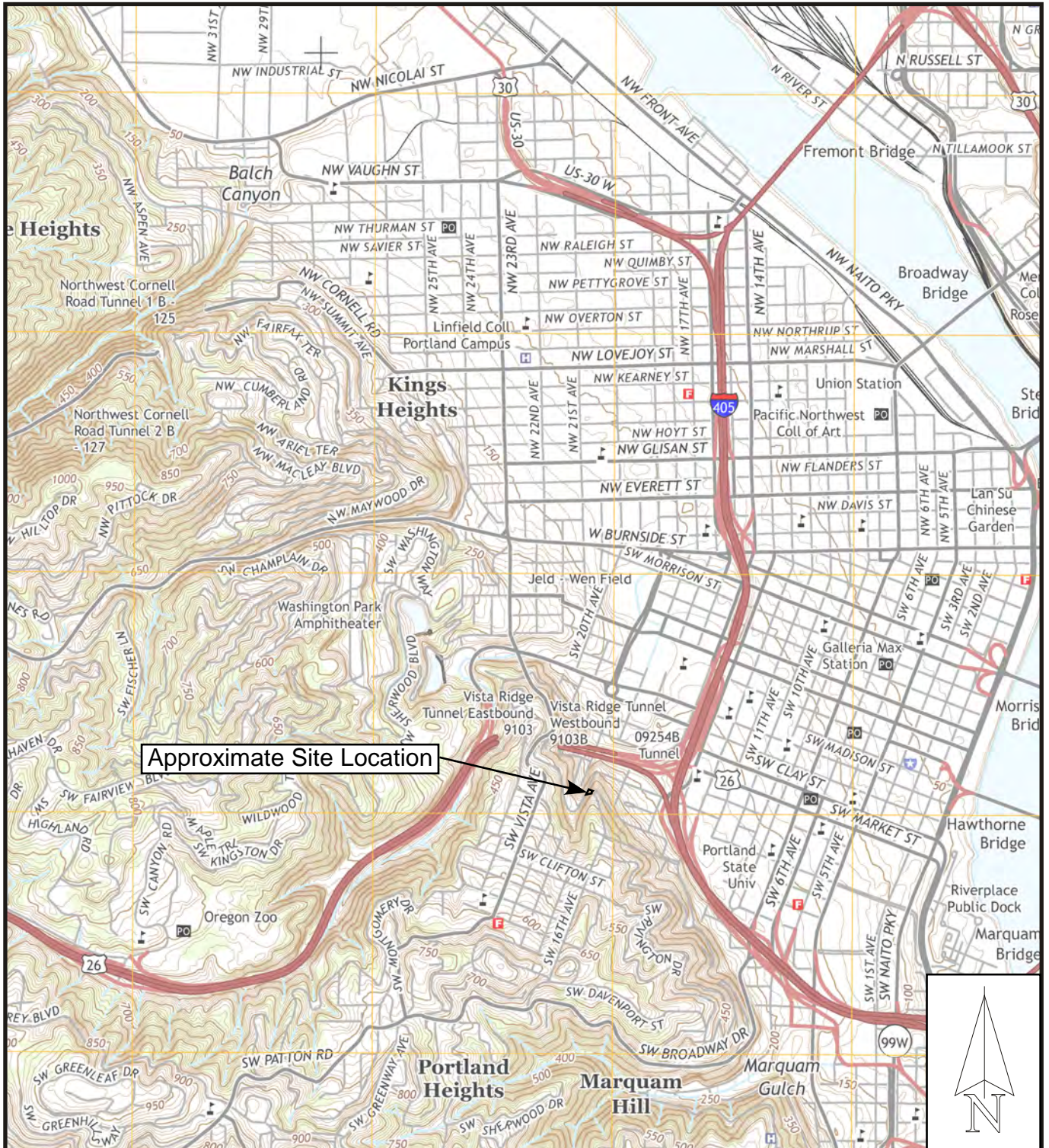
**Photo from February 2017, looking down on SW Montgomery Drive.
Mudslide from nearby property just southwest of the project site.**



**HARDMAN
GEOTECHNICAL
SERVICES INC.**

Practical, Cost-Effective Geotechnical Solutions

VICINITY MAP



Base Map: USGS Portland Quad, from US Topo, 2015

Not to Scale

Project: 00 SW Montgomery Drive
Portland, Oregon

Project No. 20-2646

FIGURE 1

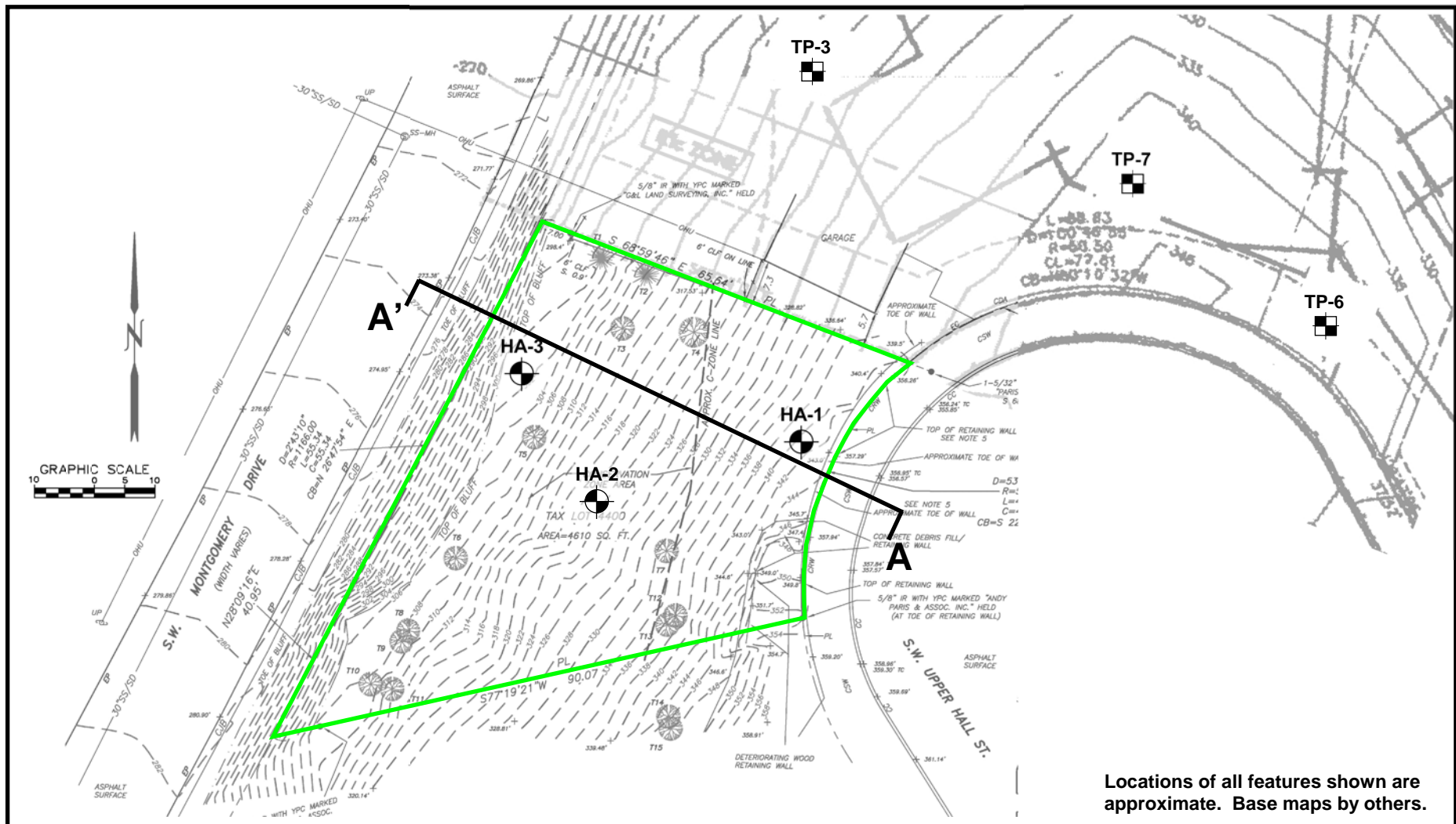
LU 21-015135 EN



**HARDMAN
GEOTECHNICAL
SERVICES INC.**

Practical, Cost-Effective Geotechnical Solutions

SITE PLAN AND EXPLORATION LOCATIONS



Locations of all features shown are approximate. Base maps by others.

Legend

TP-7 Test Pit Designation and Approximate Location (ADaPT, 2000)

