CITY OF MERCER ISLAND

COMMUNITY PLANNING & DEVELOPMENT
9611 SE 36TH STREET | MERCER ISLAND, WA 98040
PHONE: 206.275.7605 | www.mercerisland.gov

STAFF REPORT & DECISION

CRITICAL AREA REVIEW 2 CAO24-032 (Exhibit 1)

Project No:	CAO24-032
Description:	The applicant proposes to construct a new single-family residence. A critical area review 2 (CAR2) application was submitted in conjunction with building permit application number 2410-056, due to the proposed development location containing a piped and open watercourse and within a geologically hazardous areas, specifically potential slide and erosion hazard area.
Applicant/ Owner:	Kati Eitzman (Sturman Architects) / Seascape Homes, LLC
Location of Property:	5222 Forest Ave SE, Mercer Island WA 98040 King County Assessor tax parcel number: 141030-0057
Zoning District	R-15
Staff Contact:	Grace Manahan, Code Compliance Planner grace.manahan@mercerisland.gov | 206-275-7764
Exhibits:	1. Staff Report & Decision dated April 14, 2025 2. Development Application signed September 24, 2024 3. Concurrent Review Request Form, dated August 27, 2024 4. Geotechnical Engineering Study prepared by Geotech Consultants, Inc., Inc., dated March 18, 2020 5. Memorandum prepared by Geotech Consultants, Inc., dated March 2, 2025 6. Report prepared by Altmann Oliver Associates, LLC, dated August 23, 2024 7. Memorandum prepared by Altmann Oliver Associates, LLC, dated January 27, 2025 8. Site Plan prepared by Sturman Architects, dated March 13, 2025 9. Letter of Completeness, dated October 25, 2024 10. Notice of Application, dated November 4, 2024 11. Hazard Report generated by the City of Mercer Island on April 7, 2025 12. Watercourse Map generated by the City of Mercer Island on April 7, 2025 13. Critical Areas Notice on Title, recorded February 3, 2025 under King County Recorder's Number 20250203000248 14. Notice of Decision, dated April 14, 2025

INTRODUCTION

I. Project Description

The applicant proposes to build a new single-family residence (proposed development) at 5222 Forest Ave SE (subject property). A critical area review 2 (CAR2) application was submitted in conjunction with building permit application number 2410-056, due to the proposed development location containing a piped and uniped watercourse and within a geologically hazardous areas, specifically a potential slide and erosion hazard area.

II. Site Description and Context

The subject property is located within R-15 Zone. The subject property is surrounded by single-family homes within zone R-15 to the north, east, and south and west. The subject property contains a piped and open watercourse as well as mapped geologically hazardous areas including potential slide and erosion hazard areas.

Findings of Fact & Conclusions of Law

I. Application Procedure

1. The application **(Exhibit 2)** for a CAR2 was received by the City of Mercer Island on September 27, 2024. The application was determined to be complete **(Exhibit 9)** on October 25, 2024.
2. Under MICC 19.15.030, Table A, a CAR2 is a Type III land use review. Type III land use reviews require notice of application (discussed below). A notice of decision is issued once the project review is approved by the code official, followed by an appeal period (**Exhibit 14).**
3. The City of Mercer Island provided public notice of application for this Critical Area Review 2 Permit, as set forth in MICC 19.15.090 (**Exhibit 10**). The comment period for the public notice period lasted for 30 days, from November 4, 2024, to December 4, 2024. The following methods were used for the public notice of application:
    1) A mailing sent to neighboring property owners within 300 feet of the subject parcel.
    2) A sign posted on the subject parcel.
    3) A posting in the City of Mercer Island's weekly permit bulletin.
4. No public comments were received

II. State Environmental Policy Act (SEPA)

The proposal is categorically exempt from SEPA pursuant to WAC 197-11-800(1)(b)(ii).

III. Consistency with the Critical Areas Code and Land Development Code

1. MICC 19.07.070 lists requirements for disclosure and notice on title. The applicant shall disclose to the city the presence of critical areas on the development proposal site and any mapped or identifiable critical areas within the distance equal to the largest potential required buffer applicable to the development proposal on the development proposal site.
    a. The owner of any property containing critical areas and/or buffers on which a development proposal is submitted, except a public right-of-way or the site of a permanent public facility,

shall file a notice approved by the city with the records and elections division of King County. The notice shall inform the public of the presence of critical areas, buffers and/or mitigation sites on the property, of the application of the city's critical areas code to the property and that limitations on actions in or affecting such critical areas and/or buffers may exist. The notice shall run with the land in perpetuity.

b. The applicant shall submit proof to the city that the notice has been recorded prior to approval of a development proposal for the property or, in the case of subdivisions, short subdivisions, and binding site plans, at or before recording of the final subdivision, short subdivision, or binding site plan.

Staff Analysis: A Critical Areas Notice on Title was recorded with the King County Recorder's Office on February 3, 2025 (**Exhibit 13**); therefore, this requirement is met.

2. MICC 19.07.090 describes the purpose and procedures by which the city will review and authorize development and verify consistency with this chapter.

   a. Critical Area Review 2. The purpose of a critical area review 2 is to review critical area studies and mitigation plans in support of proposed buffer averaging and reduction of wetland and watercourse buffers.

   b. Review timing and sequence.

      A. When development and/or activity within a wetland, watercourse, fish and wildlife habitat conservation area or buffer associated with these critical area types is proposed, a critical area review 2 is required to be reviewed and approved prior to construction authorization.

      B. When development and/or activity is proposed on a site containing only geologically hazardous areas, an application has the option of either:

         i. Applying for a critical area review 2 in advance of construction permits, using the procedures required for a Type III land use review; or

         ii. Requesting consolidation of the review of geologically hazardous areas together with construction permit review.

      C. When development and/or activity is proposed on a site containing geologically hazardous areas and on or more of the critical area types listed in subsection (B)(2)(a) of this section or the associated buffer of one of those critical areas, a critical area review 2 reviewing all critical areas is required to be reviewed and approved prior to construction authorization, using the procedures required for a Type III land use review.

   Staff Analysis: The applicant submitted a Concurrent Review Request Form (**Exhibit 3**) requesting consolidated review of the Critical Area Review 2 and associated building permit application; therefore, the application is consistent with the review timing and sequence requirements.

3. MICC 19.07.100 lists requirements for mitigation sequencing. An applicant for a development proposal or activity shall implement the following sequential measures, listed below in order of preference, to avoid, minimize, and mitigate impacts to environmentally critical areas and

associated buffers. Applicants shall document how each measure has been addressed before considering and incorporating the next measure in the sequence:

a. Avoiding the impact altogether by not taking a certain action or parts of an action. The applicant shall consider reasonable, affirmative steps and make best efforts to avoid critical area impacts. However, avoidance shall not be construed to mean mandatory withdrawal or denial of the development proposal or activity if the proposal or activity is an allowed, permitted, or conditional use in this title. In determining the extent to which the proposal should be redesigned to avoid the impact, the code official may consider the purpose, effectiveness, engineering feasibility, commercial availability of technology, best management practices, safety and cost of the proposal and identified changes to the proposal. Development proposals should seek to avoid, minimize and mitigate overall impacts based on the functions and values of all of the relevant critical areas and based on the recommendations of a critical area study. If impacts cannot be avoided through redesign, use of a setback deviation pursuant to section 19.06.110(C), or because of site conditions or project requirements, the applicant shall then proceed with the sequence of steps in subsections B through E of this section;

b. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, using a setback deviation pursuant to section 19.06.110(C), using appropriate technology, or by taking affirmative steps to avoid or reduce impacts;

c. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;

d. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;

e. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and/or

f. Monitoring the impact and taking appropriate corrective measures to maintain the integrity of compensating measures.

Staff Analysis: The Memorandum prepared by Geotech Consultants, Inc., (**Exhibit 5**) addresses mitigation sequencing for the proposed development. The study found no steep slopes are present on the subject property. The applicant proposes to minimize the impact by only proposing work outside the mapped erosion and potential landslide areas at the site. The project also includes the planting of replacement trees in the northeast portion of the site and the plans incorporate final erosion conditions to prevent long term erosion.

4. MICC 19.07.110 lists requirements for a critical area study. A critical area study is required when a development proposal will result in an alteration to one or more critical area buffers or when required to determine the potential impact to a critical area. The critical area study may be waived or modified if the applicant demonstrates that the development proposal will not have an impact on the critical area or its buffer in a manner contrary to the purposes and requirements of this chapter.

Staff Analysis: The applicant submitted a Geotechnical Engineering Study prepared by Geotech Consultants, Inc., (**Exhibit 4**) that addresses all of the requirements for a critical area study in MICC 19.07.110; therefore, this requirement is met.

5. MICC 19.07.160 lists standards for development on sites containing geologically hazardous areas.

   A. Geologically hazardous areas are lands that are susceptible to erosion, landslides, seismic events, or other factors as identified by WAC 365-190-120. These areas may not be suited for development activities because they may pose a threat to public health and safety. Areas susceptible to one or more of the following types of hazards shall be designated as geologically hazardous areas: landslide hazard areas, seismic hazard areas, and erosion hazard areas.

      Staff Analysis: The subject property contains landslide and erosion hazard areas. A Geotechnical Engineering Study prepared by Geotech Consultants, Inc. (**Exhibit 4**) was submitted showing that the proposed development has incorporated all geotechnical recommendations so that the risk to the site and adjacent property is eliminated or mitigated such that the site is determined to be safe.

   B. Alteration within geologically hazardous areas or associated buffers is required to meet the standards in this section, unless the scope of work is exempt pursuant to section 19.07.120, exemptions, or a critical area review 1 approval has been obtained pursuant to section 19.07.090(A).

      1. When an alteration within a landslide hazard area, seismic hazard area or buffer associated with those hazards is proposed, the applicant must submit a critical area study concluding that the proposal can effectively mitigate risks of the hazard. The study shall recommend appropriate design and development measures to mitigate such hazards. The code official may waive the requirement for a critical area study and the requirements of subsections (B)(2) and (B)(3) of this section when he or she determines that the proposed development is minor in nature and will not increase the risk of landslide, erosion, or harm from seismic activity, or that the development site does not meet the definition of a geologically hazardous area.

         Staff Analysis: The applicant submitted a Geotechnical Evaluation prepared by Geotech Consultants, Inc. (**Exhibit 4**) that states that the proposed development incorporates all recommendations to render the site safe and will not increase the risk of landslide or erosion. The geotechnical engineering study and critical area study were reviewed and approved by the City of Mercer Island's third-party geotechnical reviewer Michele Lorilla, PE; therefore, this requirement is met.

      2. Alteration of landslide hazard areas and seismic hazard areas and associated buffers may occur if the critical area study documents find that the proposed alteration:

         a. Will not adversely impact other critical areas;

         b. Will not adversely impact the subject property or adjacent properties;

         c. Will mitigate impacts to the geologically hazardous area consistent with best available science to the maximum extent reasonably possible such that the site is determined to be safe; and

d. Includes the landscaping of all disturbed areas outside of building footprints and installation of hardscape prior to final inspection.

Staff Analysis: The Geotechnical Engineering Study prepared by Geotech Consultants, Inc. (**Exhibit 4**), states that provided the recommendations in the report are followed, the planned development will not adversely impact the stability of the neighboring properties or result in a need for increased critical area buffers on those adjacent properties. The proposed development includes a landscaping plan that includes the landscaping of all disturbed areas outside of the building footprints and installation of hardscape, required prior to final inspection (**Exhibit 8, Sheet A1.3**).

3. Alteration of landslide hazard areas, seismic hazard areas and associated buffers may occur if the conditions listed in subsection (B)(2) of this section are satisfied and the geotechnical professional provides a statement of risk matching one of the following:

   a. An evaluation of site-specific subsurface conditions demonstrates that the proposed development is not located in a landslide hazard area or seismic hazard area;

   b. The landslide hazard area or seismic hazard area will be modified or the development has been designed so that the risk to the site and adjacent property is eliminated or mitigated such that the site is determined to be safe;

   c. Construction practices are proposed for the alteration that would render the development as safe as if it were not located in a geologically hazardous area and do not adversely impact adjacent properties; or

   d. The development is so minor as not to pose a threat to the public health, safety and welfare.

   Staff Analysis: The Memorandum prepared by Geotech Consultants, Inc. (**Exhibit 5**) states construction practices are proposed for the alteration that would render the development as safe as if it were not located in a geologically hazardous area and do not adversely impact adjacent properties; therefore, this requirement is met.

C. Development is allowed within landslide hazard areas and associated buffers, when the following standards are met:

1. A critical area study shall be required for any alteration of a landslide hazard area or associated buffer;

2. Buffers shall be applied as follows. When more than one condition applies to a site, the largest buffer shall be applied:

   a. Buffer widths shall be equal to the height of a steep slope, but not more than 75 feet, and applied to the top and toe of slopes;

   b. Shallow landslide hazard areas shall have minimum 25-foot buffers applied in all directions; and

   c. Deep-seated landslide hazard areas shall have 75-foot buffers applied in all directions.

Staff Analysis: The Geotechnical Engineering Study prepared by Geotech Consultants, Inc. (**Exhibit 4**) satisfies the requirements of a critical area study. The study finds that the risk of erosion and landslide activity at the site is very low and would not be affected by the proposed construction, provided the typical erosion control measures are in place during construction and all areas are landscaped following construction; therefore, these standards are met

D. When development is proposed within an erosion hazard area:

1. All development proposals shall demonstrate compliance with chapter 15.09, storm water management program.

2. No development or activity within an erosion hazard area may create a net increase in geological instability on or off site.

Staff Analysis: The critical area review is occurring concurrently with review of the associated construction permit under Building Permit No. 2410-056. As conditioned, the proposed development is required to obtain all related permits. The construction permit has been reviewed and approved by Ruji Ding, Senior Development Engineer for compliance with chapter 15.09, storm water management program. The Geotechnical Evaluation (**Exhibit 4**) finds that the risk of erosion at the site resulting from the proposed construction is very low, provided that the typical erosion measures are implemented during construction and all disturbed areas are landscaped following construction; therefore, this requirement is met.

6. MICC 19.07.180 lists standards for development on sites containing watercourses.

A. Buffer width reduction shall be allowed provided the flowing requirements are met:

1. The applicant has demonstrated that buffer averaging would not be feasibly allow development
   Staff Analysis: The Critical Areas Report prepared by Altmann Oliver Associates **(Exhibit 7)** states that the stream is located off site and there are no areas on the property that are suitable for buffer replacement; therefore, buffer averaging is not possible.
2. The applicant has demonstrated how impacts will be minimized and that avoidance has been addressed consistent with section 19.07.100, mitigation sequencing;
   Staff Analysis: The Critical Areas Report prepared by Altmann Oliver Associates **(Exhibit 7)** addresses stream mitigation for the proposed development. The mitigation measures shall achieve equivalent or greater ecological function, the offsite stream will also not be affected by the project, including no change to the bed, bank, or flow of the stream.

3. The applicant has demonstrated how all proposed impacts have been mitigated consistent with subsection E of this section and will not result in a loss of ecological function;
Staff Analysis: The Critical Areas Report prepared by Altmann Oliver Associates **(Exhibit 7)** states the there will be no loss of ecological function as part of the project and includes a buffer enhancement plan.

4. The proposed buffer width is not less than 75 percent of the standard buffer width at any point; and

Staff Analysis: The Critical Areas Report prepared by Altmann Oliver Associates **(Exhibit 7)** states the buffer width is proposed to be reduced from 60 feet to 45 feet in places and will not be less than 75 percent of the standard buffer.

5. The proposed buffer reduction is not proposed in conjunction with buffer averaging.
Staff Analysis: Buffer averaging is not proposed as part of this project.

CONDITIONS OF APPROVAL

1. The proposed development shall be in substantial conformance with **Exhibit 4** and all applicable development standards contained within Chapter 19.07 Mercer Island City Code (MICC).

2. The applicant is responsible for documenting any required changes in the project proposal due to conditions imposed by any applicable local, state and federal government agencies.

3. Construction or substantial progress toward construction of a development for which a permit has been granted must be undertaken within three years after the approval of the permit or the permit shall terminate. The code official shall determine if substantial progress has been made.

DEVELOPMENT REGULATION COMPLIANCE – DISCLOSURE

1. Compliance with all applicable codes, including but not limited to zoning, critical areas (including Fish & Wildlife Habitat Conservation Areas), and building code, will be required as part of building permit review.

DECISION / RECOMMENDATION

Based upon the above noted Findings of Fact and Conclusions of Law, Critical Area Review 2 application CAO24-032, as depicted in **Exhibit 8**, is hereby **APPROVED as conditioned**. This decision is final, unless appealed in writing consistent with adopted appeal procedures, MICC 19.15.020(J), and all other applicable appeal regulations.

Approved this 14th day of April 2025.

Grace Manahan

_____

Grace Manahan
Code Compliance Planner
Community Planning & Development
City of Mercer Island

If you desire to file an appeal, you must submit the appropriate form, available from the department of Community Planning and Development, and file it with the City Clerk within fourteen (14) days from the date after the notice of decision is made available to the public and applicant pursuant to MICC 19.15.130. Upon receipt of a timely complete appeal application and appeal fee, an appeal hearing will be scheduled. To reverse, modify or remand this decision, the appeal hearing body must find that there has been substantial error, the proceedings were materially affected by

irregularities in procedure, the decision was unsupported by material and substantial evidence in view of the entire record, or the decision is in conflict with the city's applicable decision criteria.

Please note that the City will provide notice of this decision to the King County Department of Assessment, as required by State Law (RCW 36.70B.130). Pursuant to RCW 84.41.030(1), affected property owners may request a change in valuation for property tax purposes notwithstanding any program of revaluation by contacting the King County Department of Assessment at (206) 296-7300.

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CITY USE ONLY		
PROJECT NO.	**RECEIPT NO.**	**FEE**
Date Received:		
Received By:		

DEVELOPMENT APPLICATION

A Development Application form is required to be completed for any land use project within the City of Mercer Island. Additional supplemental information for each specific land use permit requested is required. See below for land use permits and associated permit forms.

PROPERTY INFORMATION

Property Address: 5222 Forest Ave SE

Parcel Number(s): 141030-0057

Gross Lot Area(s): 15,001

Net Lot Area(s): 15,001

Zone: R-15

Shoreline Environment Designation:
(if located within 200 feet of Lake Washington)

- ☐ Urban Residential
- ☐ Urban Park

CRITICAL AREAS ON PROPERTY

GEOLOGICALLY HAZARDOUS AREAS

- ■ Potential Landslide Hazard
- ■ Erosion Hazard
- ☐ Seismic Hazard
- ☐ Steep Slope

WATERCOURSES

- ☐ Type F
- ■ Type Np
- ☐ Type Ns
- ☐ Piped
- ☐ Unknown

WETLANDS

- ☐ Category I
- ☐ Category II
- ☐ Category III
- ☐ Category IV
- ☐ Unknown

PROPERTY OWNER INFORMATION

Name: Seascape Homes, LLC	Company (if applicable):
Address: P.O. Box 40568 Bellevue WA 98015	E-Mail: jmt1231@gmail.com
Phone: 206-972-9950	

APPLICANT/REPRESENTATIVE INFORMATION

Same as property owner ☐

Name: Kati Eitzman	Company (if applicable): Sturman Architects
Address: 9 103rd Ave NE Ste. 203, Bellevue, WA, 98004	E-Mail: kati@sturmanarchitects.com
Phone: 425-451-7003	

DECLARATION: I HEREBY STATE THAT I AM THE OWNER OF THE SUBJECT PROPERTY OR I HAVE BEEN AUTHORIZED BY THE OWNER(S) OF THE SUBJECT PROPERTY TO REPRESENT THIS APPLICATION, AND THAT THE INFORMATION FURNISHED BY ME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

Signature Brad Sturman	9-24-2024 **Date**

PROPOSED APPLICATION(S) AND CLEAR DESCRIPTION OF PROPOSAL (please use additional paper if needed):

Application for Critical Area II due to hazardous conditions on site and NP stream.

New two-story single-family home. Mitigation and reduction of required buffer for western watercourse.

Also included is the Architectural permit set with site plan.

INDICATE REQUESTED LAND USE APPROVALS

	CRITICAL AREAS		ENVIRONMENTAL REVIEW (SEPA)		SUBDIVISION
	Critical Area Review 1		Environmental Impact Statement		Short Plat- Preliminary
X	Critical Area Review 2		SEPA Review		Short Plat- Alteration
	DESIGN REVIEW		**LEGISLATIVE**		Short Plat- Final Plat
	Design Review – Signs		Code Amendment		Long Plat- Preliminary
	Design Review – Code Official		Comprehensive Plan Docket Application		Long Plat- Alteration
	Design Commission Study Session		Comprehensive Plan Application (If Docketed)		Long Plat- Final Plat
	Design Commission Review – Exterior Alteration		Rezone		Lot Line Revision
	Design Commission Review – Major New Construction		**OTHER LAND USE**		**WIRELESS COMMUNICATION FACILITIES**
			Accessory Dwelling Unit		New Wireless Communication Facility
	DEVIATIONS		Code Interpretation Request		Wireless Communications Facilities- 6409 Exemption
	Deviations to Antenna Standards – Code Official		Conditional Use (CUP)		Small Cell Deployment
	Deviations to Antenna Standards – Design Commission		Noise Exception Type I - IV		Height Variance
	Public Agency Exception		Other Permit/Services Not Listed		
	Reasonable Use Exception		**SHORELINE MANAGEMENT**		
	Variance		Shoreline Exemption		
	Seasonal Development Limitation Waiver – Wet Season Construction Approval		Shoreline Substantial Development Permit		
			Shoreline Variance		
			Shoreline Conditional Use Permit		
			Shoreline Permit Revision		

LAND USE APPLICATION SUBMITTAL REQUIREMENTS

Each Land Use Application requested above must be accompanied by the appropriate land use application form and required materials. Refer to the City of Mercer Island Permit Forms webpage for a complete list of all land use application forms and submittal requirements.

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Inspection Requests: Online: www.MyBuildingPermit.com VM: 206.275.7730

CONCURRENT REVIEW

I am requesting that my permit submittal be accepted and reviewed concurrently during the review of our land use action (File # _____). I fully understand that the land use application must be approved prior to the issuance of the permit. I take full responsibility for all fees incurred for the permit review and understand that the fees are payable to the City of Mercer Island regardless of the land use outcome. I hold the City harmless for any actions arising from the concurrent review of the permit application, including but not limited to the potential denial of the permit if the land use action is denied.

	9-24-2024
Signature	Date
Seascape Homes, LLC	
Name	
5222 Forest Ave SE	
Project Address	
kati@sturmanarchitects.com	206-972-9950
email	Phone #

GEOTECH
CONSULTANTS, INC.

2401 10th Ave E
Seattle, Washington 98102
(425) 747-5618

March 18, 2020

JN 20046

Seascape Homes LLC
PO Box 40568
Bellevue, Washington 98015

Attention: Jon Tellefson
via email: jmt1231@gmail.com

Subject: **Transmittal Letter – Geotechnical Engineering Study**
Proposed Four Lot Short-Plat
5224 Forest Avenue Southeast
Mercer Island, Washington

Dear Mr. Tellefson:

Attached to this transmittal letter is our geotechnical engineering report for the proposed four lot short plat to be constructed in Mercer Island, Washington. The scope of our services consisted of exploring site surface and subsurface conditions, and then developing this report to provide recommendations for general earthwork and design considerations for foundations, retaining walls, subsurface drainage, and temporary excavations. This work was authorized by your acceptance of our proposal dated February 4, 2020.

The attached report contains a discussion of the study and our recommendations. Please contact us if there are any questions regarding this report, or for further assistance during the design and construction phases of this project.

Respectfully submitted,

GEOTECH CONSULTANTS, INC.

James H. Strange, P.E.
Associate

MKM/JHS:kg

GEOTECHNICAL ENGINEERING STUDY
Proposed Four Lot Short-Plat
5224 Forest Avenue Southeast
Mercer Island, Washington

This report presents the findings and recommendations of our geotechnical engineering study for the site of the proposed four lot short plat to be located in Mercer Island.

We were provided with preliminary site and utility plans. ADH Engineering developed the civil plans, which are dated April 20, 2006 and Sturman Architects developed the preliminary lot layout plan, which is dated January 31, 2020. Based on these plans, we understand that the existing house and detached garage on the property will be demolished. The site will be split into four new lots, each containing a new, large single-family residence. No plans related to the residence layout and construction have been developed at this time, but we can anticipate that the residences will be at least two stories in height and will likely contain basements. Attached garages are shown on the preliminary lot layouts, and covered patios and decks will likely extend off the edges of the residences. Four separate new driveways will extend off Forest Avenue Southeast into each lot and Forest Avenue Southeast is shown to widen to the east to allow for enough width for two lanes of traffic. At this time, new rockeries are shown to facilitate some of the finish grading of the lots, but we do not anticipate that lot grading will be extensive at this time. Excavations for the basements will be relatively extensive but due to relatively large setbacks should be able to be maintained within the property boundaries. We anticipate that the new residences will be constructed to code minimums regarding lot line setbacks and will maximize square footage to allowable lot percentages.

If the scope of the project changes from what we have described above, we should be provided with revised plans in order to determine if modifications to the recommendations and conclusions of this report are warranted.

SITE CONDITIONS

SURFACE

The Vicinity Map, Plate 1, illustrates the general location of the site in Mercer Island. The irregular shaped site has approximate dimensions of 350 feet in the north-south direction, and 267 to 314 feet in the east-west direction. The site is bordered to the north by a large single-family parcel, to the east and south by other single-family parcels, and to the west by Forest Avenue Southeast. The adjacent parcels all contain single family residences of varying construction that are not located in close proximity to the shared property lines.

The site is currently developed with a one-story house located south of the center of the lot. A detached garage is located to the southeast of the house, and a gravel roundabout driveway provides access to the house and garage. In addition to the existing residential development located on the property, some preliminary earthwork and utility work related to the short plat appear to have been completed. New driveway entrance cuts have been made off Forest Avenue Southeast, and gravel has been placed in the driveway aprons. New side sewer and water service stubs have been brought into the lots, and currently are stubbed within the property line. A storm detention pipe has been installed beneath the northern tract road, and a new outfall has been

installed extending downslope to the east to a gabion energy dissipater. It does not appear that any extensive individual lot grading has occurred prior to completion of this study.

The grade across the site bounds drops moderately from south to north and east, with a total elevation change of 64 feet across the site bounds. Much of this elevation change occurs both on a moderately sloped area to the north of the existing yard area, and past the northwestern edge of proposed Lot 4, where a slope leads down to the previously installed energy dissipator.

While the grade within the proposed development areas is generally sloped moderately, the site is located on a ridgeline between two distinct topographic features. To the east of the lots, the grade extends downward at a moderate rate before the slope terminates at the location of a small stream. This stream has been eroding the streambanks over time, and tall oversteepened soil faces were observed during our time onsite. This stream continues past the northeastern corner of Lot 4. The grade slopes back up past the east side of the creek and continues past the eastern property lines up into the neighboring lots.

To the west of the lots, the grade drops 8 to 10 feet down to the Forest Avenue Southeast right-of-way. This slope appears to have been man-made and resulted from the construction of the Forest Avenue Southeast right-of-way. The grade carries out relatively flat over the narrow street, before dropping steeply down into a tall ravine that has a height of 28 to 44 feet. Much of this ravine is sloped in excess of 40 percent. A stream is present in the base of this stream and continues downslope to the north.

The subject site is mapped within a potential landslide hazard area according to the City of Mercer Island Geologic Hazard Map. The map indicates that slopes of 15 percent or more are located on the site, and slopes greater than 40 percent are in the direct vicinity of the site. This landslide hazard mapping extends across the northern half of the site. The site is also mapped as an erosion hazard area. The Mercer Island Landslide Hazard Map lists these hazard areas as “Areas of moderate to severe stream incision/erosion that may result in unstable slopes.” While onsite, we were able to observe these sloped areas, and noted that several of the mature trees were bowed in their trunks, indicating that some shallow soil creep has been occurring over time. No apparent signs of deep-seated slope instability were observed while onsite.

SUBSURFACE

The subsurface conditions were explored by drilling four test borings at the approximate locations shown on the Site Exploration Plan, Plate 2. Our exploration program was based on the proposed construction, anticipated subsurface conditions and those encountered during exploration, and the scope of work outlined in our proposal.

The borings were drilled on February 20, 2020 using a track-mounted, hollow-stem auger drill. Samples were taken at approximate 2.5 and 5-foot intervals with a standard penetration sampler. This split-spoon sampler, which has a 2-inch outside diameter, is driven into the soil with a 140-pound hammer falling 30 inches. The number of blows required to advance the sampler a given distance is an indication of the soil density or consistency. A geotechnical engineer from our staff observed the drilling process, logged the test borings, and obtained representative samples of the soil encountered. The Test Boring Logs are attached as Plates 3 through 6.

Soil Conditions

In general, the four test borings encountered native, loose silty sand and sand beneath the ground surface, becoming medium-dense beneath depths of 5 to 10 feet. A layer of fill was encountered in Test Boring 4 to a depth of 4 feet, where native, loose sand was encountered below. The medium-dense silty sand and sand extended to depths of 10.5 to 18 feet, where medium-dense/stiff silt was encountered. This silt became dense beneath depths of 20 feet in Test Boring 3 and became very stiff beneath depths of 15 to 20 feet in the remaining three borings. At the base of all four test borings, auger refusal was met on very dense fragmented pieces of rock at depths ranging from 16.5 to 26.5 feet. Recovered samples from this layer revealed pink to dark-gray pieces of fractured rock interpreted as weathered bedrock.

Previous borings were conducted by Liu and Associates in 2002 as part of the original short plat report. The four test borings conducted as part of this original study encountered similar soil conditions as was found in our test borings. These test borings are attached to the end of this report for reference.

Obstructions were revealed at the base of all four of our borings in the form of what was interpreted as weathered bedrock, and refusal was met on this soil layer in all four of our test borings. Debris, buried utilities, and old foundation and slab elements are commonly encountered on sites that have had previous development.

Although our explorations did not encounter cobbles or boulders, they are often found in soils that have been deposited by glaciers or fast-moving water.

Groundwater Conditions

Perched groundwater seepage was observed at a depth of 5 to 8 feet in Test Boring 4. The test borings were left open for only a short time period. Therefore, the seepage levels on the logs represent the location of transient water seepage and may not indicate the static groundwater level. Groundwater levels encountered during drilling can be deceptive, because seepage into the boring can be blocked or slowed by the auger itself.

It should be noted that groundwater levels vary seasonally with rainfall and other factors. We anticipate that groundwater could be found in more permeable soil layers and between the looser near-surface soil and the underlying denser soil.

The stratification lines on the logs represent the approximate boundaries between soil types at the exploration locations. The actual transition between soil types may be gradual, and subsurface conditions can vary between exploration locations. The logs provide specific subsurface information only at the locations tested. If a transition in soil type occurred between samples in the borings, the depth of the transition was interpreted. The relative densities and moisture descriptions indicated on the test boring logs are interpretive descriptions based on the conditions observed during drilling.

CRITICAL AREA STUDY (MICC 19.07)

Seismic Hazard and Potential Landslide Hazard Areas: The majority of the subject site is located within a mapped Potential Landslide Hazard area. This is noted on the attached Critical Areas Delineation Plan, Plate 8. Please note that this plan from the City of Mercer Island is not to scale and is interpreted from the available GIS mapping data. The site is not located within a Seismic Hazard Area.

MICC/19.07.160 (A) uses WAC 365-190-120 for landslide hazard designation as follows:

(6) Landslide hazard areas include areas subject to landslides based on a combination of geologic, topographic, and hydrologic factors. They include any areas susceptible to landslide because of any combination of bedrock, soil, slope (gradient), slope aspect, structure, hydrology, or other factors, and include, at a minimum, the following:

(a) Areas of historic failures, such as:
(i) Those areas delineated by the United States Department of Agriculture Natural Resources Conservation Service as having a significant limitation for building site development;
(ii) Those coastal areas mapped as class u (unstable), uos (unstable old slides), and urs (unstable recent slides) in the department of ecology Washington coastal atlas; or
(iii) Areas designated as quaternary slumps, earthflows, mudflows, lahars, or landslides on maps published by the United States Geological Survey or Washington department of natural resources.

(b) Areas with all three of the following characteristics:
(i) Slopes steeper than fifteen percent;
(ii) Hillsides intersecting geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock; and
(iii) Springs or groundwater seepage.