HA-3 Hand Auger Boring Designation and Approximate Location, Current Study

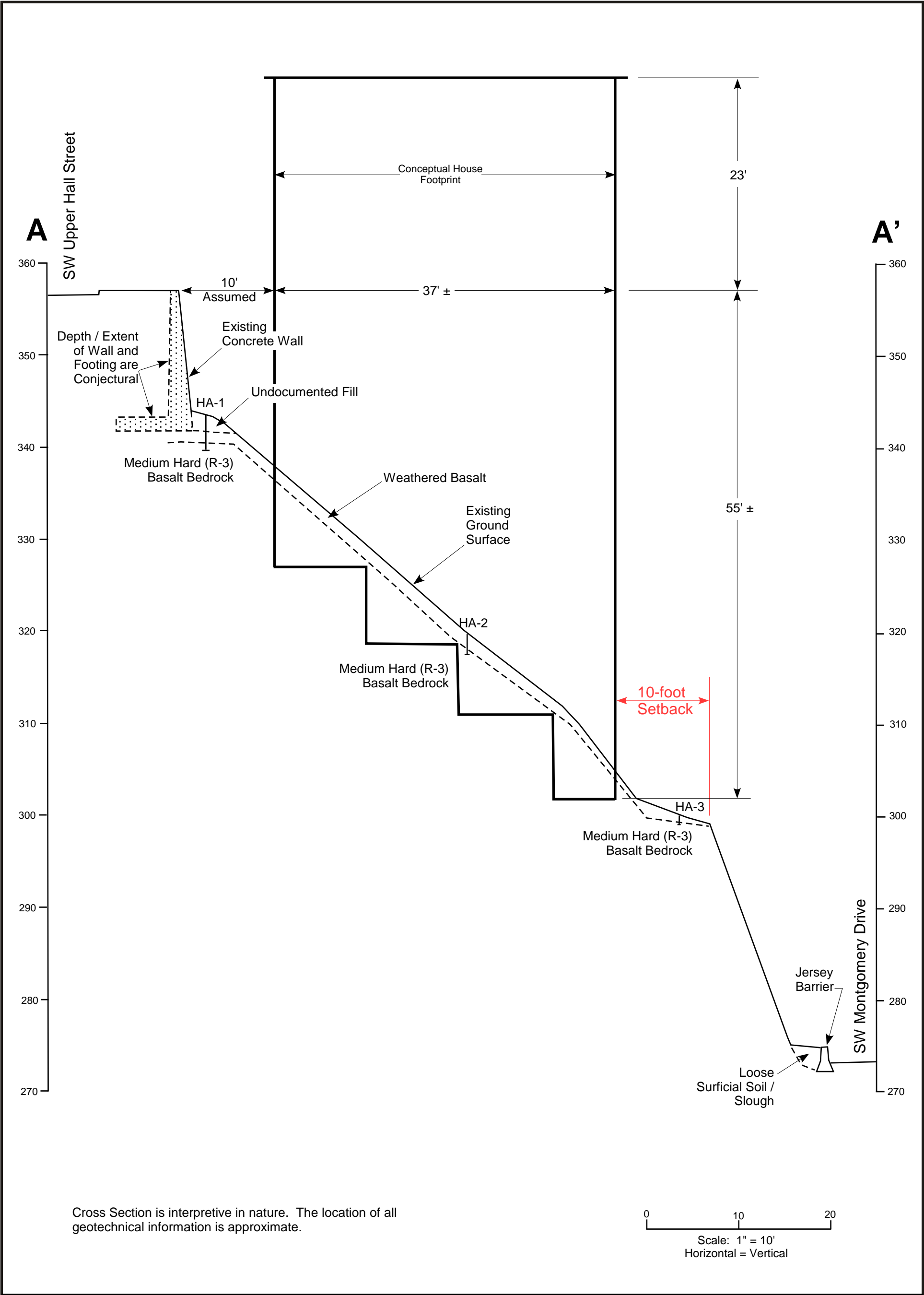
Approximate Site Boundary

Project: 00 SW Montgomery Drive at SW Upper Hall Street
Portland, Oregon

Project No. 20-2646

FIGURE 2

LU 21-015135 EN



Cross Section is interpretive in nature. The location of all geotechnical information is approximate.

LEGEND

HA-3
| Hand auger boring approximate location and designation.

Project No. 20-2646

00 SW Montgomery Drive
Portland, Oregon

Figure 3

HAND AUGER BORING LOG

Project: 00 SW Montgomery Drive
Portland, Oregon

Project No. 20-2646

Boring No. HA-1

Depth (ft)	Sample Interval	Sample Designation	In-Situ Dry Density (lb/ft³)	Moisture Content (%)	Groundwater	Material Description
1						Stiff, brown and light brown Silt with angular gravel and cobbles, slightly moist (Undocumented Fill)
2						Very stiff to hard, brown to light red brown Silt with angular gravel and cobbles, slightly moist (Weathered Basalt Bedrock)
3						Soft (R-2) to Medium Hard (R-3), gray to gray brown basalt rock, moderately weathered and jointed, slightly vesicular. (Columbia River Basalt)
4						Refusal at 3.5 feet on Medium Hard (R-3) rock No seepage or groundwater encountered
5						
6						
7						



10110 SW Nimbus Avenue, Suite B-5
Portland, Oregon 97223
(503) 530-8076

LEGEND



S-1

Soil Sample Depth
Interval and Designation



Water Level at
Time of Drilling

Date Drilled: 9/16/2020

Logged By: SLH

HAND AUGER BORING LOG

Project: 00 SW Montgomery Drive
Portland, Oregon

Project No. 20-2646

Boring No. HA- 2

Depth (ft)	Sample Interval	Sample Designation	In-Situ Dry Density (lb/ft ³)	Moisture Content (%)	Groundwater	Material Description
1						Stiff, brown and light brown Silt with angular gravel, slightly moist, slightly organic with trace roots (Topsoil) ----- Very stiff to hard, brown to light red brown Silt with angular gravel and cobbles, slightly moist (Weathered Basalt Bedrock) ----- Soft (R-2) to Medium Hard (R-3), gray to gray brown basalt rock, moderately weathered and jointed, slightly vesicular. (Columbia River Basalt)
2						Refusal at 2 feet on Medium Hard (R-3) rock No seepage or groundwater encountered
3						
4						
5						
6						
7						

HCSI HARDMAN
GEOTECHNICAL
SERVICES INC.
Practical Cost-Effective Geotechnical Solutions
10110 SW Nimbus Avenue, Suite B-5
Portland, Oregon 97223
(503) 530-8076

LEGEND



S-1

Soil Sample Depth
Interval and Designation



Water Level at
Time of Drilling

Date Drilled: 9/16/2020

Logged By: SLH

HAND AUGER BORING LOG

Project: 00 SW Montgomery Drive
Portland, Oregon

Project No. 20-2646

Boring No. HA-3

Depth (ft)	Sample Interval	Sample Designation	In-Situ Dry Density (lb/ft³)	Moisture Content (%)	Groundwater	Material Description
1						Soft (R-2) to Medium Hard (R-3), gray to gray brown basalt rock, moderately weathered and jointed, slightly vesicular. (Columbia River Basalt)
2						Refusal at 1 foot on Medium Hard (R-3) rock No seepage or groundwater encountered
3						
4						
5						
6						
7						

HGSI HARDMAN
GEOTECHNICAL
SERVICES INC.
Practical Cost-Effective Geotechnical Solutions
10110 SW Nimbus Avenue, Suite B-5
Portland, Oregon 97223
(503) 530-8076

LEGEND



S-1

Soil Sample Depth
Interval and Designation



Water Level at
Time of Drilling

Date Drilled: 9/16/2020

Logged By: SLH

LU 21-015135 EN

**ADaPT Engineering, Inc.**

17700 SW Upper Boones Ferry Road, Suite 100
Portland, Oregon 97224
Tel: (503) 598-8445 Fax: (503) 598-8705

TEST PIT LOG

Project: Upper Hall Street
Residence
Portland, Oregon

Job No. OR00-3727

Test Pit No. **TP-3**

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Sample Type	In-Situ Dry Density (lb/ft ³)	Moisture Content (%)	Water Bearing Zone	Material Description
1						Brown, SILT with gravel and cobble sized basalt fragments, with numerous fine rootlets and roots (to 1"), moist
2						
3						Gray, BASALT BEDROCK, medium hardRH-3), close jointed, slightly weathered, slightly vesicular to dense
4						Test Pit Terminated at 3.5 feet due to practical refusal of spiderhoe Note: No significant seepage or groundwater encountered.
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						

LEGEND

Bag Sample



Bucket Sample



Shelby Tube Sample



Seepage



Water Bearing Zone



Water Level at Abandonment

Date Excavated: 3/16/00

Logged By: K LW

Surface Elevation:

**ADaPT Engineering, Inc.**

17700 SW Upper Boones Ferry Road, Suite 100

Portland, Oregon 97224

Tel: (503) 598-8445 Fax: (503) 598-8705

TEST PIT LOG**Project:** Upper Hall Street
Residence
Portland, Oregon**Job No.** OR00-3727**Test Pit No.** TP-6

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Sample Type	In-Situ Dry Density (lb/ft ³)	Moisture Content (%)	Water Bearing Zone	Material Description
1						Brown, SILT (ML) with abundant organics and roots, damp (man-made fill)
2						
3						Brown, SILT (ML), with some basalt fragments (to 3' diameter), damp (man-made fill)
4						
5						
6						
7						
8						Gray, BASALT BEDROCK, medium hardRH-3), close jointed, slightly weathered, slightly vesicular to dense
9						
10						Test Pit Terminated @ 8.5 feet due to practical refusal of spiderhoe
11						
12						Note: No seeps or groundwater encountered.
13						
14						
15						
16						
17						

LEGEND

Bag Sample



Bucket Sample



Shelby Tube Sample



Seepage



Water Bearing Zone



Water Level at Abandonment

Date Excavated: 3/16/00

Logged By: K LW

Surface Elevation:

**AdaPT Engineering, Inc.**

17700 SW Upper Boones Ferry Road, Suite 100

Portland, Oregon 97224

Tel: (503) 598-8445 Fax: (503) 598-8705

TEST PIT LOGProject: Upper Hall Street
Residence
Portland, Oregon

Job No. OR00-3727

Test Pit No. **TP-7**

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Sample Type	In-Situ Dry Density (lb/ft ³)	Moisture Content (%)	Water Bearing Zone	Material Description
1						Brown, SILT (ML) with abundant organics and roots, damp (man-made fill)
2						Brown, SILT (ML), with some roots to a depth of 2.0' , damp (man-made fill)
3						
4						
5						
6						
7						
8						Gray, BASALT BEDROCK, medium hard (RH-3), close jointed, slightly weathered, slightly vesicular to dense
9						Test Pit Terminated @ 8.0 feet due to practical refusal of spiderhoe
10						
11						Note: No seeps or groundwater encountered.
12						
13						
14						
15						
16						
17						

LEGEND

Bag Sample



Bucket Sample



Shelby Tube Sample



Seepage



Water Bearing Zone



Water Level at Abandonment

Date Excavated: 3/16/00

Logged By: K LW

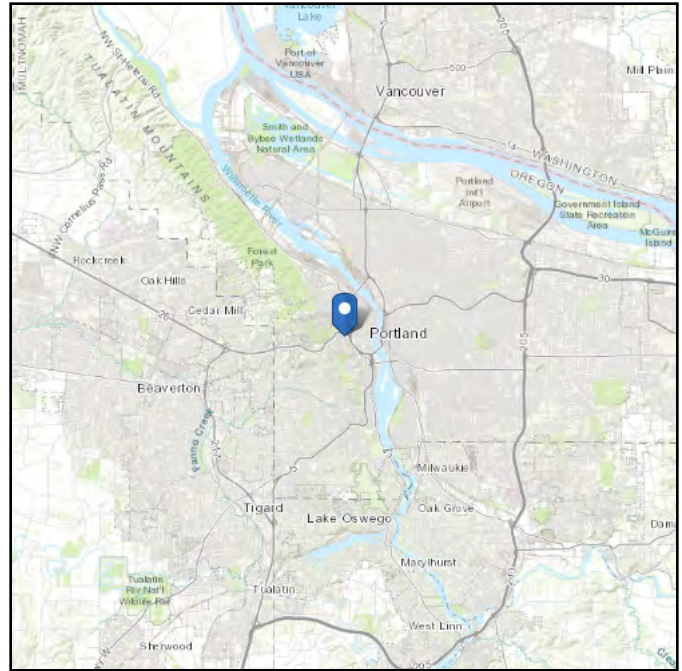
Surface Elevation:

ASCE 7 Hazards Report

Address:
No Address at This
Location

Standard: ASCE/SEI 7-16
Risk Category: III
Soil Class: C - Very Dense
Soil and Soft Rock

Elevation: 330.72 ft (NAVD 88)
Latitude: 45.5139
Longitude: -122.6939

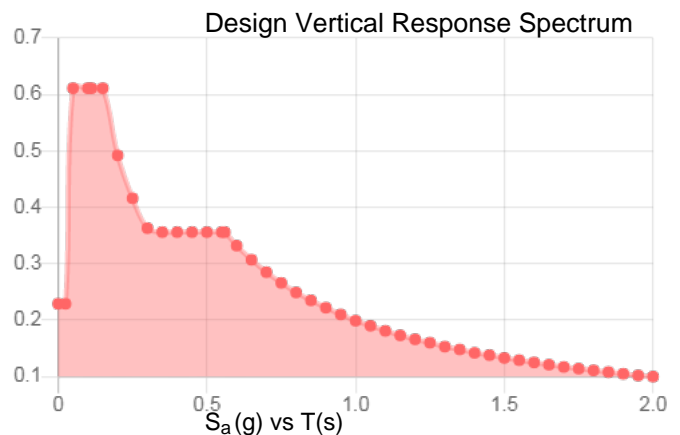
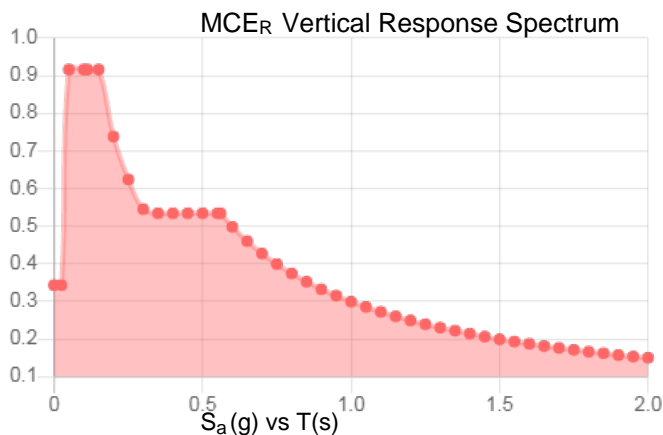
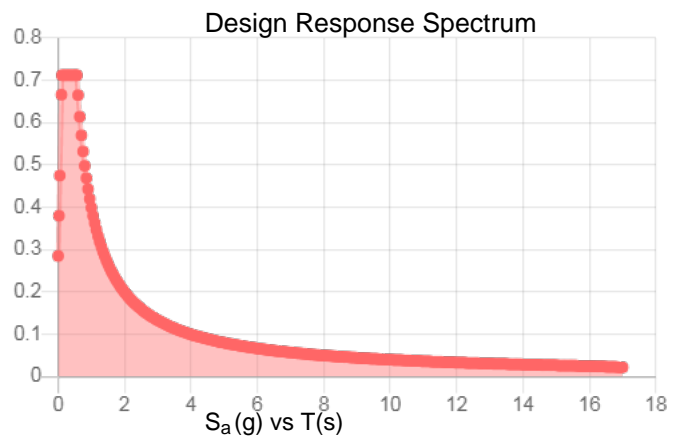
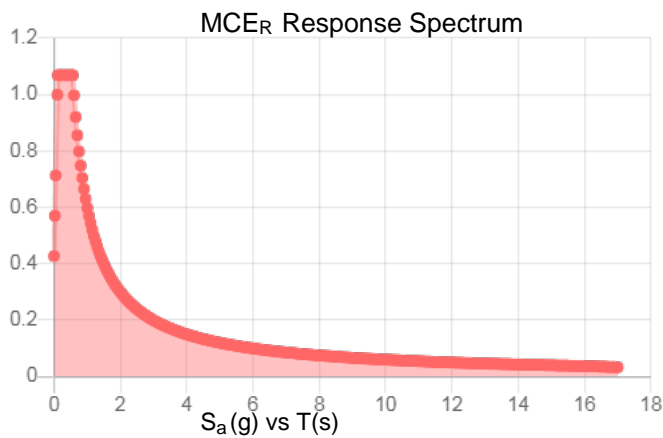


Site Soil Class: C - Very Dense Soil and Soft Rock

Results:

S_S :	0.89	S_{D1} :	0.399
S_1 :	0.399	T_L :	16
F_a :	1.2	PGA :	0.401
F_v :	1.5	PGA _M :	0.481
S_{MS} :	1.068	F_{PGA} :	1.2
S_{M1} :	0.598	I_e :	1.25
S_{DS} :	0.712	C_v :	1.072

Seismic Design Category D



Data Accessed:

Thu Sep 24 2020

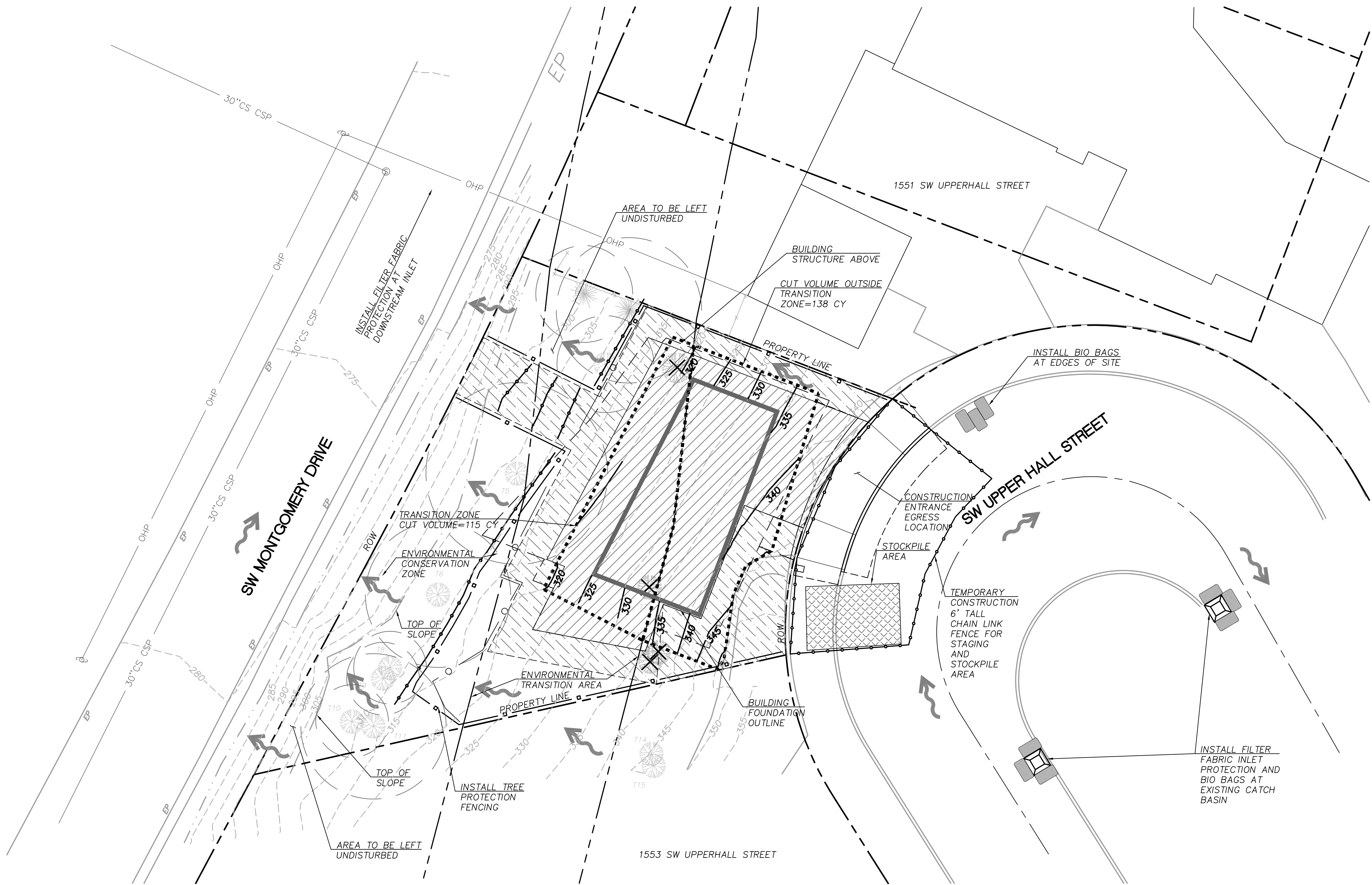
Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

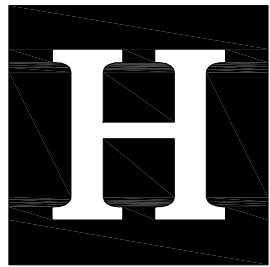
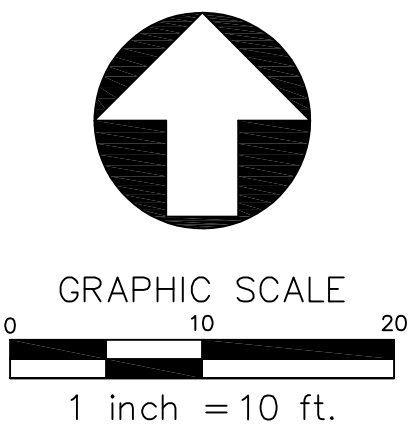
In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.