(c) Areas that have shown movement during the holocene epoch (from ten thousand years ago to the present) or which are underlain or covered by mass wastage debris of this epoch;

(d) Slopes that are parallel or subparallel to planes of weakness (such as bedding planes, joint systems, and fault planes) in subsurface materials;

(e) Slopes having gradients steeper than eighty percent subject to rockfall during seismic shaking;

(f) Areas potentially unstable as a result of rapid stream incision, stream bank erosion, and undercutting by wave action, including stream channel migration zones;

(g) Areas that show evidence of, or are at risk from snow avalanches;

(h) Areas located in a canyon or on an active alluvial fan, presently or potentially subject to inundation by debris flows or catastrophic flooding; and

(i) Any area with a slope of forty percent or steeper and with a vertical relief of ten or more feet except areas composed of bedrock. A slope is delineated by establishing its toe and top and measured by averaging the inclination over at least ten feet of vertical relief.

The potential landslide mapping from Mercer Island (Plate 8) can be refined by consulting the WAC designations above with responses as follows:

a) No historic failures (i-iii) were indicated or mapped on the eastern slopes at the site.
b) Many of the slopes at the site are over 15 percent (i), but we observed no indications of the eastern slopes intersecting geologic contacts (ii); and we did not observe any springs or groundwater seeps on the eastern slopes.
c) Not indicated at the site.
d) Not indicated at the site.
e) Not indicated at the site.
f) The small steep incised slopes at the edge of the stream would be considered in this criteria, but based on their height, we would recommend a 25 foot setback from these slopes.
g) Not indicated at the site.
h) Not indicated at the site.

i) Some of the steep slopes incised at the edge of the stream would meet this criteria (where the slope is at least 10 feet tall) and we would recommend a 25 foot setback from these steep slope areas.

As such, we would anticipate that the mapped potential geologic hazard area (landslide) that covers much of the site and general vicinity to the north and south as well would be reduced to just the steeper slopes along the edges of the stream; and the buffers would be set from those slopes. To elaborate, the core of the subject site consists of medium-dense sand and silty sand as well as medium-dense and stiff silt that is underlain by weathered bedrock; both of which have a low potential for deep-seated landslides. However, this competent soil is overlain by looser surficial soils that could experience slope movement, particularly during a large earthquake. The recommendations presented in our report (lowering foundations using basements and supporting ongrade structures near the slopes with pipe piles} are intended to not cause adverse effects to the hazard areas.

Numerical slope stability analyses were conducted for three separate cross sections across the site. The location of the cross sections can be found on Plate 2.

Western Steep Slope Hazard Areas: Based on the provided topographic map of the subject site, and our site observations, the slope located west and northwest of the property is over 10 feet in height, and exceeds an inclination of 40 percent. This slope would meet the definition of a steep slope under the MICC. The approximate top of this steep slope area could be delineated as the western edge of the Forest Avenue Southeast right-of-way, and the toe can be delineated by the location of the stream centerline. The height of this slope varies from about 22 feet to 44 feet near the site; and the recommended buffer in MI code would be the height of the slope (with a minimum of 25 feet and maximum of 75 feet). The preliminary residence locations are currently set back more than 50 feet from this western slope. It is our opinion that a 50-foot buffer from these western slopes is appropriate for the proposed development. The recommendations presented in the report are intended to prevent adverse impacts to the stability of the steep slope, and to protect the planned development from foreseeable future soil movement on the steep slope.

Erosion Hazard Area: The site also meets the City of Mercer Island's criteria for an Erosion Hazard Area. This approximate area has also been indicated on the attached Critical Areas Delineation Map. We recommend that these areas be shown on a formal copy of the site survey as well.

Excavation and construction of the planned residence can be accomplished without adverse to the site and surrounding properties by exercising care and being proactive with the maintenance and potential upgrading of the erosion control system through the entire construction process. Proper erosion control implementation will be important to prevent adverse impacts to the site and neighboring properties. The temporary erosion control measures needed during the site development will depend heavily on the weather conditions that are encountered during the site work. One of the most important considerations, particularly during wet weather, is to immediately cover any bare soil areas to prevent accumulated water or runoff from the work area from becoming silty in the first place. Silty water cannot be discharged off the site, so a temporary holding tank should be planned for wet weather earthwork. A wire-backed silt fence bedded in compost, not native soil or sand, should be erected as close as possible to the planned work area, and the existing vegetation between the silt fence and the lake left in place. Rocked construction access and staging areas should be established wherever trucks will have to drive off of pavement, in order reduce the amount of soil or mud carried off the property by trucks and equipment. Covering the base of the excavation with a layer of clean gravel or rock is also prudent to reduce the amount of

mud and silty water generated. Cut slopes and soil stockpiles should be covered with plastic during wet weather. Soil stockpiles should be minimized. Following rough grading, it may be necessary to mulch or hydroseed bare areas that will not be immediately covered with landscaping or an impervious surface.

Eastern Slope Buffers and Mitigation: The attached Critical Areas Delineation Plan, Plate 8 denotes the extents of the critical areas that cover the site. Under MICC 19.07.160(C), a prescriptive buffer of 25 feet is indicated from all sides of a shallow landslide-hazard area. As noted above, most of the site lies within a mapped Potential Landslide Hazard Area, and the prescriptive buffer would extend far beyond the boundaries of the property and the planned development area. The prescriptive Steep Slope buffers from the top and toe of the western steep slope are indicated on the Plan. No buffer is required by the MICC for an Erosion Hazard Area.

As discussed above, we would recommend a 25-foot minimum buffer from the steep (40+ percent and at least 10 feet tall) sections of the slopes near the stream. The recommendations presented in this geotechnical report are intended to allow the project to be constructed in the proposed configuration without adverse impacts to critical areas on the site or the neighboring properties. The geotechnical recommendations associated with foundations, shoring, and erosion control will mitigate any potential hazards to critical areas on the site.

Statement of Risk: In order to satisfy the City of Mercer Island's requirements, a statement of risk is needed. As such, we make the following statement:

> *Provided the recommendations in this report and our subsequent recommendations are followed, it is our professional opinion that the recommendations presented in this report for the planned alteration will render the development as safe as if it were not located in a geologically hazardous area, and will not adversely impact critical areas on adjacent properties.*

CONCLUSIONS AND RECOMMENDATIONS

GENERAL

THIS SECTION CONTAINS A SUMMARY OF OUR STUDY AND FINDINGS FOR THE PURPOSES OF A GENERAL OVERVIEW ONLY. MORE SPECIFIC RECOMMENDATIONS AND CONCLUSIONS ARE CONTAINED IN THE REMAINDER OF THIS REPORT. ANY PARTY RELYING ON THIS REPORT SHOULD READ THE ENTIRE DOCUMENT.

The test borings conducted for this study encountered native, medium-dense sand and silty sand beneath a layer of loose weathered and fill soil ranging in thickness from 5 to 10 feet. Medium-dense and stiff silt was encountered beneath the sand and silty sand at depths of 10.5 to 18 feet. Conventional foundations bearing on this competent medium-dense soil will provide suitable foundation support for most of the proposed residences, assuming that basements will be incorporated into the layouts. We recommend that the footing subgrades be recompacted if granular soils are present prior to placing footing forms. However, if excavations are not planned to be as deep, or if the residences contain at-grade settlement sensitive elements whose foundations will not reach suitable soils, we recommend that they be supported on deep foundations consisting of small diameter pipe piles that are drive to refusal in the underlying core of the site. Pipe piles would also greatly lessen the total amount of required earthwork for each of the houses. It will be important that any prepared bearing surface be free of any loose and disturbed soils that may be

generated during excavation. This can usually be accomplished by using a cleanout bucket, grade bar, or flat blade shovel. We can provide more precise foundation recommendations once preliminary house siting and design have been completed.

Excavations for the proposed residences will vary depending on finish floor elevations. No residence designs have been provided at this time, and excavations could vary significantly between the four lots. Based on the soils encountered in our test borings, a temporary excavation inclination of no steeper than a 1:1 (Horizontal:Vertical) is appropriate for this project. We do not recommend that vertical excavation be made on or near the property lines, or near any settlement sensitive structures. Due to the medium-dense nature of the upper soils, vertical cuts should not be made at the base of sloped cuts. At this time, it appears that the excavations for the proposed residences will be able to be adequately maintained within the property boundaries, and temporary shoring or excavation easements will not be needed.

As previously discussed, the subject site is located within a potential landslide hazard area that encompasses much of the northern portion of the site and most of the surrounding vicinity. The core of the site consists of very stiff and dense silt and what was interpreted as weathered bedrock, which have a low potential for deep-seated instability. However, any slope in the Puget Sound area has some potential for shallow soil movement in the upper soils, particularly after periods of extended concentrated precipitation. The potential for failures in the adjacent steep slopes will be reduced by founding the new residences on competent soil, or on a system of pipe piles that are driven to refusal into the underlying core of the site, reducing any surcharge loads from the tops of these slopes. As discussed above in the ***Critical Area Study*** section, the recommendations presented in this report are intended to prevent adverse impacts to the stability of the slope onsite, protect the planned development from damage in the event of future instability, and prevent the development from adversely affecting the stability of surrounding properties.

No soil generated from the project excavation or new structural fill should be placed on, or near the adjacent slopes, as the surcharge from the additional soils could reduce the stability of the slopes. No water should be directed towards the steep slope to the west of the property. Poorly managed stormwater runoff is a common cause of slope instability that is well documented in the Puget Sound area. Due to the silty, fine-grained nature of the upper fill and native soils onsite and the steep inclination of the slope to the west of the proposed residence, it is our professional opinion that onsite infiltration of stormwater is not feasible for this project. All collected stormwater should be discharged to an approved stormwater system.

Even though the site is located within an erosion hazard area, the potential for adverse erosion impacts to the site and surrounding area are low, provided that sufficient temporary erosion control measures are implemented. The required erosion control measures will depend heavily on the weather conditions that are encountered. We anticipate that a silt fence will be needed around the downslope sides of any cleared areas. Existing pavements, ground cover, and landscaping should be left in place wherever possible to minimize the amount of exposed soil. Rocked staging areas and construction access roads should be provided to reduce the amount of soil or mud carried off the property by trucks and equipment. Trucks should not be allowed to drive off of the rock-covered areas. Cut slopes and soil stockpiles should be covered with plastic during wet weather. Following clearing or rough grading, it may be necessary to mulch or hydroseed bare areas that will not be immediately covered with landscaping or an impervious surface. On most construction projects, it is necessary to periodically maintain or modify temporary erosion control measures to address specific site and weather conditions.

The drainage and/or waterproofing recommendations presented in this report are intended only to prevent active seepage from flowing through concrete walls or slabs. Even in the absence of active seepage into and beneath structures, water vapor can migrate through walls, slabs, and floors from the surrounding soil, and can even be transmitted from slabs and foundation walls due to the concrete curing process. Water vapor also results from occupant uses, such as cooking, cleaning, and bathing. Excessive water vapor trapped within structures can result in a variety of undesirable conditions, including, but not limited to, moisture problems with flooring systems, excessively moist air within occupied areas, and the growth of molds, fungi, and other biological organisms that may be harmful to the health of the occupants. The designer or architect must consider the potential vapor sources and likely occupant uses, and provide sufficient ventilation, either passive or mechanical, to prevent a build up of excessive water vapor within the planned structure.

Geotech Consultants, Inc. should be allowed to review the final development plans to verify that the recommendations presented in this report are adequately addressed in the design. Such a plan review would be additional work beyond the current scope of work for this study, and it may include revisions to our recommendations to accommodate site, development, and geotechnical constraints that become more evident during the review process.

We recommend including this report, in its entirety, in the project contract documents. This report should also be provided to any future property owners so they will be aware of our findings and recommendations.

SEISMIC CONSIDERATIONS

In accordance with the International Building Code (IBC), the site class within 100 feet of the ground surface is best represented by Site Class Type D (Stiff Soil). As noted in the USGS website, the mapped spectral acceleration value for a 0.2 second (S_s) and 1.0 second period (S_1) equals 1.45g and 0.55g, respectively.

The IBC and ASCE 7 require that the potential for liquefaction (soil strength loss) during an earthquake be evaluated for the peak ground acceleration of the Maximum Considered Earthquake (MCE), which has a probability of occurring once in 2,475 years (2 percent probability of occurring in a 50-year period). The MCE peak ground acceleration adjusted for site class effects (F_{PGA}) equals 0.6g. The soils beneath the site are not susceptible to seismic liquefaction under the ground motions of the MCE because of the absence of near-surface groundwater.

PIPE PILES

Depending on final foundation elevations, the residence foundations may be supported on pipe piles. As stated in the ***General*** section of this report, any settlement sensitive, at-grade elements should also be supported on pipe piles.

Three- or 4-inch-diameter pipe piles driven with a 850- or 1,100- or 2,000-pound hydraulic jackhammer to the following final penetration rates may be assigned the following compressive capacities.

INSIDE PILE DIAMETER	FINAL DRIVING RATE (850-pound hammer)	FINAL DRIVING RATE (1,100-pound hammer)	FINAL DRIVING RATE (2,000-pound hammer)	ALLOWABLE COMPRESSIVE CAPACITY
3 inches	10 sec/inch	6 sec/inch	2 sec/inch	6 tons
4 inches	16 sec/inch	10 sec/inch	4 sec/inch	10 tons

Note: The refusal criteria indicated in the above table are valid only for pipe piles that are installed using a hydraulic impact hammer carried on leads that allow the hammer to sit on the top of the pile during driving. If the piles are installed by alternative methods, such as a vibratory hammer or a hammer that is hard-mounted to the installation machine, numerous load tests to 200 percent of the design capacity would be necessary to substantiate the allowable pile load. The appropriate number of load tests would need to be determined at the time the contractor and installation method are chosen.

As a minimum, Schedule 40 pipe should be used. The site soils are not highly organic, and are not located near salt water. As a result, they do not have an elevated corrosion potential. Considering this, it is our opinion that standard “black” pipe can be used, and corrosion protection, such as galvanizing, is not necessary for the pipe piles.

Pile caps and grade beams should be used to transmit loads to the piles. Isolated pile caps should include a minimum of two piles to reduce the potential for eccentric loads being applied to the piles. Subsequent sections of pipe can be connected with slip or threaded couplers, or they can be welded together. If slip couplers are used, they should fit snugly into the pipe sections. This may require that shims be used or that beads of welding flux be applied to the outside of the coupler.

Lateral loads due to wind or seismic forces may be resisted by passive earth pressure acting on the vertical, embedded portions of the foundation. For this condition, the foundation must be either poured directly against relatively level, undisturbed soil or be surrounded by level compacted fill. We recommend using a passive earth pressure of 250 pounds per cubic foot (pcf) for this resistance. If the ground in front of a foundation is loose or sloping, the passive earth pressure given above will not be appropriate. We recommend a safety factor of at least 1.5 for the foundation's resistance to lateral loading, when using the above ultimate passive value.

CONVENTIONAL FOUNDATIONS

Depending on final residence design and layout, the new residences could be supported on conventional continuous and spread footings bearing on undisturbed, medium-dense, native soil. We recommend that continuous and individual spread footings have minimum widths of 16 and 24 inches, respectively. Exterior footings should also be bottomed at least 18 inches below the lowest adjacent finish ground surface for protection against frost and erosion. The local building codes should be reviewed to determine if different footing widths or embedment depths are required. Footing subgrades must be cleaned of loose or disturbed soil prior to pouring concrete. Depending upon site and equipment constraints, this may require removing the disturbed soil by hand.

An allowable bearing pressure of 2,000 pounds per square foot (psf) is appropriate for footings supported on competent native soil. A one-third increase in this design bearing pressure may be used when considering short-term wind or seismic loads. For the above design criteria, it is anticipated that the total post-construction settlement of footings founded on competent native soil

will be about one-inch, with differential settlements on the order of one-inch in a distance of 25 feet along a continuous footing with a uniform load.

Lateral loads due to wind or seismic forces may be resisted by friction between the foundation and the bearing soil, or by passive earth pressure acting on the vertical, embedded portions of the foundation. For the latter condition, the foundation must be either poured directly against relatively level, undisturbed soil or be surrounded by level, well-compacted fill. We recommend using the following ultimate values for the foundation's resistance to lateral loading:

PARAMETER	ULTIMATE VALUE
Coefficient of Friction	0.45
Passive Earth Pressure	300 pcf

Where: pcf is Pounds per Cubic Foot, and Passive Earth Pressure is computed using the Equivalent Fluid Density.

If the ground in front of a foundation is loose or sloping, the passive earth pressure given above will not be appropriate. The above ultimate values for passive earth pressure and coefficient of friction do not include a safety factor.