CONSTRUCTION MANAGEMENT PLAN
SCALE: 1"=10'

SHEET LEGEND		
ITEM	DESCRIPTION	REFERENCE
	FILTER FABRIC INLET PROTECTION AT AREA DRAIN TYPE CATCH BASINS	$\frac{3}{C3.0}$
	DRAINAGE FLOW DIRECTION	
	EXISTING CONTOUR	
	PROPOSED CONTOUR	
	SEDIMENT FENCE	$\frac{4}{C3.0}$
	STRAW WATTLES	$\frac{1}{C3.1}$
	CONSTRUCTION FENCE	
	TREE PROTECTION FENCE	$\frac{6}{C3.0}$
	ROOT PROTECTION ZONE	
	LIMITS OF WORK	
	CUT AND FILL QUANTITIES	
	BIO-BAGS	$\frac{5}{C3.0}$
	REMOVE EXISTING TREE	
	STOCKPILE	$\frac{3}{C3.1}$
	PERMANENT DISTURBANCE LIMITS	
	TEMPORARY DISTURBANCE LIMITS	

SHEET NOTES		
1.	PROTECT EXISTING CONDITIONS OUTSIDE LIMITS OF WORK.	
2.	TRANSITION ZONE CUT VOLUME=115 CUBIC YARD CUT VOLUME OUTSIDE TRANSITION ZONE=148 CUBIC YARD	
3.	EXISTING CONTOURS WILL BE RE-ESTABLISHED AND NO ADDITIONAL GRADING WILL OCCUR DURING CONSTRUCTION. 1,407 SF PERMANENT DISTURBANCE 1,237 SF TEMPORARY DISTURBANCE 2,644 SF TOTAL DISTURBANCE	
4.	DISTURBED SLOPE SHALL BE GRASSED AND/OR LANDSCAPED AT EARLIEST PRACTICABLE TIME. EROSION CONTROL MAT TO BE PLACED IN ADDITION TO SEEDING.	
5.	STRAW WATTLES TO BE INSTALLED DOWN SLOPE OF SEDIMENT FENCE WITHIN LIMITS OF WORK. AT NO TIME SHALL MORE THAN 1' OF SEDIMENT BE ALLOWED TO ACCUMULATE UP SLOPE OF SEDIMENT FENCE.	
6.	STOCKPILES TO BE STABILIZED AND COVERED AT END OF EACH WORK DAY WITH PLASTIC SHEET COVERING.	
7.	CONSTRUCTION EQUIPMENT SHALL NOT TRACK SEDIMENT INTO PUBLIC ROW. CONTRACTOR TO UTILIZE RUMBLE PADS OR ROCK CONSTRUCTION ENTRANCE TO PREVENT SEDIMENT TRACKING.	
8.	CONTRACTOR SHALL ENSURE SEDIMENT FROM EQUIPMENT LEAVING THE SITE DOES NOT ENTER PUBLIC RIGHT-OF-WAY.	
9.	SEE EXISTING CONDITIONS PLAN FOR TREE SIZE AND SPECIES.	
10.	SITE DOES NOT CONTAIN ANY PORTION OF THE 100 YEAR FLOOD PLAIN.	



Humber
Design
Group, Inc.
Portland, OR
503.946.6690
hdgpx.com

CONSTRUCTION MANAGEMENT PLAN

UPPERHALL RESIDENCE
KENTON REICHEN AND KENZIE MICHALSKI
00 SW UPPER HALL STREET (R128256)

PROJECT NO.:	BY	DESCRIPTION	DATE	REV.
MAR001				
DRAWN BY:				
MDR				
DESIGN BY:				
MDR				
REVIEWED BY:				
KAM				
DATE:				
02/12/21				

SHEET NO.

C1.0



Portland, OR
503.946.6690
dgpdx.com

UTILITY PLAN

UPPERHALL RESIDENCE

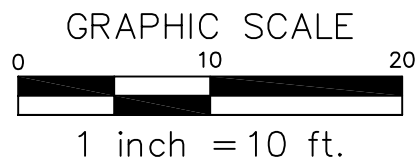
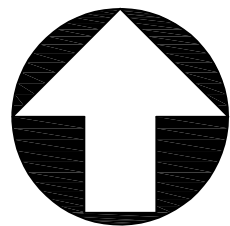
KENION REICHEN AND KENZIE MICHALSKI
00 SW UPPER HALL STREET (R128255)

PROJECT NO.:	MAR001
DRAWN BY:	MDR
DESIGN BY:	MDR
REVIEWED BY:	KAM
DATE:	02/12/21

SHEET NO.

C2.0

P:\MAR001 - Upper Hall Residence\7 - CAD Drawings\X\MAR001 - Utility Plan.dwg Feb 15, 2021 - 12:34pm



LU 21-015135 EN



City of Portland, Oregon - Bureau of Development Services

1900 SW Fourth Avenue • Portland, Oregon 97201 | 503-823-7300 | www.portland.gov/bds



Land Use Review Application

File Number: _____

FOR INTAKE, STAFF USE ONLY

Date Rec _____ by _____

☐ Type I ☐ Type Ix ☐ Type II ☐ Type IIx ☐ Type III ☐ Type IV

LU Reviews _____

[Y] [N] Unincorporated MC

[Y] [N] Flood Hazard Area (LD & PD only)

[Y] [N] Potential Landslide Hazard Area (LD & PD only)

[Y] [N] 100-year Flood Plain [Y] [N] DOGAMI

Qtr Sec Map(s) _____ Zoning _____

Plan District _____

Historic and/or Design District _____

Neighborhood _____

District Coalition _____

Business Assoc _____

Related File # _____

APPLICANT: Complete all sections below that apply to the proposal. Please print legibly.

Email this application and supporting documents to: LandUseIntake@portlandoregon.gov

Development Site

Address or Location _____

Cross Street _____ Sq. ft./Acreage _____

Site tax account number(s)

R _____ R _____ R _____

R _____ R _____ R _____

Adjacent property (in same ownership) tax account number(s)

R _____ R _____ R _____

Describe project (attach additional page if necessary)

Describe proposed stormwater disposal methods

Identify requested land use reviews

- **Design & Historic Reviews** - For **new development**, provide project valuation.

For **renovation**, provide exterior alteration value.

AND provide total project valuation.

\$ _____

\$ _____

\$ _____

- **Land Divisions** - Identify number of lots (include lots for existing development).

New street (public or private)?

☐ yes ☐ no

- **Affordable Housing** - For buildings containing five or more dwelling units, will 50% or more of the units be affordable to households with incomes equal to or less than 60% of the median family income for the county or state, whichever is greater?

☐ yes ☐ no ☐ N/A

continued / over

Applicant Information

- Identify the primary contact person, applicant, property owner and contract purchaser. Include any person that has an interest in your property or anyone you want to be notified. Information provided, including telephone numbers and e-mail addresses, will be included in public notices.
- For all reviews, the applicant must sign the Responsibility Statement.
- For land divisions, all property owners must sign the application.

PRIMARY CONTACT:

Typed Full Name _____ I acknowledge this typed name as my signature

Company/Organization _____

Mailing Address _____

City _____ State _____ Zip Code _____

Day Phone _____ FAX _____ email _____

Check all that apply ☐ Applicant ☐ Owner ☐ Other

Typed Full Name _____ I acknowledge this typed name as my signature

Company/Organization _____

Mailing Address _____

City _____ State _____ Zip Code _____

Day Phone _____ FAX _____ email _____

Check all that apply ☐ Applicant ☐ Owner ☐ Other

Typed Full Name _____ I acknowledge this typed name as my signature

Company/Organization _____

Mailing Address _____

City _____ State _____ Zip Code _____

Day Phone _____ FAX _____ email _____

Check all that apply ☐ Applicant ☐ Owner ☐ Other

Typed Full Name _____ I acknowledge this typed name as my signature

Company/Organization _____

Mailing Address _____

City _____ State _____ Zip Code _____

Day Phone _____ FAX _____ email _____

Check all that apply ☐ Applicant ☐ Owner ☐ Other

Responsibility Statement As the applicant submitting this application for a land use review, I am responsible for the accuracy of the information submitted. The information being submitted includes a description of the site conditions. I am also responsible for gaining the permission of the owner(s) of the property listed above in order to apply for this review and for reviewing the responsibility statement with them. If the proposal is approved, the decision and any conditions of the approval must be recorded in the County Deed Records for the property. The City of Portland is not liable if any of these actions are taken without the consent of the owner(s) of the property. In order to process this review, City staff may visit the site, photograph the property, or otherwise document the site as part of the review. I understand that the completeness of this application is determined by the Director. By my signature, I indicate my understanding and agreement to the Responsibility Statement.

Name of person submitting this application agrees to the above Responsibility Statement and acknowledges typed name as signature:

Date: _____

Phone number: _____

Email this application and supporting documents to
LandUseIntake@portlandoregon.gov

Submittal of locked or password protected documents will delay intake of your application. 2

February 15, 2021

Owner: Kenton Reichen

RE: SW Upper Hall Street (R128255)– Environmental Review

Proposal

The applicant is proposing a new single-family detached dwelling on this vacant lot on SW Upper Hall Street. The site is in the R5 and R5c zone. A majority of the site is in the R5c zone. The portion of the site outside of the c overlay is up along SW Upper Hall Street.

The proposed dwelling meets the applicable standards in the environmental zone. The proposed sanitary lateral and storm water outfall connection disturbance is within the resource area and requires environmental review. This narrative addresses the applicable review standards and criterion for environmental review.

Per the geotechnical report from HGSI, Inc., the site is suitable for construction of a single-family home. The natural slope grades are steep. The proposed dwelling has been located along SW Upper Hall Street (uphill side) on the less steep portion of the site. Per HGSI, Inc. report (pg. 5), stormwater management systems should be designed such that potential overflow is discharged in a controlled manner away from structures and slopes.

Storm water from the proposed dwelling is proposed to be treated by a storm planter at the west side (rear) of the dwelling. Outfall from this planter is proposed to connect to the sanitary lateral for the proposed house and then will connect into the existing combo sewer in SW Montgomery, west of the proposed house. This connection goes through the resource area on the site and requires environmental review.

33.430 Environmental Zones

33.430.120 Procedure

- A. Generally. Compliance with the development standards of this chapter is required for all development in the environmental zones and is determined as part of the building permit or development permit application process. For proposals that cannot meet all of the standards, Environmental Review is required. Where a proposal can meet all the standards, the applicant may choose to go through the discretionary environmental review process, or to meet the objective standards of this chapter.**

The development standards are Sections 33.430.140 through .190; Sections 33.430.150 through .190 address specific types or aspects of development, while 33.430.140 applies to proposals not covered by the more specific sections. A proposal may be subject to several sections. For example, construction of a house may be subject to the General Development Standards of 33.430.140, the standards of 33.430.150, Utilities, and the standards of 33.430.180, Stormwater Outfalls. If the proposal can meet the general standards and standards for utilities, but not those for a stormwater outfall, environmental review is required only for the stormwater outfall. To be eligible to use the development standards for an aspect of a proposal, all of the standards within the relevant section must be met.

- B. Adjustments prohibited. Adjustments to these standards are prohibited. Proposals that do not meet all the standards within each relevant section require approval through environmental review described in Sections 33.430.210 through .280.**

Response:

The proposed dwelling on the currently vacant lot (SW Upper Hall Street – R128255) complies with all the development standards in this section, except for temporary disturbance area in the resource area for the sanitary and stormwater connections. Therefore, environmental review is required. The environmental review criteria are addressed below to show conformance with the code.

33.430.140 General Development Standards

The standards below apply to all development in the environmental zones except as follows:

- **Utilities subject to Section 33.430.150;**
- **Land divisions subject to Section 33.430.160;**
- **Property line adjustment subject to Section 33.430.165;**
- **Resource enhancement projects subject to Section 33.430.170;**
- **Rights-of-way improvements subject to Section 33.430.175;**
- **Stormwater outfalls subject to Section 33.430.180; and**
- **Public recreational trails subject to Section 33.430.190.**

Standards A through C and G through S apply to new development. Standards D through S except L apply to alterations to existing development. Only standards E, J, K, N, Q, R, and S apply in Transition areas. All of the applicable standards must be met.

Response:

Standards A-C and G-S are addressed below. All of these standards are satisfied with the proposed new dwelling. The proposed utility connection (sanitary sewer lateral) meets the required standards in Section 33.430.150. Section 33.430.180 is addressed below for the stormwater outfall.

A. The maximum disturbance area allowed within the resource area on the site is determined by subtracting all portions of the site outside the resource area from the number listed in Table 430-1.

Response:

There is 1,306 sf of area on the site outside of the c zone. There is 1,704 sf of area in the transition zone. The site is in the R5 zone. Therefore, per Table 430-1, -546 sf (or zero) of disturbance is allowed within the resource area on the site (2,500 sf – 3,046 sf). 125 sf of disturbance area (temporary disturbance area) is proposed for the sewer and stormwater connection within the c zone. Therefore, environmental review is required.

B. The disturbance area is set back at least 5 feet from the resource area of any environmental protection zone;

Response:

There is no resource area in the environmental protection zone on the site or abutting the site. Therefore, this standard is not applicable.

C. The disturbance area must be set back at least:

- 1. Fifty feet from the edge of any identified wetland, from the top of bank of any identified water body within the Columbia Corridor, or any identified water body within a protection zone on lots zoned R10, R20, or RF. When reconfiguration of the bank is carried out in accordance with subsection .170.A, below, results in the top of bank shifting landward, the applicant may choose to measure the setback from the original top of bank. When this**

occurs, a survey of the original top of bank line and the new top of bank line must be submitted for verification and then recorded with the County recorder. In all cases the disturbance area must be set back at least 5 feet from the new top of bank line;

2. Thirty feet from the top of bank of any identified water body within a protection zone on all lots except those zoned R10, R20 or RF; and
3. Thirty feet from the centerline of any identified water bodies within a conservation zone except those within the Columbia Corridor.

Response:

There is no wetland on the subject site. The site is in the R5 zone. There is no identified water body on the site or abutting the site. Therefore, this standard is not applicable.

G. The proposed buildings must be set back at least 5 feet from the edge of the disturbance area;

Response:

The proposed building is setback at least 5 feet from the edge of the disturbance area. See Sheet L101. This standard is satisfied.

H. Where the distance between a building and the edge of the disturbance area is less than 10 feet, additional temporary disturbance area is allowed. The edge of the additional temporary disturbance area may extend no more than 10 feet from the building. The temporary disturbance area must be replanted with three different native shrub species at a minimum 1-gallon size or bare root, planted at a density of 3 plants per 10 square feet with the remaining area planted with native groundcover using a minimum of 4-inch pots at a density of 8 plants per 10 square feet;

Response:

The proposed distance between the building and the edge of disturbance on the north, south and west sides is less than 10 feet (within the transition area). Additional temporary disturbance area is not proposed. Temporary disturbance area in the transition area is proposed to be replanted per the plant schedule on Sheet L101. This standard is satisfied.

I. Temporary disturbance areas and portions of the resource area where removal of nonnative vegetation occurs must be replanted so that the area achieves a 90 percent vegetation cover within one year;

Response:

Temporary disturbance area (125 sf) for the sanitary lateral and stormwater connection will be replanted so that the area achieves a 90-percent vegetation cover within one year. Native shrubs and ground covers are proposed in the temporary disturbance area and will meet the required planting densities as required. Proposed plantings for this area are as follows:

Sewer Lateral/Stormwater Connection Temporary Disturbance

Botanical/Common Name	Quantity	Size
Shrubs		
Gaultheria shallon	10/100 sf	1 Gal.
Polystichum munitum	18/100 sf	1 Gal.
Berberis aquifolium	2/100 sf	1 Gal.
Ground Cover		
Tellima grandiflora	80/100 sf	4" Pot
Sunmark Seed	125 sf	Seed @ Rate of 1 lb per 1000 sf

Since the site is partially covered in nonnative vegetation, specifically Clematis vitalba/Traveler's Joy, Cytisus scoparius/Scotch Broom and Hedera helix/English Ivy, a nuisance plant removal planting plan has been established. Approximately 750 square feet of the previously mentioned nuisance plants will be removed around the property within the transition area and replaced with native plants including shrubs and groundcover to meet required densities and 750 square feet of seeding to meet 100% coverage.

Nuisance Removal Mitigation

Botanical/Common Name	Quantity	Size
Shrubs		
Polystichum munitum	4/100 sf	1 Gal.
Ground Cover		
Tellima grandiflora	14/100 sf	4" Pot
Seed Mix		
Sunmark Seed	750 SF	Seed @ Rate of 1 lb per 1000 sf

This standard is satisfied.

J. Tree removal and replacement standards.

1. Removal of native trees is allowed as follows:

- a. Trees removed from resource and transition areas must be replaced as shown in Table 430-3. Trees less than 6 inches in diameter do not have to be replaced.
- b. In resource and transition areas, the combined total diameter of all trees removed may not exceed 225 inches, counting only native trees that are at least 6 inches in diameter;
- c. In resource areas, trees may be removed only if one of the following is met:
 - (1) Within 10 feet of existing or proposed buildings and structures attached to buildings, such as decks, stairs, and carports;
 - (2) Within 10 feet of proposed driveways or right-of-way improvements; or
 - (3) To create up to 500 square feet of permanent disturbance area for uses such as gardens and play area.

2. Non-native non-nuisance trees may be removed if each tree at least 6 inches in diameter is replaced as shown in Table 430-3;
3. Trees listed on the Nuisance Plants List may be removed, if each tree at least 6 inches in diameter is replaced with one native tree; and
4. For replacement of non-native trees and trees in transition areas, applicants may pay a revegetation fee as described in Table 430-2 in lieu of planting on the site. The fee is based on the number of trees required under Table 430-3, Option A.

Response:

Two trees (deciduous and maple) are proposed to be removed on the site within the c zone for the proposed dwelling location. These are trees 4 and 7. The tree removal requires 5 trees (Option A) or 3 trees and 3 shrubs (if Option B is used for eligible trees) to be planted

according to Table 430-3. Option A was selected for the tree mitigation. A tree plan is included (Sheet L100) and a landscape plan is included (Sheet L101).

Tree Mitigation: Option A

Botanical/Common Name	Quantity	Size
Trees		
Acer macrophyllum / Big Leaf Maple	1	2" caliper
Taxus brevifolia / Pacific Yew	3	2" caliper
Cornus nuttallii / Western Flowering Dogwood	1	2" caliper

- K. Replacement trees must be at least one-half inch in diameter; shrubs must be in at least a 1-gallon container or the equivalent in ball and burlap. All trees and shrubs must be selected from the Portland Plant List and planted on the site within the environmental zone. Conifers must be replaced with conifers and shrubs must consist of at least two different species;**

Response:

The proposed replacement trees will be at least ½" in diameter, as noted in the table above of proposed replacement trees. The trees were selected from the Portland Plant List. The replacement trees are proposed to be planted within the environmental c zone on the site. This standard is satisfied.

L. Nuisance plants.

- 1. Remove plants on the Nuisance Plants List in an area on the site that is equal to 50 percent of the size of the proposed permanent disturbance area, or from the entire site, whichever is less.**
- 2. Plant removal must occur outside of the permanent and temporary disturbance areas.**
- 3. Nuisance plant removal entails actions such as the removal of: roots, the above ground portion of the plant, and the seeds of the plant such that existing nonnuisance or newly installed plants are able to grow and survive. The non-nuisance plants are maintained free of nuisance plants.**
- 4. The cleared area must be replanted as follows:**
 - a. Seed the entire area of removal with a native grass seed.**
 - b. Install seven groundcover plants and two shrubs per 50 square feet. Groundcover plants must be a minimum size of four inch pots and the shrubs a minimum size of one gallon pots.**
 - c. Removed native and non-native non-nuisance trees are replanted in accordance with Section 33.430.140.M.**
 - d. Planting native species listed on the Portland Plant List is required.**

Response:

Since the site is partially covered in nonnative vegetation, specifically Clematis vitalba/Traveler's Joy, Cytisus scoparius/Scotch Broom and Hedera helix/English Ivy, a nuisance plant removal planting plan has been established. Approximately 750 square feet of the previously mentioned nuisance plants will be removed around the property within the transition area and replaced with native plants including shrubs and groundcover to meet required densities and 750 square feet of seeding to meet 100% coverage.

Nuisance Removal Mitigation

Botanical/Common Name	Quantity	Size
Shrubs		
Polystichum munitum	4/100 sf	1 Gal.
Ground Cover		

Tellima grandiflora	14/100 sf	4" Pot
Seed Mix		
Sunmark Seed	750 SF	Seed @ Rate of 1 lb per 1000 sf

This standard is satisfied.

M. All vegetation planted in a resource area is native and listed on the Portland Plant List. Plants listed on the Nuisance Plants List are prohibited;

Response:

All proposed vegetation for planting in the environmental c zone is native and listed on the Portland Plant List. This standard is satisfied.