FOUNDATION AND RETAINING WALLS

Retaining walls backfilled on only one side should be designed to resist the lateral earth pressures imposed by the soil they retain. The following recommended parameters are for walls that restrain level backfill:

PARAMETER	VALUE
Active Earth Pressure *	35 pcf
Passive Earth Pressure	300 pcf
Coefficient of Friction	0.45
Soil Unit Weight	125 pcf

Where: pcf is Pounds per Cubic Foot, and Active and Passive Earth Pressures are computed using the Equivalent Fluid Pressures.

*** For a restrained wall that cannot deflect at least 0.002 times its height, a uniform lateral pressure equal to 10 psf times the height of the wall should be added to the above active equivalent fluid pressure. This applies only to walls with level backfill.**

The design values given above do not include the effects of any hydrostatic pressures behind the walls and assume that no surcharges, such as those caused by slopes, vehicles, or adjacent foundations will be exerted on the walls. If these conditions exist, those pressures should be added to the above lateral soil pressures. Where sloping backfill is desired behind the walls, we will need to be given the wall dimensions and the slope of the backfill in order to provide the appropriate design earth pressures. The surcharge due to traffic loads behind a wall can typically be accounted for by adding a uniform pressure equal to 2 feet multiplied by the above active fluid density. Heavy construction equipment should not be operated behind retaining and foundation walls within a

distance equal to the height of a wall, unless the walls are designed for the additional lateral pressures resulting from the equipment.

The values given above are to be used to design only permanent foundation and retaining walls that are to be backfilled, such as conventional walls constructed of reinforced concrete or masonry. It is not appropriate to use the above earth pressures and soil unit weight to back-calculate soil strength parameters for design of other types of retaining walls, such as soldier pile, reinforced earth, modular or soil nail walls. We can assist with design of these types of walls, if desired.

The passive pressure given is appropriate only for a shear key poured directly against undisturbed native soil, or for the depth of level, well-compacted fill placed in front of a retaining or foundation wall. The values for friction and passive resistance are ultimate values and do not include a safety factor. Restrained wall soil parameters should be utilized the wall and reinforcing design for a distance of 1.5 times the wall height from corners or bends in the walls, or from other points of restraint. This is intended to reduce the amount of cracking that can occur where a wall is restrained by a corner.

Wall Pressures Due to Seismic Forces

The surcharge wall loads that could be imposed by the design earthquake can be modeled by adding a uniform lateral pressure to the above-recommended active pressure. The recommended surcharge pressure is 8**H** pounds per square foot (psf), where **H** is the design retention height of the wall. Using this increased pressure, the safety factor against sliding and overturning can be reduced to 1.2 for the seismic analysis.

Retaining Wall Backfill and Waterproofing

Backfill placed behind retaining or foundation walls should be coarse, free-draining structural fill containing no organics. This backfill should contain no more than 5 percent silt or clay particles and have no gravel greater than 4 inches in diameter. The percentage of particles passing the No. 4 sieve should be between 25 and 70 percent. A minimum 12-inch width of free-draining gravel or drainage composite similar to Miradrain 6000 should be placed against the backfilled retaining walls. The gravel or drainage composites should be hydraulically connected to the foundation drain system. Free-draining backfill should be used for the entire width of the backfill where seepage is encountered. For increased protection, drainage composites should be placed along cut slope faces, and the walls should be backfilled entirely with free-draining soil. The later section entitled ***Drainage Considerations*** should also be reviewed for recommendations related to subsurface drainage behind foundation and retaining walls.

The purpose of these backfill requirements is to ensure that the design criteria for a retaining wall are not exceeded because of a build-up of hydrostatic pressure behind the wall. Also, subsurface drainage systems are not intended to handle large volumes of water from surface runoff. The top 12 to 18 inches of the backfill should consist of a compacted, relatively impermeable soil or topsoil, or the surface should be paved. The ground surface must also slope away from backfilled walls at one to 2 percent to reduce the potential for surface water to percolate into the backfill.

Water percolating through pervious surfaces (pavers, gravel, permeable pavement, etc.) must also be prevented from flowing toward walls or into the backfill zone. Foundation drainage and waterproofing systems are not intended to handle large volumes of infiltrated

water. The compacted subgrade below pervious surfaces and any associated drainage layer should therefore be sloped away. Alternatively, a membrane and subsurface collection system could be provided below a pervious surface.

It is critical that the wall backfill be placed in lifts and be properly compacted, in order for the above-recommended design earth pressures to be appropriate. The recommended wall design criteria assume that the backfill will be well-compacted in lifts no thicker than 12 inches. The compaction of backfill near the walls should be accomplished with hand-operated equipment to prevent the walls from being overloaded by the higher soil forces that occur during compaction. The section entitled ***General Earthwork and Structural Fill*** contains additional recommendations regarding the placement and compaction of structural fill behind retaining and foundation walls.

The above recommendations are not intended to waterproof below-grade walls, or to prevent the formation of mold, mildew or fungi in interior spaces. Over time, the performance of subsurface drainage systems can degrade, subsurface groundwater flow patterns can change, and utilities can break or develop leaks. Therefore, waterproofing should be provided where future seepage through the walls is not acceptable. This typically includes limiting cold-joints and wall penetrations and using bentonite panels or membranes on the outside of the walls. There are a variety of different waterproofing materials and systems, which should be installed by an experienced contractor familiar with the anticipated construction and subsurface conditions. Applying a thin coat of asphalt emulsion to the outside face of a wall is not considered waterproofing and will only help to reduce moisture generated from water vapor or capillary action from seeping through the concrete. As with any project, adequate ventilation of basement and crawl space areas is important to prevent a buildup of water vapor that is commonly transmitted through concrete walls from the surrounding soil, even when seepage is not present. This is appropriate even when waterproofing is applied to the outside of foundation and retaining walls. We recommend that you contact an experienced envelope consultant if detailed recommendations or specifications related to waterproofing design or minimizing the potential for infestations of mold and mildew are desired.

SLABS-ON-GRADE

The building floors can be constructed as slabs-on-grade atop competent native soil, or on structural fill. Alternately, the building floors could be constructed as framed floors atop a crawlspace. The subgrade soil must be in a firm, non-yielding condition at the time of slab construction or underslab fill placement. Any soft areas encountered should be excavated and replaced with select, imported structural fill.

Even where the exposed soils appear dry, water vapor will tend to naturally migrate upward through the soil to the new constructed space above it. This can affect moisture-sensitive flooring, cause imperfections or damage to the slab, or simply allow excessive water vapor into the space above the slab. All interior slabs-on-grade should be underlain by a capillary break drainage layer consisting of a minimum 4-inch thickness of clean gravel or crushed rock that has a fines content (percent passing the No. 200 sieve) of less than 3 percent and a sand content (percent passing the No. 4 sieve) of no more than 10 percent. Pea gravel or crushed rock are typically used for this layer.

As noted by the American Concrete Institute (ACI) in the *Guides for Concrete Floor and Slab Structures*, proper moisture protection is desirable immediately below any on-grade slab that will be

covered by tile, wood, carpet, impermeable floor coverings, or any moisture-sensitive equipment or products. ACI recommends a minimum 10-mil thickness vapor retarder for better durability and long term performance than is provided by 6-mil plastic sheeting that has historically been used. A vapor retarder is defined as a material with a permeance of less than 0.3 perms, as determined by ASTM E 96. It is possible that concrete admixtures may meet this specification, although the manufacturers of the admixtures should be consulted. Where vapor retarders are used under slabs, their edges should overlap by at least 6 inches and be sealed with adhesive tape. The sheeting should extend to the foundation walls for maximum vapor protection.

If no potential for vapor passage through the slab is desired, a vapor *barrier* should be used. A vapor barrier, as defined by ACI, is a product with a water transmission rate of 0.01 perms when tested in accordance with ASTM E 96. Reinforced membranes having sealed overlaps can meet this requirement.

We recommend that the contractor, the project materials engineer, and the owner discuss these issues and review recent ACI literature and ASTM E-1643 for installation guidelines and guidance on the use of the protection/blotter material.

EXCAVATIONS AND SLOPES

Temporary excavation slopes should not exceed the limits specified in local, state, and national government safety regulations. Also, temporary cuts should be planned to provide a minimum 2 to 3 feet of space for construction of foundations, walls, and drainage. Temporary cuts to a maximum overall depth of about 4 feet may be attempted vertically in unsaturated soil, if there are no indications of slope instability. However, vertical cuts should not be made near property boundaries, or existing utilities and structures. As stated previously, it is important that vertical cuts not be made at the base of sloped cuts. Based upon Washington Administrative Code (WAC) 296, Part N, the soil at the subject site would generally be classified as Type B. Therefore, temporary cut slopes greater than 4 feet in height should not be excavated at an inclination steeper than 1:1 (Horizontal:Vertical), extending continuously between the top and the bottom of a cut.

The above-recommended temporary slope inclination is based on the conditions exposed in our explorations, and on what has been successful at other sites with similar soil conditions. It is possible that variations in soil and groundwater conditions will require modifications to the inclination at which temporary slopes can stand. Temporary cuts are those that will remain unsupported for a relatively short duration to allow for the construction of foundations, retaining walls, or utilities. Temporary cut slopes should be protected with plastic sheeting during wet weather. It is also important that surface runoff be directed away from the top of temporary slope cuts. Cut slopes should also be backfilled or retained as soon as possible to reduce the potential for instability. Please note that sand loose soil can cave suddenly and without warning. Excavation, foundation, and utility contractors should be made especially aware of this potential danger. These recommendations may need to be modified if the area near the potential cuts has been disturbed in the past by utility installation, or if settlement-sensitive utilities are located nearby.

All permanent cuts into native soil should be inclined no steeper than 2:1 (H:V). Fill slopes should not be constructed with an inclination greater than 3:1 (H:V). To reduce the potential for shallow sloughing, fill must be compacted to the face of these slopes. This can be accomplished by overbuilding the compacted fill and then trimming it back to its final inclination. Adequate compaction of the slope face is important for long-term stability and is necessary to prevent

excessive settlement of patios, slabs, foundations, or other improvements that may be placed near the edge of the slope.

Water should not be allowed to flow uncontrolled over the top of any temporary or permanent slope. All permanently exposed slopes should be seeded with an appropriate species of vegetation to reduce erosion and improve the stability of the surficial layer of soil.

DRAINAGE CONSIDERATIONS

Footing drains should be used where: (1) crawl spaces or basements will be below a structure; (2) a slab is below the outside grade; or, (3) the outside grade does not slope downward from a building. Drains should also be placed at the base of all earth-retaining walls. These drains should be surrounded by at least 6 inches of 1-inch-minus, washed rock that is encircled with non-woven, geotextile filter fabric (Mirafi 140N, Supac 4NP, or similar material). At its highest point, a perforated pipe invert should be at least 6 inches below the bottom of a slab floor or the level of a crawl space. The discharge pipe for subsurface drains should be sloped for flow to the outlet point. Roof and surface water drains must not discharge into the foundation drain system. A typical footing drain detail is attached to this report as Plate 7. For the best long-term performance, perforated PVC pipe is recommended for all subsurface drains. Clean-outs should be provided for potential future flushing or cleaning of footing drains.

Drainage inside the building's footprint should also be provided where (1) a crawl space or slab will slope or be lower than the surrounding ground surface, (2) an excavation encounters significant seepage, or (3) an excavation for a building will be close to the expected high groundwater elevations. We can provide recommendations for interior drains, should they become necessary, during excavation and foundation construction.

As a minimum, a vapor retarder, as defined in the ***Slabs-On-Grade*** section, should be provided in any crawl space area to limit the transmission of water vapor from the underlying soils. Crawl space grades are sometimes left near the elevation of the bottom of the footings. As a result, an outlet drain is recommended for all crawl spaces to prevent an accumulation of any water that may bypass the footing drains. Providing a few inches of free draining gravel underneath the vapor retarder is also prudent to limit the potential for seepage to build up on top of the vapor retarder.

Perched groundwater was observed during our field work. If seepage is encountered in an excavation, it should be drained from the site by directing it through drainage ditches, perforated pipe, or French drains, or by pumping it from sumps interconnected by shallow connector trenches at the bottom of the excavation.

The excavation and site should be graded so that surface water is directed off the site and away from the tops of slopes. Water should not be allowed to stand in any area where foundations, slabs, or pavements are to be constructed. Final site grading in areas adjacent to the residences should slope away at least one to 2 percent, except where the area is paved. Surface drains should be provided where necessary to prevent ponding of water behind foundation or retaining walls. A discussion of grading and drainage related to pervious surfaces near walls and structures is contained in the ***Foundation and Retaining Walls*** section.

GENERAL EARTHWORK AND STRUCTURAL FILL

All building and pavement areas should be stripped of surface vegetation, topsoil, organic soil, and other deleterious material. It is important that existing foundations be removed before site development. The stripped or removed materials should not be mixed with any materials to be used as structural fill, but they could be used in non-structural areas, such as landscape beds.

Structural fill is defined as any fill, including utility backfill, placed under, or close to, a building, or in other areas where the underlying soil needs to support loads. All structural fill should be placed in horizontal lifts with a moisture content at, or near, the optimum moisture content. The optimum moisture content is that moisture content that results in the greatest compacted dry density. The moisture content of fill is very important and must be closely controlled during the filling and compaction process.

The allowable thickness of the fill lift will depend on the material type selected, the compaction equipment used, and the number of passes made to compact the lift. The loose lift thickness should not exceed 12 inches, but should be thinner if small, hand-operated compactors are used. We recommend testing structural fill as it is placed. If the fill is not sufficiently compacted, it should be recompacted before another lift is placed. This eliminates the need to remove the fill to achieve the required compaction. The following table presents recommended levels of relative compaction for compacted fill:

LOCATION OF FILL PLACEMENT	MINIMUM RELATIVE COMPACTION
Beneath slabs or walkways	95%
Filled slopes and behind retaining walls	90%
Beneath pavements	95% for upper 12 inches of subgrade; 90% below that level

Where: Minimum Relative Compaction is the ratio, expressed in percentages, of the compacted dry density to the maximum dry density, as determined in accordance with ASTM Test Designation D 1557-91 (Modified Proctor).

LIMITATIONS

The conclusions and recommendations contained in this report are based on site conditions as they existed at the time of our exploration and assume that the soil and groundwater conditions encountered in the test borings are representative of subsurface conditions on the site. If the subsurface conditions encountered during construction are significantly different from those observed in our explorations, we should be advised at once so that we can review these conditions and reconsider our recommendations where necessary. Unanticipated conditions are commonly encountered on construction sites and cannot be fully anticipated by merely taking samples in test borings. Subsurface conditions can also vary between exploration locations. Such unexpected conditions frequently require making additional expenditures to attain a properly constructed project. It is recommended that the owner consider providing a contingency fund to accommodate such potential extra costs and risks. This is a standard recommendation for all projects.

This report has been prepared for the exclusive use of Seascape Homes LLC and its representatives, for specific application to this project and site. Our conclusions and recommendations are professional opinions derived in accordance with our understanding of current local standards of practice, and within the scope of our services. No warranty is expressed or implied. The scope of our services does not include services related to construction safety precautions, and our recommendations are not intended to direct the contractor's methods, techniques, sequences, or procedures, except as specifically described in our report for consideration in design. Our services also do not include assessing or minimizing the potential for biological hazards, such as mold, bacteria, mildew and fungi in either the existing or proposed site development.

ADDITIONAL SERVICES

In addition to reviewing the final plans, Geotech Consultants, Inc. should be retained to provide geotechnical consultation, testing, and observation services during construction. This is to confirm that subsurface conditions are consistent with those indicated by our exploration, to evaluate whether earthwork and foundation construction activities comply with the general intent of the recommendations presented in this report, and to provide suggestions for design changes in the event subsurface conditions differ from those anticipated prior to the start of construction. However, our work would not include the supervision or direction of the actual work of the contractor and its employees or agents. Also, job and site safety, and dimensional measurements, will be the responsibility of the contractor.

During the construction phase, we will provide geotechnical observation and testing services when requested by you or your representatives. Please be aware that we can only document site work we actually observe. It is still the responsibility of your contractor or on-site construction team to verify that our recommendations are being followed, whether we are present at the site or not.

The following plates are attached to complete this report:

Plate 1	Vicinity Map
Plate 2	Site Exploration Plan
Plates 3 - 6	Test Boring Logs
Plate 7	Typical Footing Drain Detail
Plate 8	Critical Areas Delineation Map
Attachment	Previous Boring Logs
Attachment	Slope Stability Analyses

We appreciate the opportunity to be of service on this project. Please contact us if you have any questions, or if we can be of further assistance.