N. The minimum front and street building setback and garage entrance setback of the base zone may be reduced to any distance between the base zone minimum and zero. Where a side lot line is also a street lot line the side building and garage entrance setback may be reduced to any distance between the base zone minimum and zero. Parking spaces may be allowed within the first 10 feet from a front lot line, and within a minimum side street setback;

Response:

The proposed front setback to the dwelling is 10 feet and 5 feet to the garage. Due to the slope of the lot the front setback can be reduced with a height limitation in the reduced setback area. The garage within the reduced setback area is 10 feet in height. This standard is satisfied.

O. Maximum front or street setbacks are as follows:

- 1. The front building or street setback of the base zone is the maximum building setback for primary structures.**
- 2. On a lot with more than one street lot line the maximum setback standard applies to the street lot line that is farthest from the resource area.**
- 3. In zones with no minimum front or street setback, the maximum setback is 10 feet.**

Response:

The proposed front setback to the dwelling is 10 feet and 5 feet to the garage. This standard is satisfied.

P. Fences are allowed only within the disturbance area;

Response:

There are no proposed fences. Therefore, this standard is not applicable.

Q. Parking and truck area buffers:

- 1. Auto and light truck areas. For commercial, industrial, and multi-dwelling residential uses, parking areas for autos and light trucks include a ten foot perimeter buffer from the resource area. The buffer is landscaped with plants listed on the Portland Plant List to at least the L2 standard, as stated in Chapter 33.248, Landscaping and Screening;**
- 2. Medium and heavy truck areas. Where allowed by the base zone, the parking, loading, and maneuvering areas for medium and heavy trucks include a ten foot perimeter buffer from the resource area. The buffer is landscaped with**

plants listed on the Portland Plant List to at least the L3 standard, as stated in Chapter 33.248, Landscaping and Screening;

Response:

The proposed development is for a single-family dwelling. Therefore, this standard is not applicable.

R. Exterior lights must be spaced at least 25 feet apart. Incandescent lights exceeding 200 watts (or other light types exceeding the brightness of a 200-watt incandescent light) must be placed so they do not shine directly into resource areas; and

Response:

Any exterior lights on the dwelling will be placed to meet the required spacing and will not be brighter than 200 watts. This standard is satisfied.

S. Exterior storage and display areas include a ten-foot perimeter buffer from the resource area. The buffer is landscaped to at least the L3 standard, as stated in Chapter 33.248, Landscaping and Screening.

Response:

The proposed development is for a single-family dwelling. No exterior storage or display areas are proposed. Therefore, this standard is not applicable.

33.430.150 Standards of Utility Lines

The following standards apply to private connections to existing utility lines and the upgrade of existing public utility lines in resource areas. All of the standards must be met unless exempted by Subsection F.

A. The disturbance area for private connections to existing utility lines is no greater than 10 feet wide;

Response:

The disturbance area for the proposed private sanitary lateral connection to the house and for the stormwater overflow connection from the planter to the existing combo sewer main in SW Montgomery Drive is 10 feet in width. The temporary disturbance area for the sewer lateral and stormwater connection is shown on the plans as 10-feet in width. This standard is satisfied.

B. The disturbance area for the upgrade of existing public utility lines is no greater than 15 feet wide;

Response:

There is no proposed upgrade to an existing public utility line. This standard is not applicable.

C. The utility construction does not occur within a stream channel, identified wetland, or water body;

Response:

The proposed sewer lateral/stormwater connection construction does not occur within a stream channel, identified wetland, or water body. This standard is satisfied.

D. Disturbance areas must be planted with native species listed in the Portland Plant List according to the following densities:

1. Three different native shrub species are required at a minimum 1-gallon size or bare root, planted at a density of 3 plants per 10 square feet;
2. The remaining area must be planted with native groundcover using a minimum of four inch pots at a density of 8 plants per ten square feet; and
3. Below the top of bank on slopes greater than 30 percent or in riprap areas, live stakes, 2 to 12 inches in diameter, may be substituted for the requirements of D.1 and D.2 above. Stakes must be installed at a density of 2 to 4 stakes per square yard. Detailed specifications for installing live stakes are found in the Erosion Control Manual.

Response:

The area of temporary disturbance for the proposed sewer line and stormwater connection is 125 square feet. Native shrubs and ground covers are proposed in in the temporary disturbance area and will meet the required planting densities as required. Proposed plantings for this area are as follows:

Sewer Lateral/Stormwater Connection Temporary Disturbance

Botanical/Common Name	Quantity	Size
Shrubs		
<i>Gaultheria shallon</i>	10/100 sf	1 Gal.
<i>Polystichum munitum</i>	18/100 sf	1 Gal.
<i>Berberis aquifolium</i>	2/100 sf	1 Gal.
Ground Cover		
<i>Tellima grandiflora</i>	80/100 sf	4" Pot
Sunmark Seed	125 sf	Seed @ Rate of 1 lb per 1000 sf

E. Tree removal and replacement standards are as follows:

1. Native trees more than 12 inches in diameter may not be removed. Each native tree more than 6 but less than 12 inches in diameter that is cut must be replaced as shown in Table 430-3;
2. Non-native non-nuisance trees may be removed, if each tree 6 or more inches in diameter is replaced as shown in Table 430-3;
3. Trees listed on the Nuisance Plants List may be removed if each tree 6 or more inches in diameter is replaced with one tree;
4. Replacement trees and shrubs must meet the planting standards in 33.430.140.K; and
5. Where a utility line is approximately parallel with the stream channel at least half of the replacement trees must be planted between the utility line and the stream channel, except where a utility easement precludes tree planting.

Response:

Tree removal is not proposed for the sanitary lateral or stormwater connection. This section is not applicable.

33.430.180 Standards for Stormwater Outfalls

The following standards apply to the installation of stormwater outfalls. All of the standards must be met.

- A. The temporary disturbance area for the stormwater outfall is no greater than 10 feet wide;

Response:

A stormwater outfall is not proposed. A piped emergency overflow connection is proposed to the combo sewer in SW Montgomery due to the slop of the site. The stormwater connection meets the standards above for utility connections (33.430.150). The temporary disturbance area for the sewer lateral and stormwater connection is shown on the plans as 10-feet in width. This standard is satisfied.

B. Native trees 12 or more inches in diameter may not be removed. Each native tree at least 6 inches but less than 12 inches in diameter that is removed must be replaced as shown in Table 430-3;

Response:

No native trees are proposed for removal for the stormwater connection. All native tree removal (2 trees) is for the dwelling. This standard is not applicable.

C. Non-native non-nuisance trees may be removed. Each tree at least 6 inches in diameter must be replaced as shown in Table 430-3;

Response:

No non-native non-nuisance trees are proposed to be removed for the stormwater connection. This standard is not applicable.

D. Trees listed on the Nuisances Plant List may be removed. Each tree at least 6 inches in diameter must be replaced with one tree.

Response:

No nuisance trees are proposed to be removed for the stormwater connection. This standard is not applicable.

E. Replacement trees and shrubs must comply with the planting standards of Subsection 33.430.140.K; and

Response:

No trees are being removed for the stormwater connection. Temporary disturbance areas for the sanitary lateral and stormwater connection will be planted as required below in F. This standard is not applicable.

F. Temporary disturbance areas must be planted with native species listed in the *Portland Plant List* according to the following densities:

- 1. Three different native shrub species are required at a minimum 1-gallon size or bare root, planted at a density of 3 plants per 10 square feet; and**
- 2. The remaining area must be planted with native groundcover using a minimum of 4-inch pots at a density of 8 plants per 10 square feet;**

Response:

The temporary disturbance area for the proposed sanitary lateral and stormwater connection is 125 square feet. Native shrubs and ground covers are proposed in in the temporary disturbance area and will meet the required planting densities as required. This standard is satisfied.

Sewer Lateral/Stormwater Connection Temporary Disturbance

Botanical/Common Name	Quantity	Size
Shrubs		
Gaultheria shallon	10/100 sf	1 Gal.
Polystichum munitum	18/100 sf	1 Gal.
Berberis aquifolium	2/100 sf	1 Gal.

Ground Cover		
Tellima grandiflora	80/100 sf	4" Pot
Sunmark Seed	125 sf	Seed @ Rate of 1 lb per 1000 sf

G. When constructed open channels or vegetated swales are proposed, the slope between the stormwater source and the waterbody does not exceed 15 percent at any point;

Response:

A constructed open channel or vegetated swale is not proposed. Therefore, this standard is not applicable.

H. Only one outfall pipe may be used on a site. The outfall pipe size may not exceed 4 inches in diameter; and

Response:

The applicant is proposing a new 4" outfall pipe for the new dwelling storm planter outfall. This standard is satisfied.

I. If an outfall riprap pad is used it must be planted with live stakes of native plant stock, one-half inch in diameter. Stakes must be installed at a density of 2 to 3 stakes per square yard. Detailed specifications for installing live stakes are found in the Erosion Control Manual.

Response:

The applicant is not proposing an outfall riprap pad as the proposed outfall is connecting to a sanitary lateral and then to the existing combo sewer in SW Montgomery. This standard is not applicable.

33.430.220 When Environmental Review is Required

Environmental review is required for all development in an environmental zone that does not meet the development standards of Sections 33.430.140 through .190 and for violations of this chapter. Environmental review is also required when an applicant wishes to fine-tune the zone boundary location based on a detailed environmental study. The City Council, Planning and Sustainability Commission, or Director of BDS may initiate an environmental review for environmental zone boundary amendments to reflect permitted changes in the location or quality of resources or functional values. Removal of environmental zone boundaries are processed as a change of an overlay zone, as stated in Chapter 33.855, Zoning Map Amendments. The zone boundary change procedure does not apply to changes caused by violations of this chapter. The procedure for violations of this chapter is described in Section 33.430.400.

Response:

The proposed dwelling on the currently vacant lot (SW Montgomery/SW Upper Hall) does not comply with all the development standards in 33.430.140. Therefore, environmental review is required and the environmental review criteria are addressed below.

33.430.230 Procedure

Environmental reviews are processed through the following procedures:

B. The following are processed through the Type II procedure:

1. **Roads, driveways, walkways, stormwater disposal, and buried connections to existing utility lines;**
4. **All other uses and development in resource areas of Environmental Conservation zones; and**

Response:

The proposed new dwelling is on a site that is partially within the conservation overlay zone. The proposed sanitary sewer and stormwater connection is within the conservation resource area portion of the site and requires temporary disturbance in the resource area. Therefore, this application will be reviewed as a Type II procedure.