Respectfully submitted,

GEOTECH CONSULTANTS, INC.

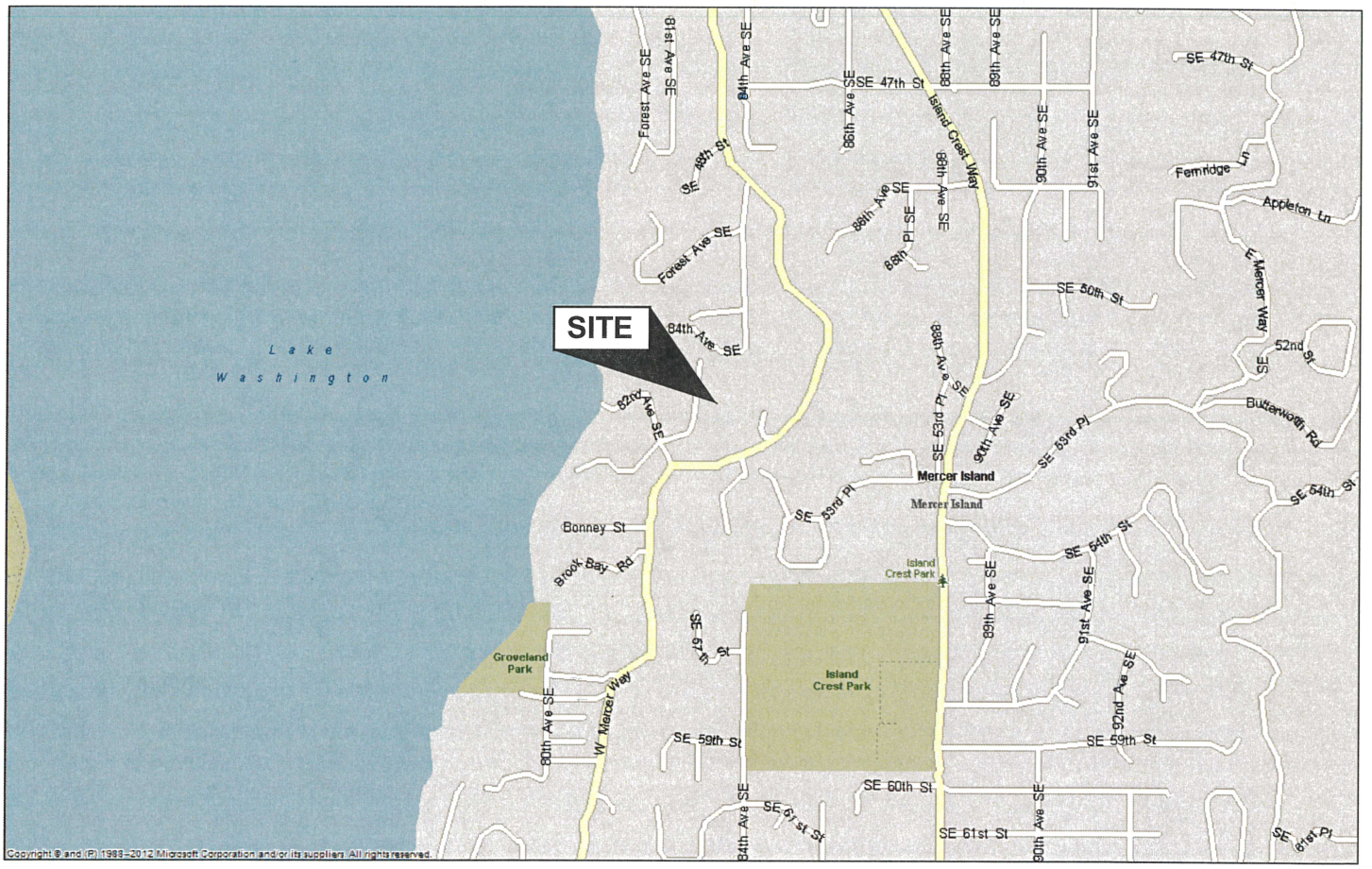


3/18/20

James H. Strange, Jr., P.E.
Associate

MKM/JHS:kg

NORTH



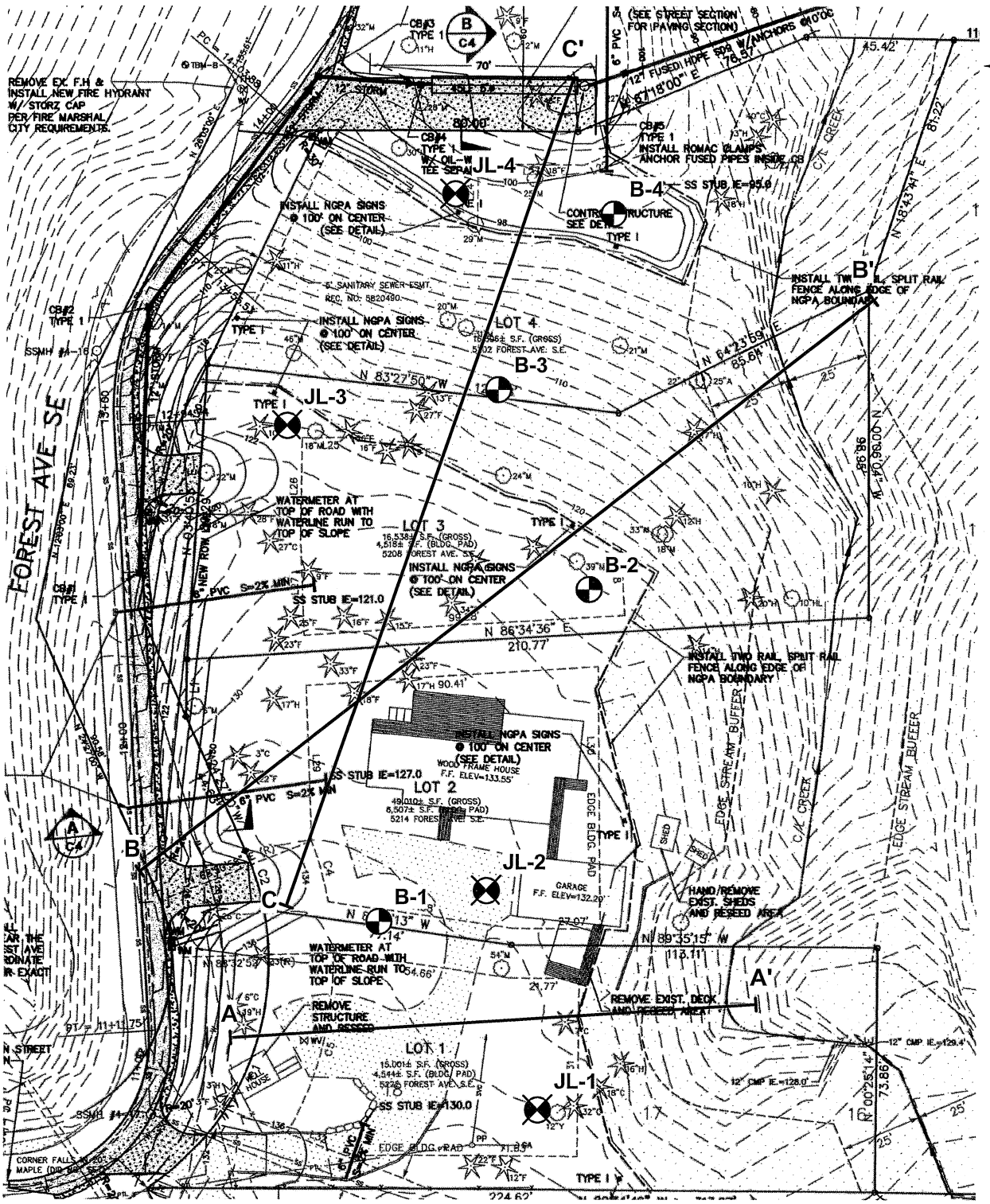
(Source: Microsoft MapPoint, 2013)

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VICINITY MAP

5224 Forest Avenue Southeast
Mercer Island, Washington

Job No:	Date:		Plate:
20046	Mar. 2020		1



Legend:

- Test Boring Location
- Previous Test Boring Location - Liu and Associates, September, 2002

GEOTECH CONSULTANTS, INC.

SITE EXPLORATION PLAN

5224 Forest Avenue Southeast
Mercer Island, Washington

Job No:	Date:		Plate:
20046	Mar. 2020	No Scale	2

BORING 1

Depth (ft.)	Moisture	Water Table	Blows per Foot	Sample	USCS	Description
						Topsoil
			7	1		Gray silty SAND, fine-grained, moist, loose
5			16	2	SM	-becomes gravelly, fine to medium-grained -with a small root
			19	3		-with a 6-inch clean sand seam -becomes rusted, very fine-grained, moist to very moist
10			21	4		Gray with rust, sandy SILT, non-plastic, moist, medium-dense -with small pieces of gray silt
					ML	
15			27	5		-becomes gray and gray-brown -becoems gray, very moist
20						
25						
30						

*** Test boring was terminated at 16.5 feet on February 20, 2020 due to auger refusal on rocks.**

*** No groundwater was encountered during drilling.**

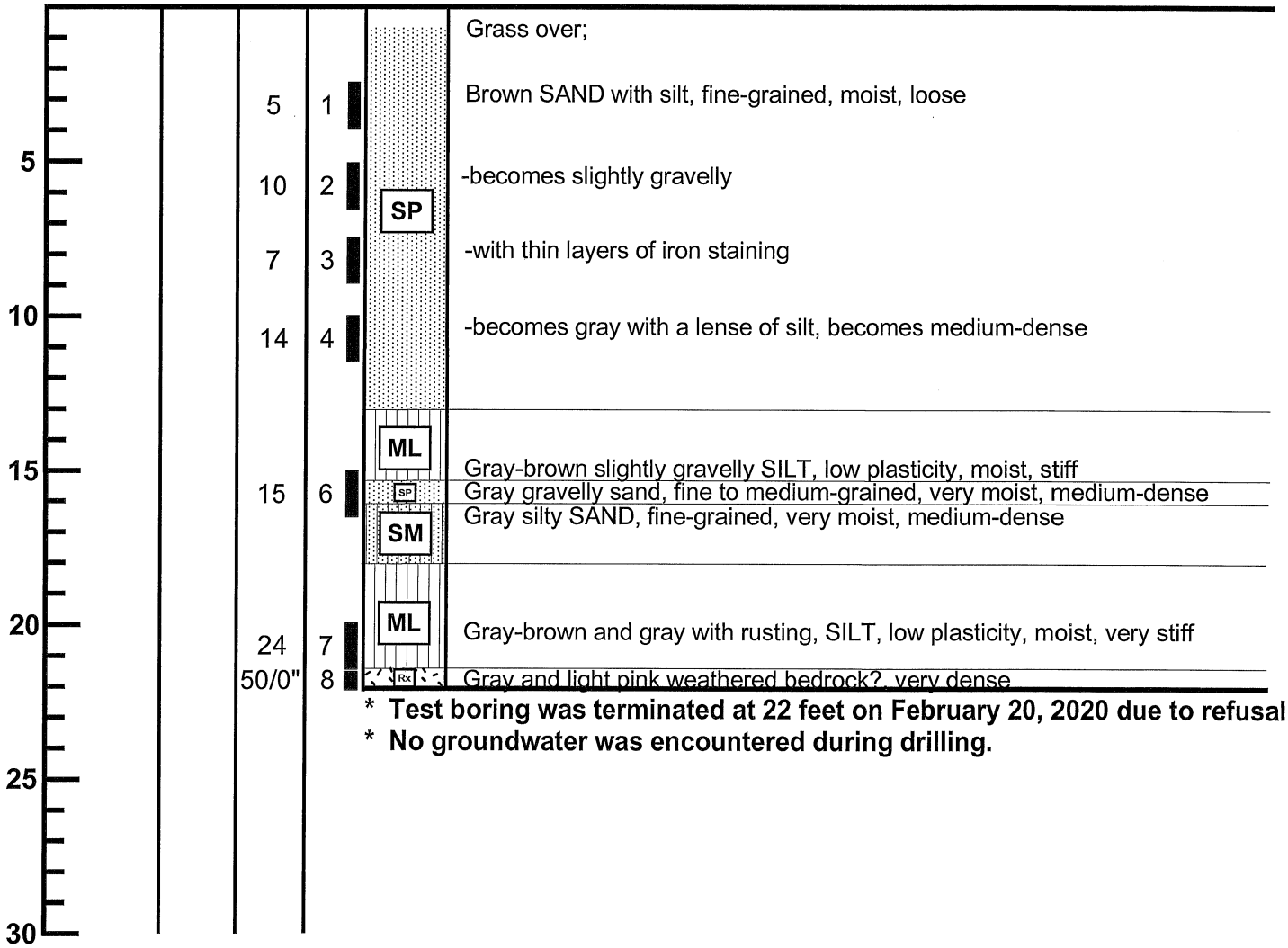
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CONSULTANTS, INC.

TEST BORING LOG

5224 Forest Avenue Southeast
Mercer Island, Washington

Job	Date:	Logged by:	Plate:
20046	Mar. 2020	MKM	3

BORING 2



* **Test boring was terminated at 22 feet on February 20, 2020 due to refusal.**

* **No groundwater was encountered during drilling.**

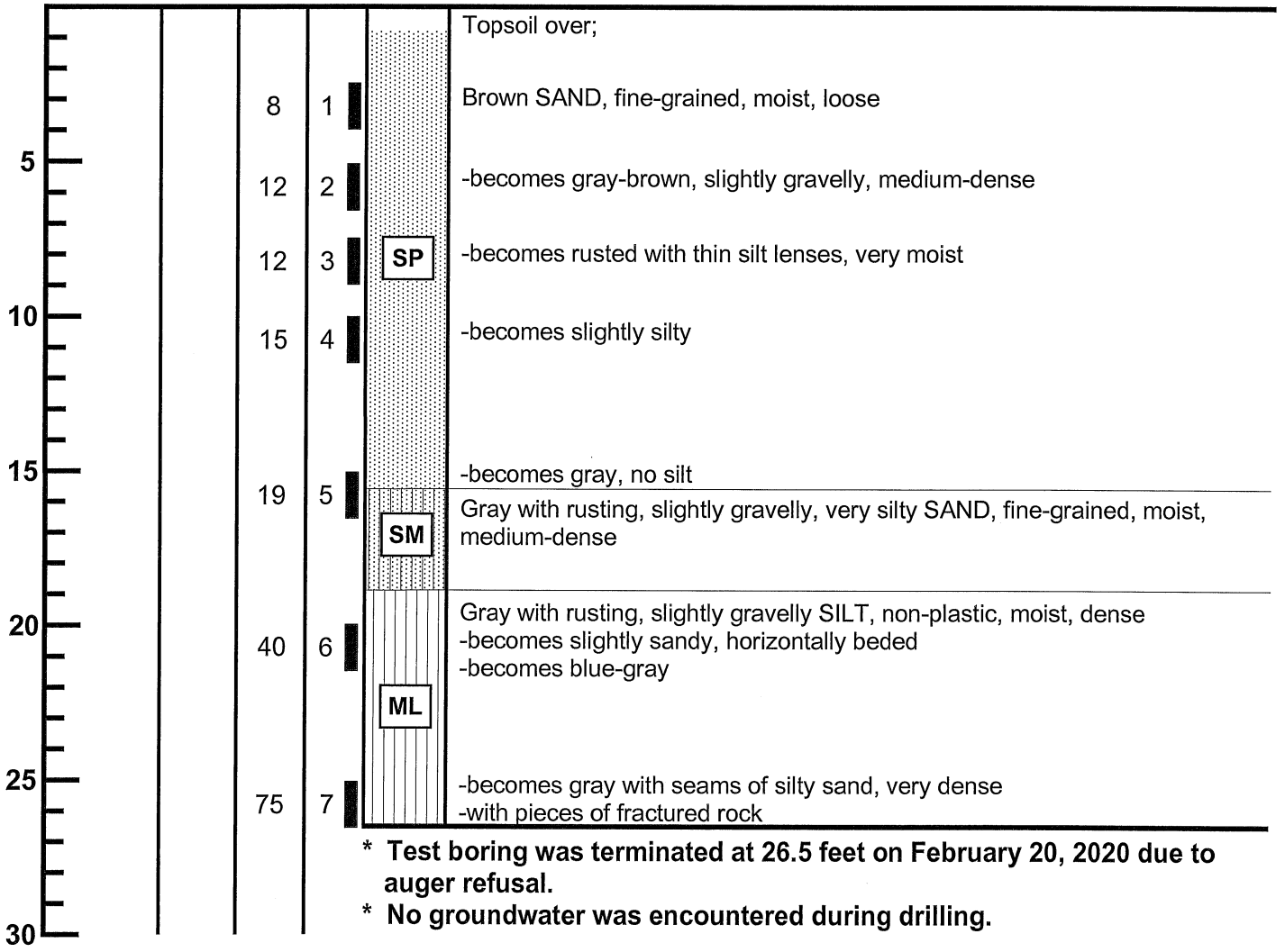
GEOTECH CONSULTANTS, INC.

TEST BORING LOG

5224 Forest Avenue Southeast
Mercer Island, Washington

Job	Date:	Logged by:	Plate:
20046	Mar. 2020	MKM	4

BORING 3



*** Test boring was terminated at 26.5 feet on February 20, 2020 due to auger refusal.**

*** No groundwater was encountered during drilling.**

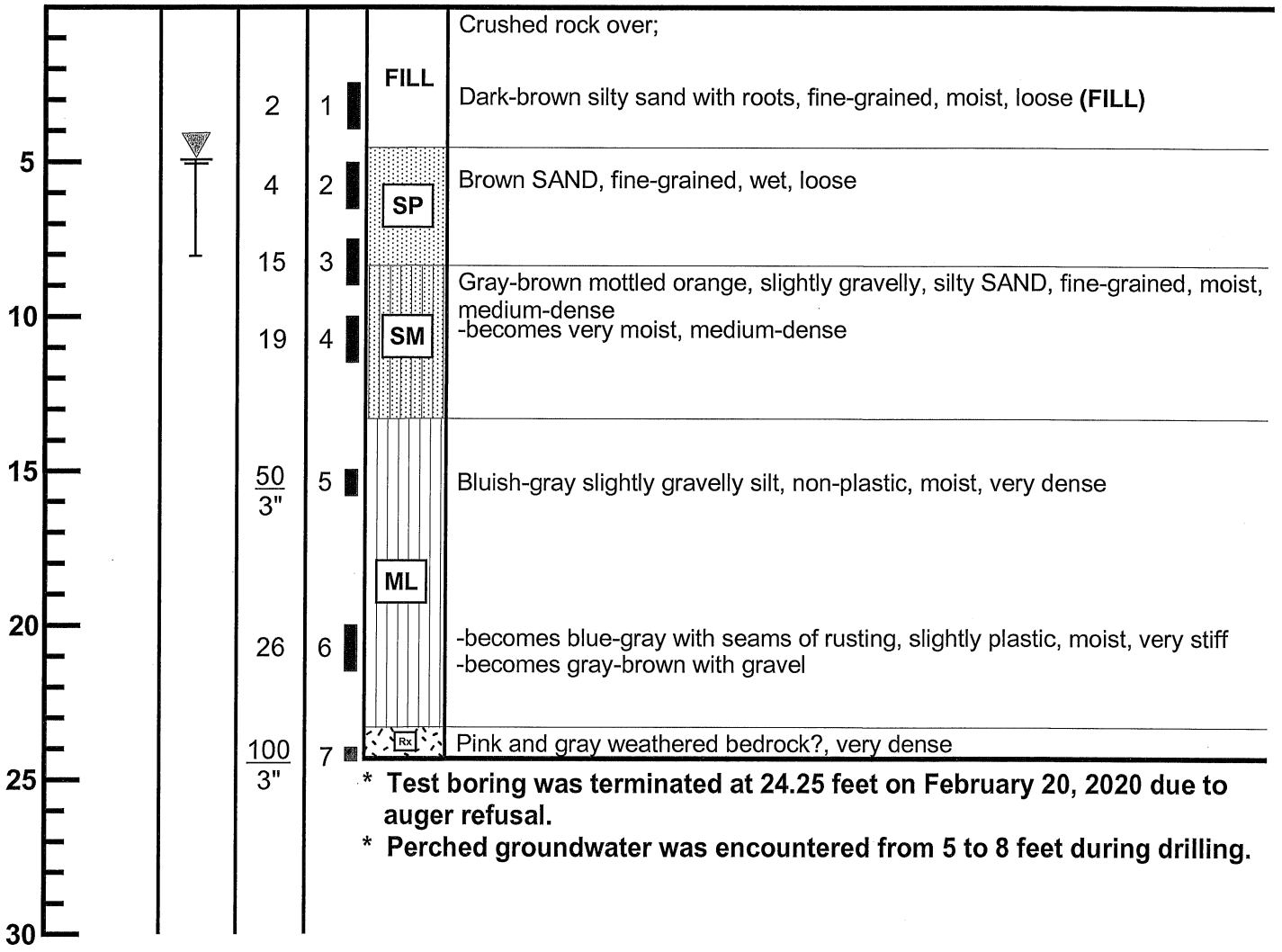
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TEST BORING LOG

5224 Forest Avenue Southeast
Mercer Island, Washington

Job	Date:	Logged by:	Plate:
20046	Mar. 2020	MKM	5

BORING 4



* **Test boring was terminated at 24.25 feet on February 20, 2020 due to auger refusal.**

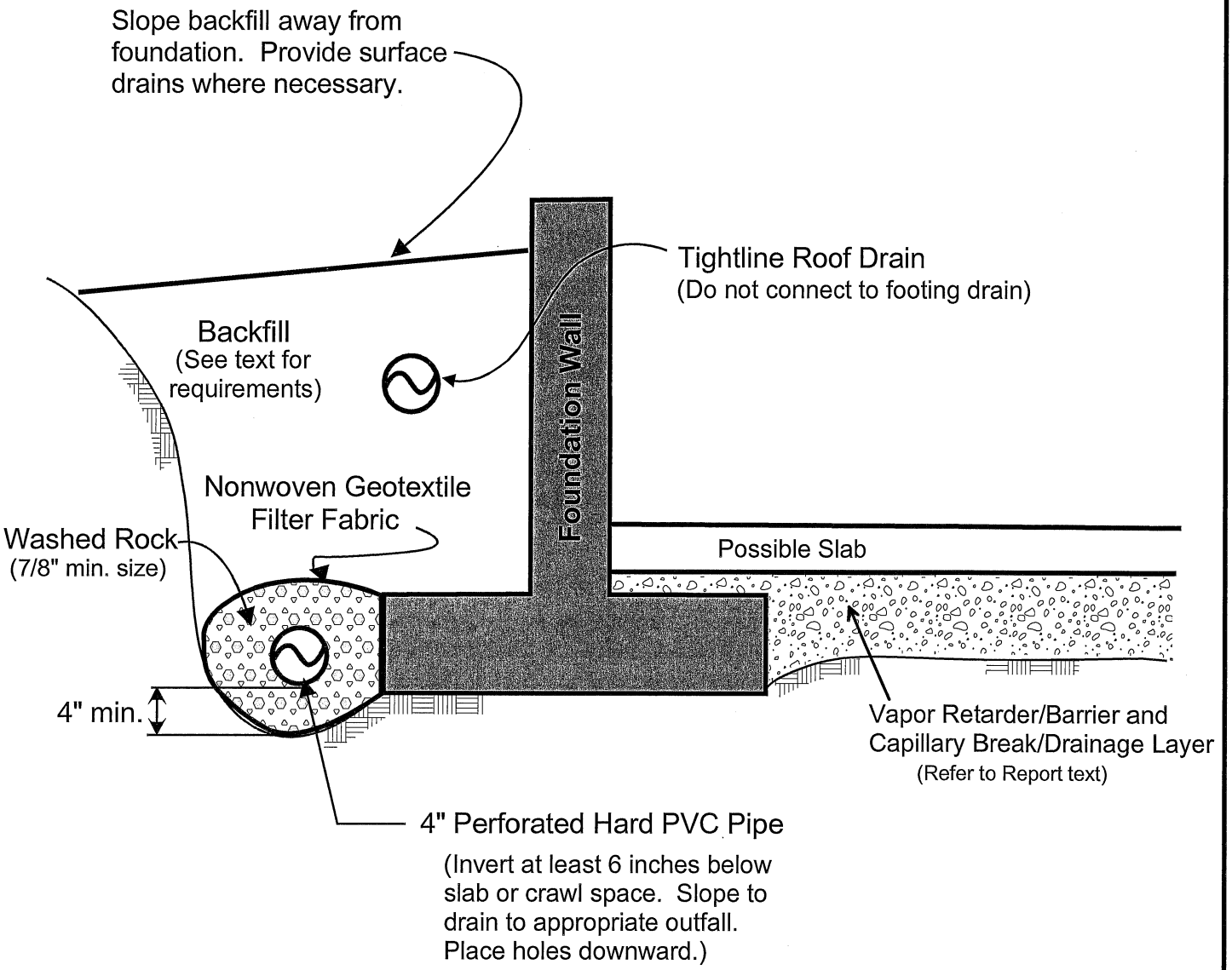
* **Perched groundwater was encountered from 5 to 8 feet during drilling.**

GEOTECH CONSULTANTS, INC.

TEST BORING LOG

5224 Forest Avenue Southeast
Mercer Island, Washington

Job	Date:	Logged by:	Plate:
20046	Mar. 2020	MKM	6



NOTES:

(1) In crawl spaces, provide an outlet drain to prevent buildup of water that bypasses the perimeter footing drains.

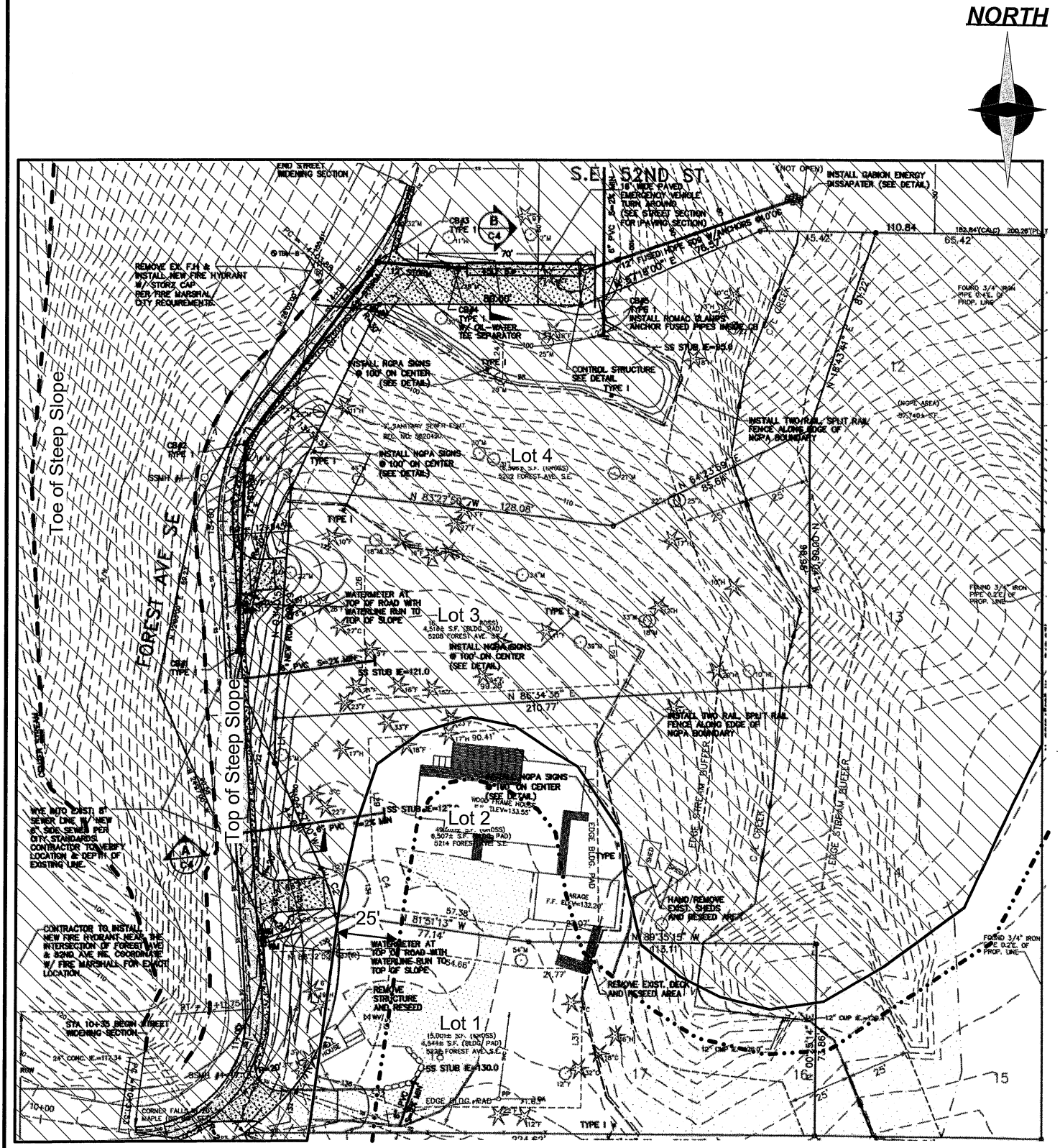
(2) Refer to report text for additional drainage, waterproofing, and slab considerations.

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FOOTING DRAIN DETAIL

5224 Forest Avenue Southeast
Mercer Island, Washington

Job No:	Date:		Plate:
20046	Mar. 2020		7



Potential Landslide Hazard & Erosion Hazard Area (Based on Mercer Island Mapping)

Approximate 25-Foot Potential Landslide Hazard Area Buffer

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CRITICAL AREAS DELINEATION MAP

5224 Forest Avenue Southeast
Mercer Island, Washington

Job No:	Date:		Plate:
20046	Mar. 2020	Not To Scale	8

Previous Boring Logs

DRILLING METHOD: Trac mounted Auger Rig	SURFACE ELEVATION: 138 feet	LOGGED BY: R. J. Bielefeld
DEPTH TO GROUNDWATER None Encou	BORING DIAMETER: 8"	DATE DRILLED:8/15/02

DESCRIPTION AND CLASSIFICATION			DEPTH (FEET)	SAMPLE	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (TSF)	OTHER TESTS
DESCRIPTION & REMARKS	CONSIST	SOIL TYPE							
0.0 - 14.0: Sand; fine grained, trace of coarse sand, organics, moderate reddish brown, dry	loose	Cl - Sc			3 / 2				
					1				
			5	B - 1 - 1	5 / 6				
Sand, gradually becomes medium grained with gravel					6				
Becomes moist at 6 feet									
	Dense	Sc							
			10	B - 1 - 2	4 / 12				Sieve Analys
					10				
moist, moderate reddish brown									
14.0 - 18.0: Clay; moist, dark yellow brown	Stiff	Cl - CH	15	B - 1 - 3	15/ 14				
					13				
Possible water level in this zone									
18.0 - Bottom: Silt; blue gray, moist to wet.	Stiff	Ml - MH							
			20	B - 1 - 4	7 / 11				
Bottom of Hole: 19.5 feet					14				
Hole left open for three hours.									