33.430.240 Supplemental Application Requirements

In addition to the application requirements of Section 33.730.060, the following information is required for an environmental review application:

- A. Supplemental site plans required. One copy of each plan must be at a scale of at least one inch to 100 feet. The following supplemental site plans are required:**

- **Existing conditions;**
- **Conditions existing prior to a violation (if applicable);**
- **Proposed development;**
- **Construction management; and**
- **Mitigation or remediation.**

A mitigation site plan is required whenever the proposed development will result in unavoidable significant detrimental impact on the identified resources and functional values. A remediation site plan is required whenever significant detrimental impacts occur in violation of the Code and no permit was applied for. The Director of BDS may waive items listed in this Subsection if they are not applicable to the specific review; otherwise they must be included. Additional information such as wetland characteristics or soil type may be requested through the review process.

1. **The existing conditions site plan must show the following for the entire site:**
 - a. **Special flood hazard area and floodway boundaries;**
 - b. **Boundaries of the resource area and the transition area. These boundaries may be scaled in relation to property lines from the Official City Zoning Maps;**
 - c. **Topography shown by contour lines at two foot vertical contours in areas of slopes less than ten percent and at five foot vertical contours in areas of slopes ten percent or greater;**
 - d. **Drainage patterns, using arrows to indicate the direction of major drainage flow; and**
 - e. **Existing improvements such as structures, or buildings, utility lines, fences, etc.**

Response:

The included existing conditions plan (A100) shows the above applicable items.

2. **The proposed development site plan must show the following:**
 - a. **In areas of the site that have been or will be part of the permanent disturbance area, distribution outline of shrubs and groundcovers, with a list of most abundant species;**
 - b. **In areas of the site that are and will remain undisturbed: Tree crown cover outline, and generalized species composition;**

- c. A grading plan showing proposed alteration of the ground at two-foot vertical contours in areas of slopes less than ten percent and at five-foot vertical contours in areas of slopes ten percent or greater;
- d. Trees six or more inches in diameter, identified by species, with trees proposed to be preserved and removed indicated. In the case of violations, also indicate those that were cut or damaged by stump diameter and species;
- e. Proposed development, including proposed buildings, walkways, decks, retaining walls, bridges, garages, utility lines, stormwater management systems; and
- f. Proposed planting areas.

Response:

The proposed development site plan shows the above applicable items (A101).

3. A construction management site plan must show the following:

- a. Areas that will be temporarily or permanently disturbed, including equipment maneuvering areas, and perimeter controls;
- b. Areas where existing topography and vegetation will be left undisturbed;
- c. Location of site access and egress;
- d. Equipment and material staging and stockpile areas;
- e. Erosion control measures; and
- f. Measures to protect trees and vegetation. Tree protection must meet the requirements of Chapter 11.60, Technical Specifications.

Response:

The proposed development construction management site plan shows the above applicable construction management items (Sheet C1.0).

4. A mitigation or remediation site plan must show the following:

- a. Dams, weirs, or other in-water structures;
- b. Distribution outline, species composition, number, and percent cover of groundcovers to be seeded or planted;
- c. Distribution outline, species composition, size, number, and spacing of shrubs to be planted;
- d. Location, species, number, and size of each tree to be planted;
- e. Stormwater management features, including retention, infiltration, detention, discharges, and outfalls;
- f. Water bodies to be created, including depth;
- g. Water sources to be used, including volumes; and
- h. Information showing compliance with Section 33.248.090, Mitigation and Restoration Plantings.

Response:

The proposed development mitigation/remediation site plan (landscape plan and tree plan) shows the above applicable mitigation items (Sheets L100 and L101).

B. Supplemental narrative. The following is required:

- 1. **Impact evaluation.** An impact evaluation is required to determine compliance with the approval criteria and to evaluate development alternatives for a particular site. The alternatives must be evaluated on the basis of their impact on the resources and functional values of the site. In the case of a violation, the impact evaluation is used to determine the nature and scope of the significant detrimental impacts. To the extent that the site resources and functional values are part of a larger natural system such as a watershed, the evaluation must also consider the cumulative impacts on that system. The

impact evaluation is based on the resources and functional values identified as significant in the reports listed in section 33.430.020;

a. An impact evaluation includes:

- (1) Identification, by characteristics and quantity, of the resources and their functional values found on the site;**
- (2) Evaluation of alternative locations, design modifications, or alternative methods of development to determine which options reduce the significant detrimental impacts on the identified resources and functional values of the site; and**
- (3) Determination of the alternative that best meets the applicable approval criteria and identify significant detrimental impacts that are unavoidable.**

Response:

The applicant is requesting environmental review for the 125 sf temporary disturbance for utility connections in the resource area on the site. Therefore, Section 33.430.140.A is not met, as noted above.

Alternatives Analysis – This alternative analysis addresses alternatives to the proposed temporary disturbance within the resource area of the c zone on the site.

Alternative 1, No Build – Under Alternative 1, No Build, dwelling would not be constructed and site would remain vacant. The lot is a buildable lot. Not building on the site would not provide infill housing (needed housing).

Alternative 2, Extend the public combo sewer in SW Upper Hill Street and add pumps/lifts for sanitary and storm to get out to the new public line (if even possible engineering wise).

The site slopes down towards SW Montgomery Drive. Sanitary and storm flow better with gravity (downhill). The proposed design connects the proposed house sanitary and storm to the existing combo sewer downhill of the site. A connection uphill, if an extension was required in SW Upper Hill Street, would be very difficult to get the grades to work to get the sanitary and storm services to work. SW 1551 SW Upper Hill Street and 1553 SW Upper Hill Street have connections to downhill combo sewer in SW Montgomery Drive. A sewer extension in SW Upper Hill Street would not serve any other properties, as the surrounding properties have connections to public sewer.

By providing a temporary disturbance area within the resource area for the sanitary and storm connections for the new dwelling creates the least practicable impact on the resource area and allow for development of the site. Mitigation for the proposed disturbance is proposed to meet standards of this Chapter. This criterion is met.

- 2. Construction management plan. Identify measures that will be taken during construction or remediation to protect the remaining resources and functional values at and near the construction site and a description of how undisturbed areas will be protected. For example, describe how trees will be protected, erosion controlled, construction equipment controlled, and the timing of construction; and**

Response:

The existing trees on site to remain will be fenced with tree protection fencing. Erosion control measures will be installed prior to house construction as shown on the construction management plan. Orange construction fence will also be installed along the limits of disturbance to keep construction equipment within this area. Construction will begin as soon as this application is approved and the building permit issued (Spring/Summer 2021).

3. **Mitigation or remediation plan. The purpose of a mitigation or remediation plan is to compensate for unavoidable significant detrimental impacts that result from the chosen development alternative or violation as identified in the impact evaluation. A mitigation or remediation plan includes:**
 - a. **Resources and functional values to be restored, created, or enhanced on the mitigation or remediation site;**
 - b. **Documentation of coordination with appropriate local, regional, special district, state, and federal regulatory agencies;**
 - c. **Construction timetables;**
 - d. **Operations and maintenance practices;**
 - e. **Monitoring and evaluation procedures;**
 - f. **Remedial actions for unsuccessful mitigation; and**
 - g. **Information showing compliance with Section 33.248.090, Mitigation and Restoration Plantings.**

Response:

The mitigation/remediation plan is the landscaping plan (Sheet L101). This plan shows mitigation for the proposed utility temporary disturbance within the resource area on the site.

The temporary disturbance area for the proposed sanitary lateral and stormwater connection is 125 square feet. Native shrubs and ground covers are proposed in the temporary disturbance area and will meet the required planting densities as required. This standard is satisfied.

Sewer Lateral/Stormwater Connection Temporary Disturbance

Botanical/Common Name	Quantity	Size
Shrubs		
Gaultheria shallon	10/100 sf	1 Gal.
Polystichum munitum	18/100 sf	1 Gal.
Berberis aquifolium	2/100 sf	1 Gal.
Ground Cover		
Tellima grandiflora	80/100 sf	4" Pot
Sunmark Seed	125 sf	Seed @ Rate of 1 lb per 1000 sf

33.430.250 Approval Criteria

An environmental review application will be approved if the review body finds that the applicant has shown that all of the applicable approval criteria are met. When environmental review is required because a proposal does not meet one or more of the development standards of Section 33.430.140 through .190, then the approval criteria will only be applied to the aspect of the proposal that does not meet the development standard or standards.

- A. **Public safety facilities, rights-of-way, driveways, walkways, outfalls, utilities, land divisions, Property Line Adjustments, Planned Developments, and Planned Unit Developments. Within the resource areas of environmental zones, the applicant's impact evaluation must demonstrate that all of the general criteria in Paragraph A.1 and the applicable specific criteria of Paragraphs A.2, 3, or 4, below, have been met:**
 1. **General criteria for public safety facilities, rights-of-way, driveways, walkways, outfalls, utilities, land divisions, Property Line Adjustments, Planned Developments, and Planned Unit Developments;**

- a. **Proposed development locations, designs, and construction methods have the least significant detrimental impact to identified resources and functional values of other practicable and significantly different alternatives including alternatives outside the resource area of the environmental zone;**
- b. **There will be no significant detrimental impact on resources and functional values in areas designated to be left undisturbed;**
- c. **The mitigation plan demonstrates that all significant detrimental impacts on resources and functional values will be compensated for;**
- d. **Mitigation will occur within the same watershed as the proposed use or development and within the Portland city limits except when the purpose of the mitigation could be better provided elsewhere; and**
- e. **The applicant owns the mitigation site; possesses a legal instrument that is approved by the City (such as an easement or deed restriction) sufficient to carry out and ensure the success of the mitigation program; or can demonstrate legal authority to acquire property through eminent domain.**

Response:

By providing a temporary disturbance area within the resource area for the sanitary and storm connections for the new dwelling creates the least practicable impact on the resource area and allow for development of the site. The proposed temporary disturbance in the resource area on the site will not have a significant detrimental impact on resources (off-site) and functional values in areas designated to be left undisturbed. Nuisance plant mitigation is proposed on a portion of the site outside of the temporary and permanent disturbance on the site. The mitigation plan demonstrates that all impacts on resources and functional values will be compensated for. The mitigation is proposed on the site (owned by the applicant). This criterion is met.