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EXPLORATORY BORING LOG

Knudsen Development

PROJECT N°	DATE	BORING N°
R2203	8/27/02	B-1

AEC Form File: Boring.tem

DRILLING METHOD: Trac mounted auger	SURFACE ELEVATION: 133 feet	LOGGED BY: R. J. Bielefeld
DEPTH TO GROUNDWATERNone Encou	BORING DIAMETER: 8"	DATE DRILLED: 8 - 27 - 02

DESCRIPTION AND CLASSIFICATION			DEPTH (FEET)	SAMPLE	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (TSF)	OTHER TESTS
DESCRIPTION & REMARKS	CONSIST	SOIL TYPE							
0.0 - 14.0: Sand; medium grained, moderate reddish brown, moist	Dense	Sc - Sp			6 / 6				
					5				
Sugar sand, dry			5	B - 2 - 1	4 / 5				
	Dense	Sp			6				
Gravel lense, becomes moist			10	B - 2 - 2	4 / 5				
					6				
14.0 - Bottom: Clay, sandy yellow brown, layered, moist to wet.	Stiff to Very	Cl	15	B - 2 - 3	4 / 5				
	Stiff				20				
Trace of blue gray silt									
Bottom of Hole at 19.5 feet.			20	B - 2 - 4	6 / 15				
Located in front of garage. Held open for Two hours.					15				

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EXPLORATORY BORING LOG

Knudsen Development

PROJECT N°	DATE	BORING N°
R2203	8 - 27 - 02	B - 2

DRILLING METHOD: Trac mounted auger Rig	SURFACE ELEVATION: 95.5 feet	LOGGED BY: R. J. Bielefeld
DEPTH TO GROUNDWATER None Encou	BORING DIAMETER: 8"	DATE DRILLED: 8 - 28 - 02

DESCRIPTION AND CLASSIFICATION			DEPTH (FEET)	SAMPLE	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (TSF)	OTHER TESTS
DESCRIPTION & REMARKS	CONSIST	SOIL TYPE							
0.0 - 17.5: Sand; fine grained, 12" of duff, dry, light yellow brown	loose	Sp			1for 16"				
Clean duff/sand contact	Dense		5	B - 3 - 1	10 / 8				
					9				
Thin layers of fine to medium sand. Becoming moist, Sand	Dense	Sp	10	B - 3 - 2	4 / 7				
					8				
	Medium	Sp	15	B - 3 - 3	7 / 8				Sieve Anal
	Dense				3				
17.5 - 24.0: Clay; light reddish brown, Moist									
Sheared, gravel interbed	Very Stiff	CI - CH	20	B - 3 - 4	5 / 10				
					13				

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EXPLORATORY BORING LOG

Knudsen Development

PROJECT N°	DATE	BORING N°
R2203	8 - 28 - 02	B - 3.

AEC Form File: Boring.tem

DRILLING METHOD: Trac mounted auger Rig	SURFACE ELEVATION: 95.5 feet	LOGGED BY: R. J. Bielefeld
DEPTH TO GROUNDWATER None Encou	BORING DIAMETER: 8"	DATE DRILLED: 8 - 28 - 02

DESCRIPTION AND CLASSIFICATION			DEPTH (FEET)	SAMPLE	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (TSF)	OTHER TESTS
DESCRIPTION & REMARKS	CONSIST	SOIL TYPE							
(Continued: 17.5 - 24) 24.0 - 33.75: Sand, coarse, brownish black, dry	Very Dense	Sp	25	B - 3 - 5	4 / 11 19				
Sand, black with white fragments, brecciated	Very Dense	Sp	30	B - 3 - 6	24 / 33 38				
Sharp, angular gravel in a clay matrix, pebble size									
33.75 - Bottom: Clay; yellow brown, moist	Very Stiff	CH - Cl	35	B - 3 - 7	15 / 23 31				
38.0: Clay; blue gray, moist, smoother drilling									LL = 38
Bottom of Hole: 39.5 feet	Very Stiff	CH - Cl	40	B - 3 - 8	12 / 20 23				PL = 24, PI = 12

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EXPLORATORY BORING LOG

Knudsen Development

PROJECT Nº	DATE	BORING Nº
R2203	8 - 28 - 02	B - 3

AEC Form File: Boring.tem

DRILLING METHOD: Trac mounted Auger Rig	SURFACE ELEVATION: 127 feet	LOGGED BY: R. J. Bielefeld
DEPTH TO GROUNDWATER Not encou	BORING DIAMETER: 8"	DATE DRILLED: 8 - 27 - 02

DESCRIPTION AND CLASSIFICATION			DEPTH (FEET)	SAMPLE	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (TSF)	OTHER TESTS
DESCRIPTION & REMARKS	CONSIST	SOIL TYPE							
0.0 - 6.0: Sand; fine grained reddish brown, dry	Dense	Sp			1for 18"				
Sand: reddish brown, dry	Dense	Sp - Sc	5	B - 4 - 1	7 / 9				
					13				
6.0 - Bottom: Clay; yellow brown, moist	Stiff	Cl - CH							
	Stiff to Very	Cl - CH	10	B - 4 - 2	7 / 12				
	Stiff				22				
Clay; blue gray, moist	Very Stiff	Cl - CH							
			15	B - 4 - 3	10 / 15				
					23				
Baked sand with gravel in the clay zone	Very Stiff								
Bottom of Hole 19.5 feet			20	B - 4 - 4	30 / 50				
Backfilled on completion									

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EXPLORATORY BORING LOG

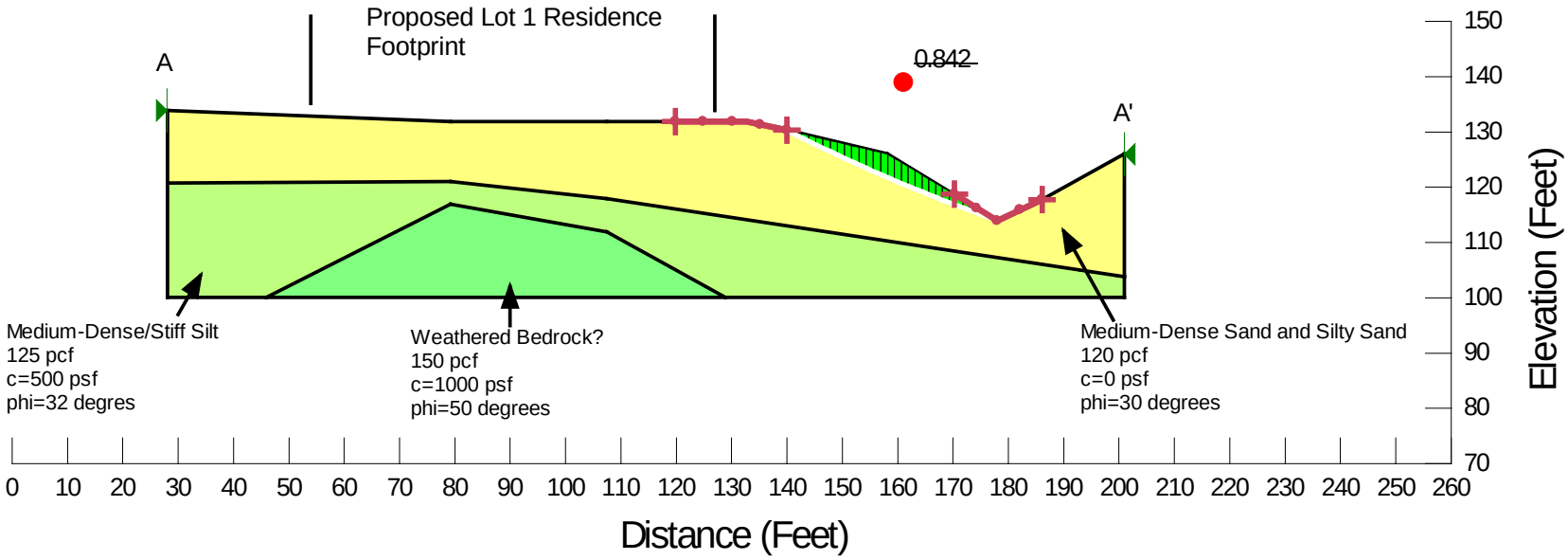
Knudsen Development

PROJECT №	DATE	BORING №
R2203	8-27-02	B-4

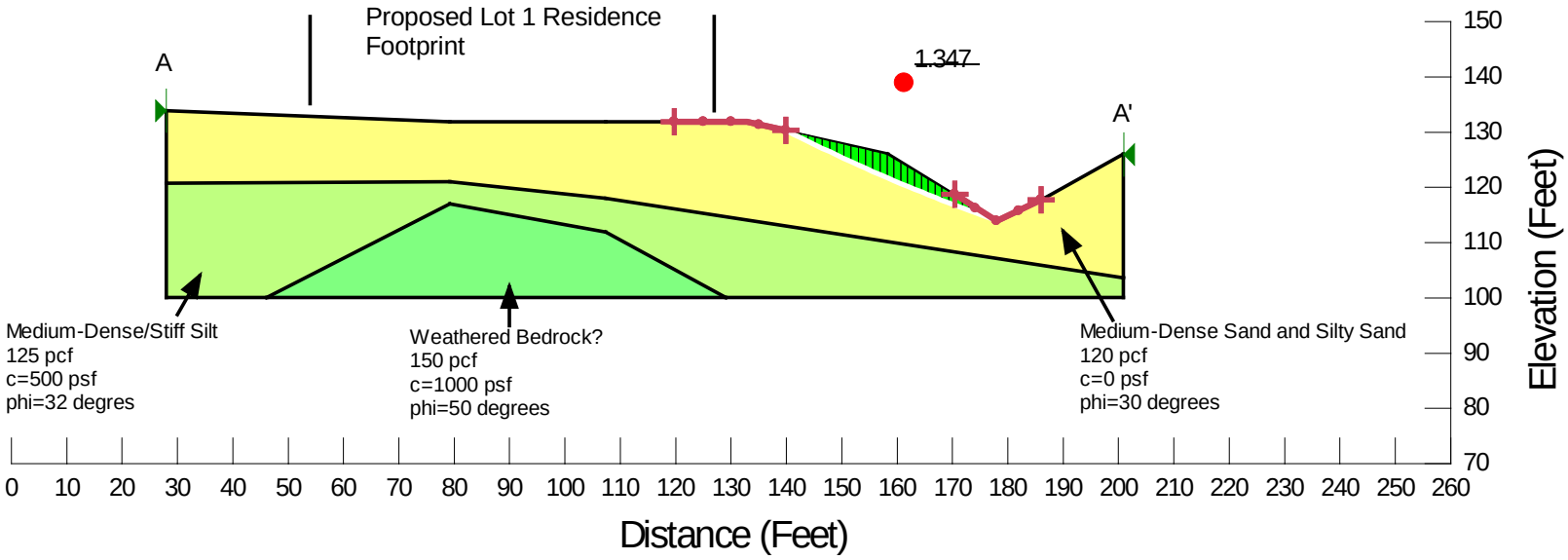
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Slope Stability Sections