2. Public safety facilities. The public benefits of the proposal outweigh all significant detrimental impacts;

Response:

The proposal is for a new single-family dwelling and does not include a public safety facility. Therefore, this criterion is not applicable.

3. Rights-of-way, driveways, walkways, outfalls, and utilities;

- a. **The location, design, and construction method of any outfall or utility proposed within the resource area of an environmental protection zone has the least significant detrimental impact to the identified resources and functional values of other practicable alternatives including alternatives outside the resource area of the environmental protection zone;**
- b. **There will be no significant detrimental impact on water bodies for the migration, rearing, feeding, or spawning of fish; and**
- c. **Water bodies are crossed only when there are no practicable alternatives with fewer significant detrimental impacts.**

Response:

The proposed temporary disturbance for the utility connections is not within the environmental protection zone. The site is not within the 'p' overlay zone. There will be no significant detrimental impact on water bodies. There are no waterbodies on the site. Therefore, this criterion is not applicable.

4. Land divisions, Property Line Adjustments, Planned Developments, and Planned Unit Developments:

- a. **Proposed uses and development must be outside the resource area of the Environmental Protection zone except as provided under Paragraph A.3 above. Other resource areas of Environmental Protection zones must be in environmental resource tracts;**
- b. **There are no practicable arrangements for the proposed lots, tracts, roads, or parcels within the same site, that would allow for the provision of significantly more of the building sites, vehicular access, utility service areas, and other development on lands outside resource areas of a conservation zone; and**
- c. **Development, including building sites, vehicular access and utilities, within the resource area of a conservation zone must have the least amount of detrimental impact on identified resources and functional values as is practicable.**

Significantly different but practicable development alternatives, including alternative housing types or a reduction in the number of proposed or required units or lots, may be required if the alternative will have less impact on the identified resources and functional values than the proposed development.

Response:

The proposal is for a new single-family dwelling and does not include a land division, property line adjustment, planned development or planned unit development. Therefore, this criterion is not applicable.

Conclusion

The applicant has demonstrated how the approval criteria for the proposed new dwelling with temporary disturbance in the resource area for utilities can be met or mitigated.



CITY OF
PORTLAND, OREGON
BUREAU OF DEVELOPMENT SERVICES
1900 SW 4th Ave, Suite 5000
Portland, OR 97201
Phone: 503-823-7300



Billing Summary

Today's Date: 2/17/2021

Site Address: **SW MONTGOMERY DR**
SW MONTGOMERY DR - R128255

IVR Number: **4652589**

Permit Number: **21-015135-000-00-LU**

Land Use Review

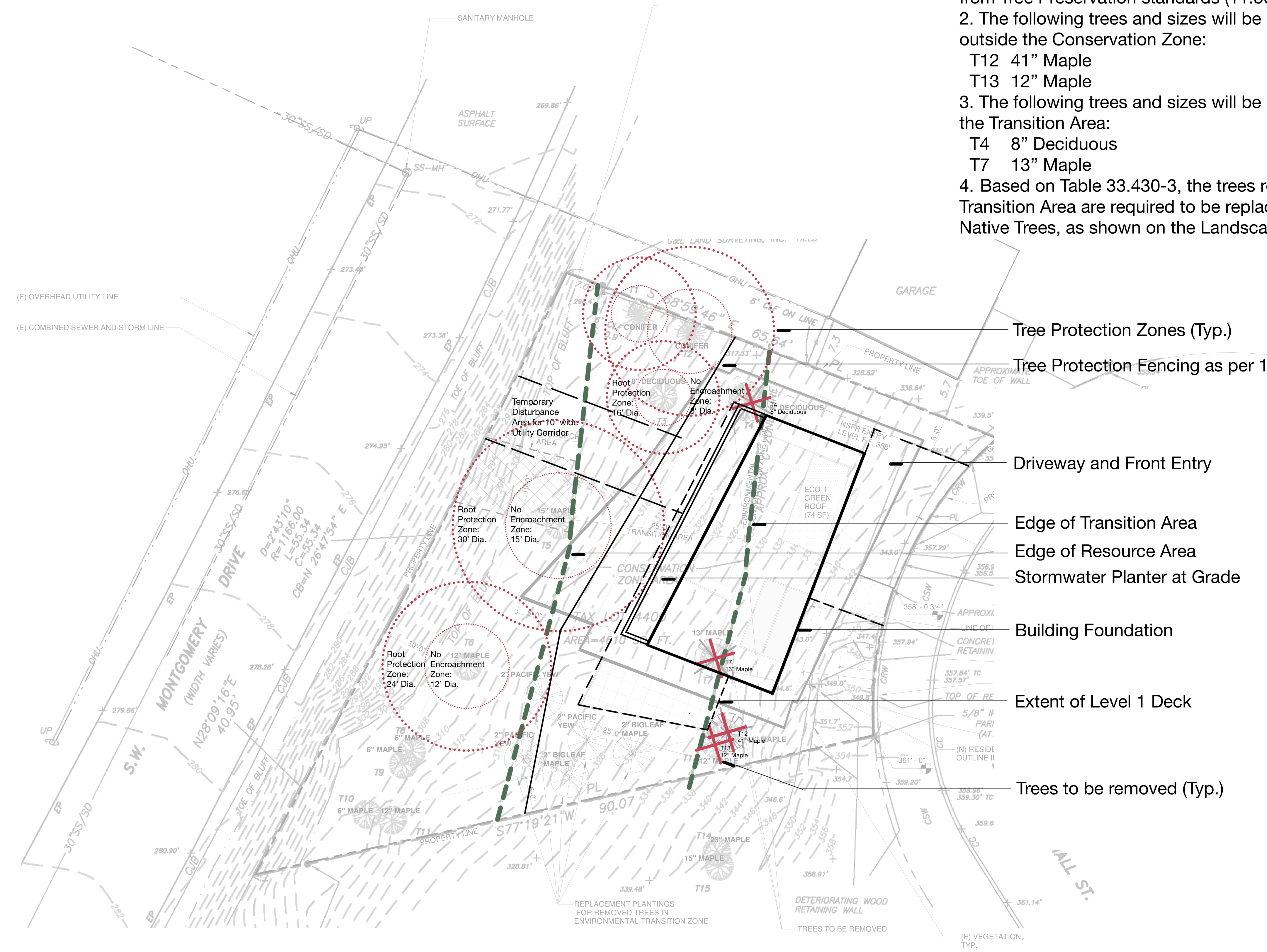
APPLICANT KENTON REICHEN **Phone:** (760) 831-7123

Fee Code	Fee Description	Fee Amount	Paid To Date	Balance
1090	Site Development - Land Use Reviews	\$637.00		
254	Hearings Officer Fee	\$190.00		
288	Env Review Non-Res II	\$3150.00		
324	BES Land Use Rvw-Engineering	\$1633.00		
383	PBOT Environmental Review	\$685.00		
4504	PK Land Use Review	\$344.00		
711	Fire - Land Use Reviews	\$50.00		
Bill #4787662	Sub Total	\$6689.00	\$0.00	\$6,689.00
	TOTAL	\$6,689.00	\$0.00	\$6,689.00

* Fees marked with an asterisk are due at application.

CITY CONTACT **Phone:**
E-Mail: **Fax:** (503) 823-4172

Notice: This document is not a permit. This document may not represent all fees owing for this permit. All fees are subject to change based on new or corrected information. For more information, consult your City of Portland Contact listed above.



TREE PLAN NOTES:

1. Total lot area is 4,616 SF, so site is exempt from Tree Preservation standards (11.50.040 B.2.)
2. The following trees and sizes will be removed from outside the Conservation Zone:
T12 41" Maple
T13 12" Maple
3. The following trees and sizes will be removed from the Transition Area:
T4 8" Deciduous
T7 13" Maple
4. Based on Table 33.430-3, the trees removed from the Transition Area are required to be replaced with (5) 2" caliper Native Trees, as shown on the Landscape Plan, sheet L101



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN

#	REVISION	DATE
---	----------	------



Project Number
20029
DWG EXPORTED 1/26/2021 12:04:16 PM
1/26/21

L100
TREE PLAN

CD DRAFT

INDICATOR	ZONE	SEED		GROUNDCOVER		SHRUBS	
		NAME	APPLICATION RATE	PLANT	SIZE & SPACING	PLANT	SIZE & SPACING
1	Temporary Disturbance in Resource Area	Sunmark Seed: Native Erosion Control mix	1 lb per 1000sf	Tellima grandiflora	(80) 4" pots per 100sf	Gaultheria shallon	(10) 1 gal. per 100sf
						Polystichum munitum	(18) 1 gal. per 100sf
						Berberis aquifolium	(2) 1 gal. per 100sf
2	Temporary Disturbance in Transition Area	Sunmark Seed: Native Erosion Control mix	1 lb per 1000sf	Tellima grandiflora	(80) 4" pots per 100sf	Gaultheria shallon	(5) 1 gal. per 100sf
						Polystichum munitum	(23) 1 gal. per 100sf
						Berberis aquifolium	(2) 1 gal. per 100sf
3	Nuisance Plant Removal Area	Sunmark Seed: Native Erosion Control mix	1 lb per 1000sf	Tellima grandiflora	(14) 4" pots per 100sf	Polystichum munitum	(4) 1 gal. per 100sf
4	Permanent Disturbance Areas outside E-Zone	Sunmark Seed: Native Erosion Control mix	1 lb per 1000sf	N/A	--	Gaultheria shallon	(16) 1 gal. per 100sf
5	Top of Retaining Wall at Upper Hall Street	N/A	--	N/A	--	Polystichum munitum	(25) 1 gal. per 100sf

1. Proposed Permanent Disturbed Area is 1407SF, requiring a minimum of 704SF of removal of Nuisance Plants (33.430.140.L.1)
2. (5) 2' caliper trees south of new construction are required mitigation trees for trees removed in Transition Area. See Tree Plan, sheet L100



UPPER HALL RESIDENCE
00 SW UPPER HALL STREET (R128255)
PORTLAND, OR 97201
KENTON REICHEN

#	REVISION	DATE
---	----------	------



Project Number
20029
DWG EXPORTED 1/26/2021 12:04:16 PM
1/26/21

L101

LANDSCAPE PLAN

LU 21-015135 EN