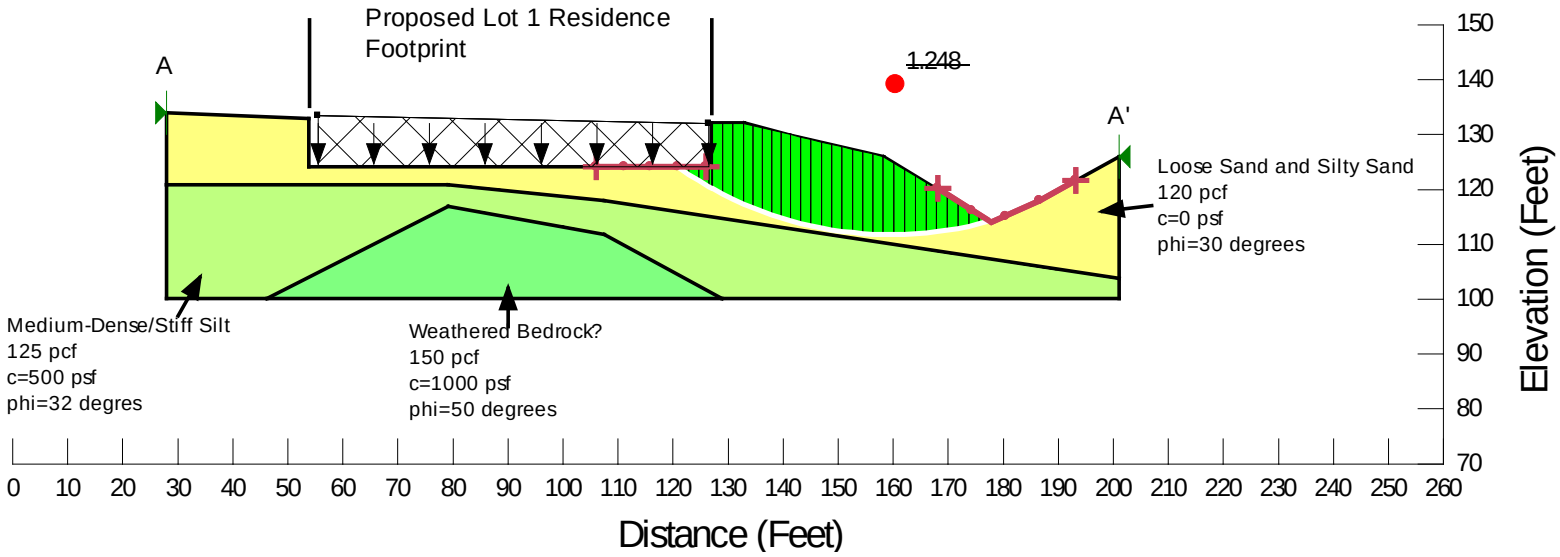
20046 - Seascape Homes
Seismic



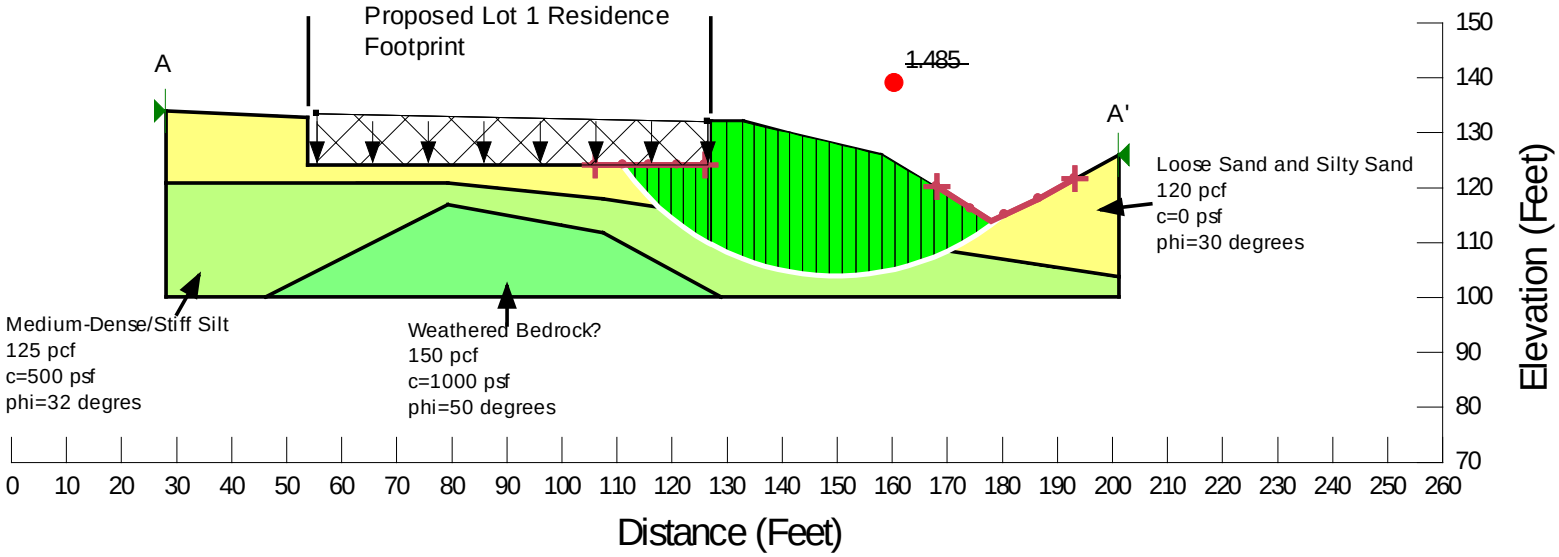
20046 - Seascape Homes
Static

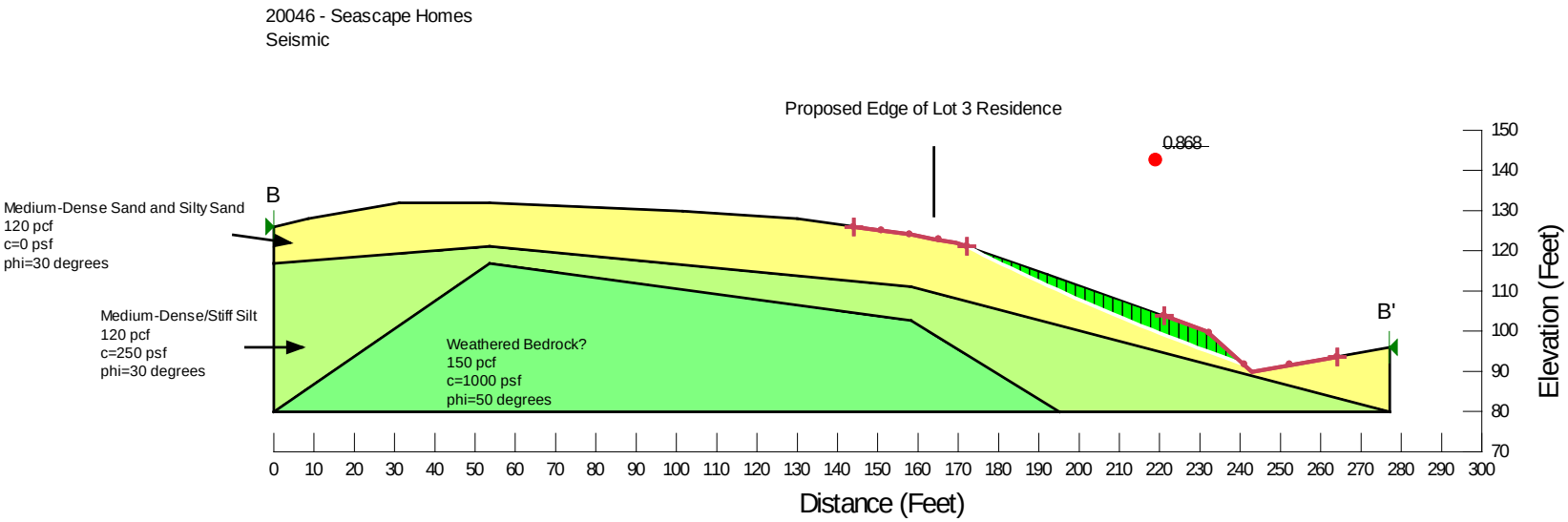


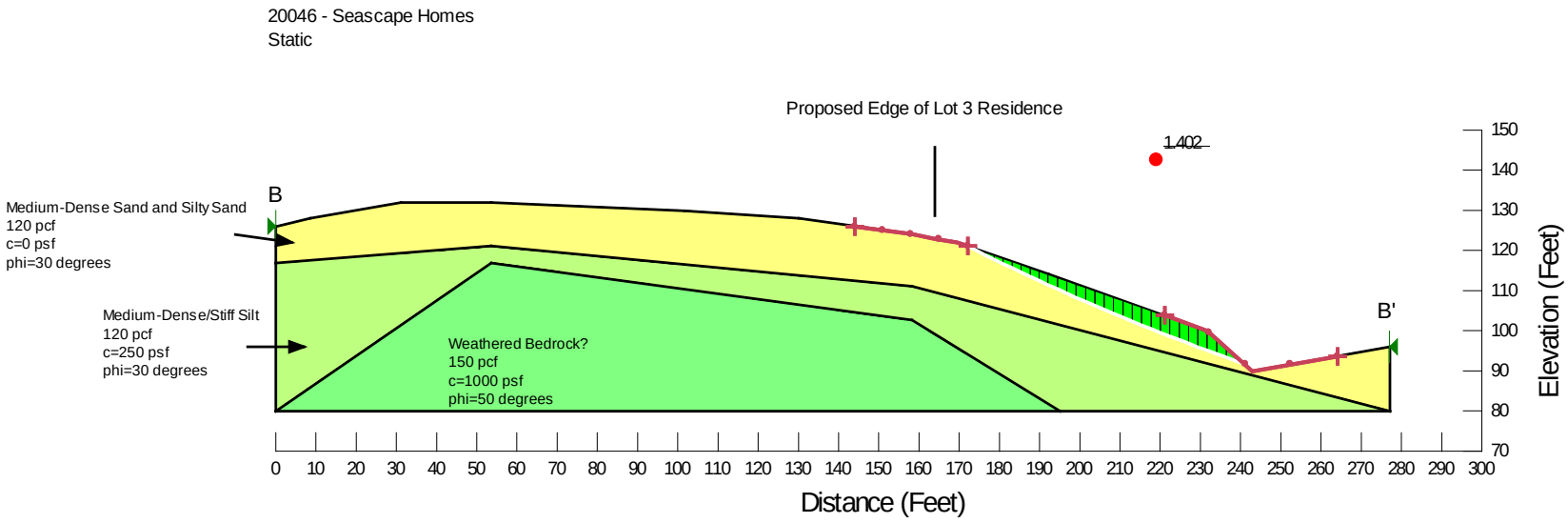
20046 - Seascape Homes
Seismic



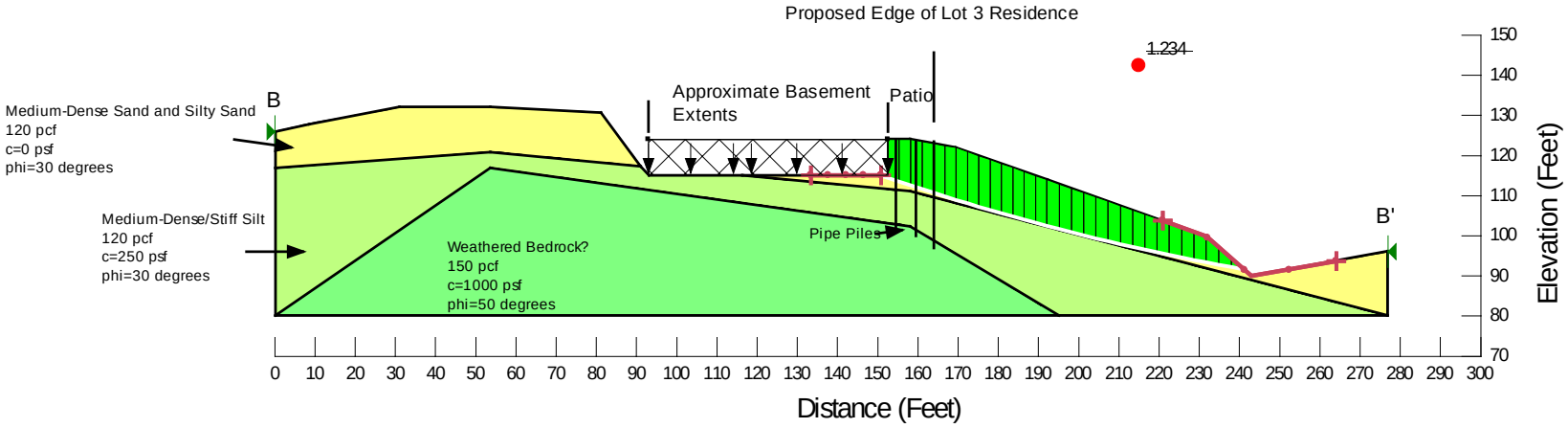
20046 - Seascape Homes
Static



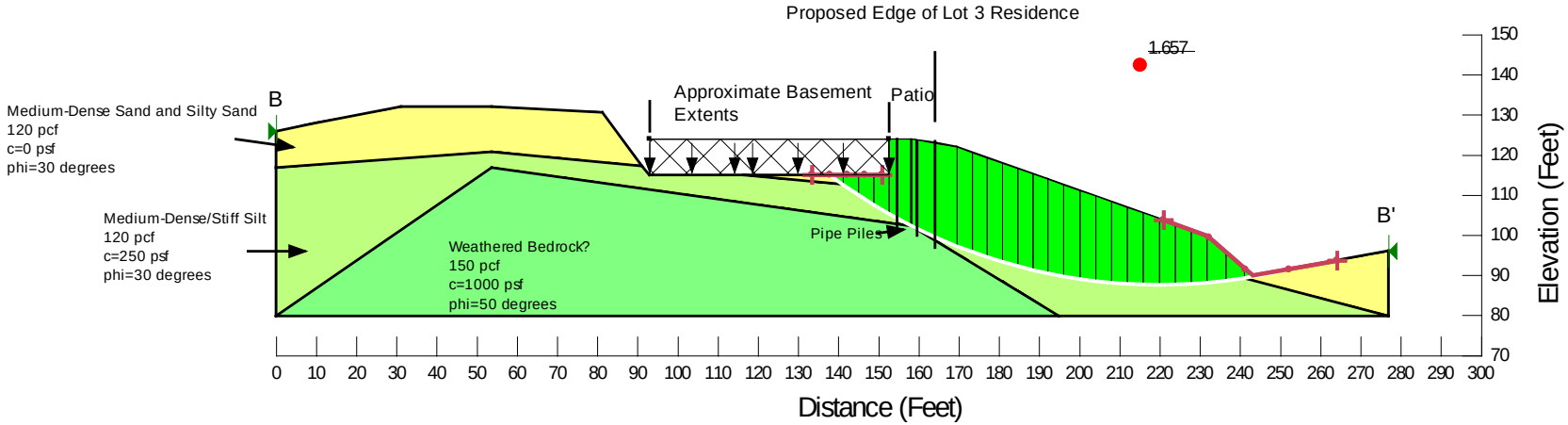

20046 - Seascape Homes
Seismic
Proposed Edge of Lot 3 Residence
0.868
B
B'
Medium-Dense Sand and Silty Sand
120 pcf
c=0 psf
phi=30 degrees
Medium-Dense/Stiff Silt
120 pcf
c=250 psf
phi=30 degrees
Weathered Bedrock?
150 pcf
c=1000 psf
phi=50 degrees
Elevation (Feet)
Distance (Feet)


20046 - Seascape Homes
Static
Proposed Edge of Lot 3 Residence
1402
B
B'
Medium-Dense Sand and Silty Sand
120 pcf
c=0 psf
phi=30 degrees
Medium-Dense/Stiff Silt
120 pcf
c=250 psf
phi=30 degrees
Weathered Bedrock?
150 pcf
c=1000 psf
phi=50 degrees
Elevation (Feet)
Distance (Feet)

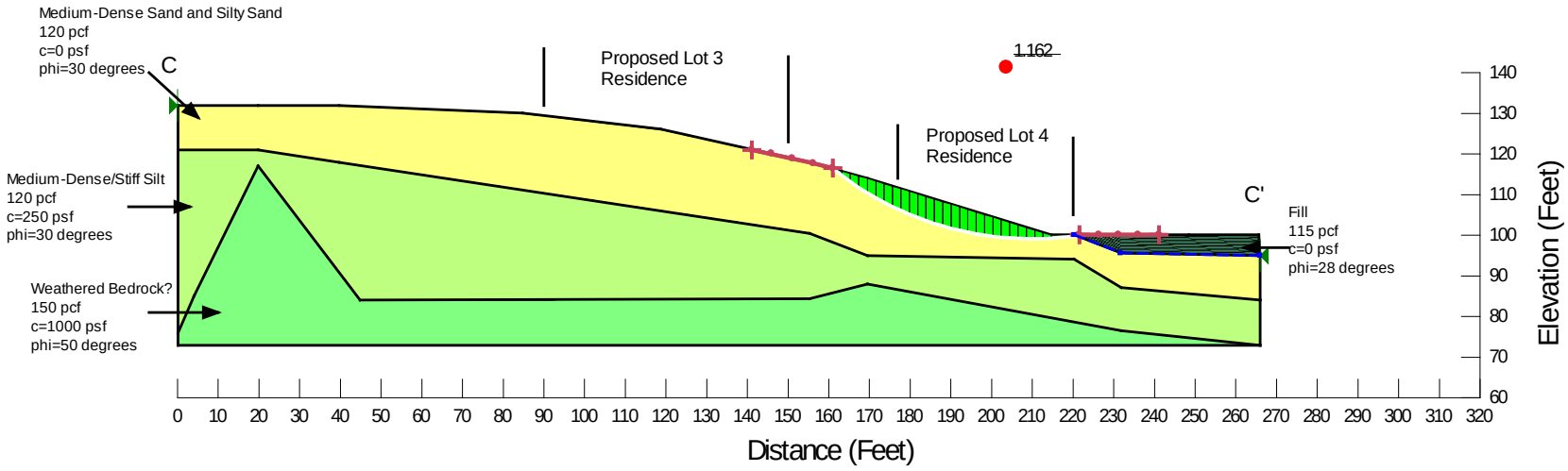
20046 - Seascape Homes
Seismic



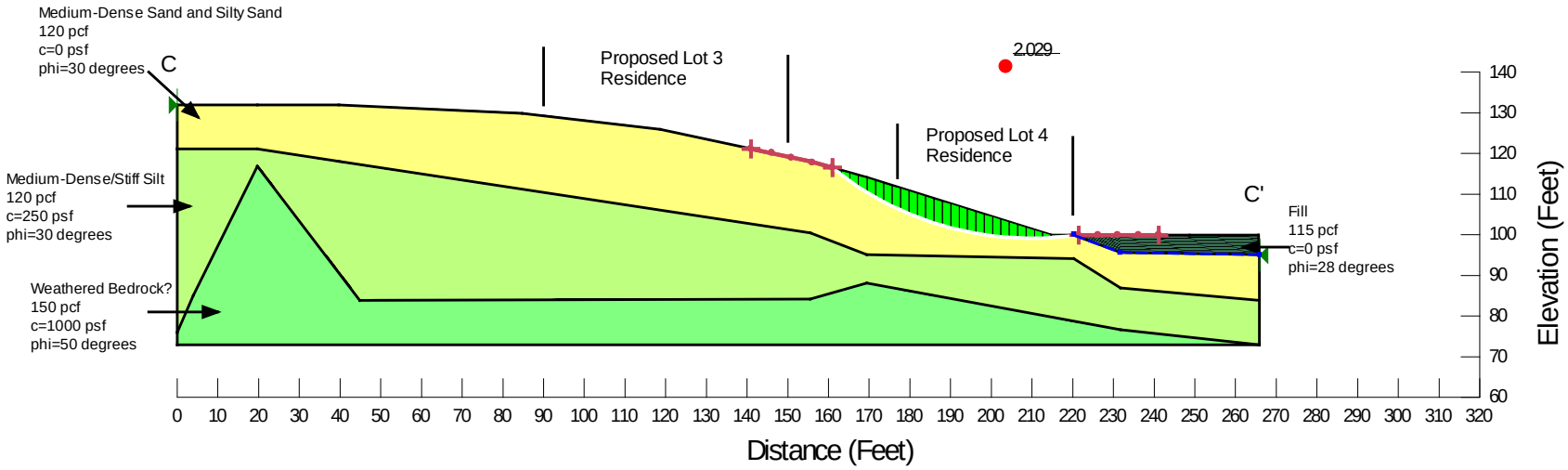
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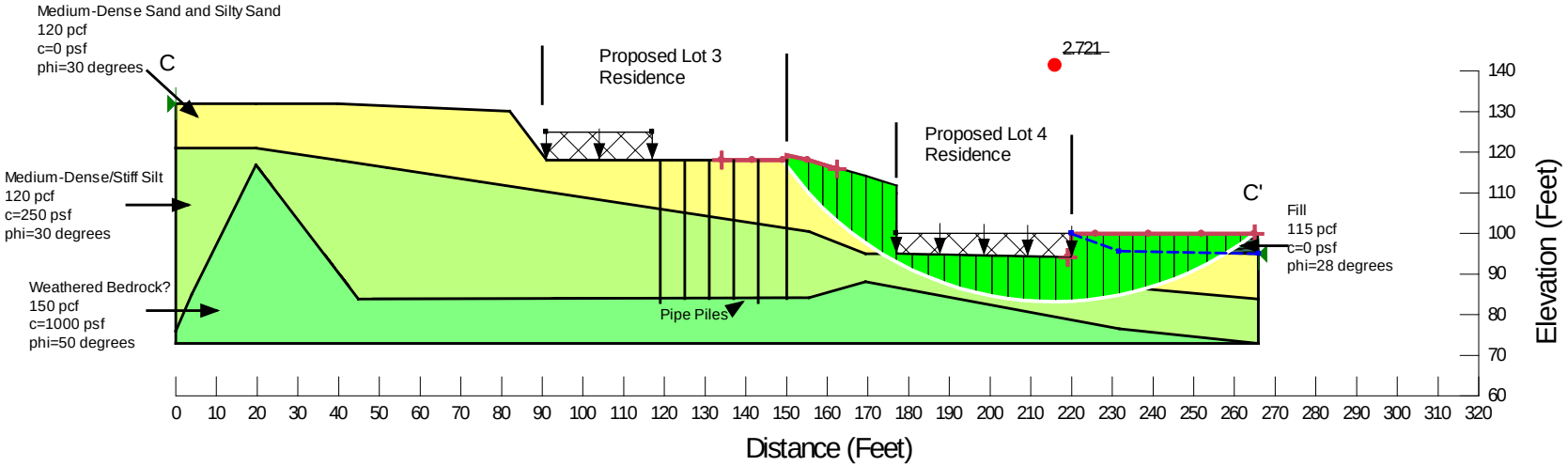
20046- Seascape Homes
Seismic



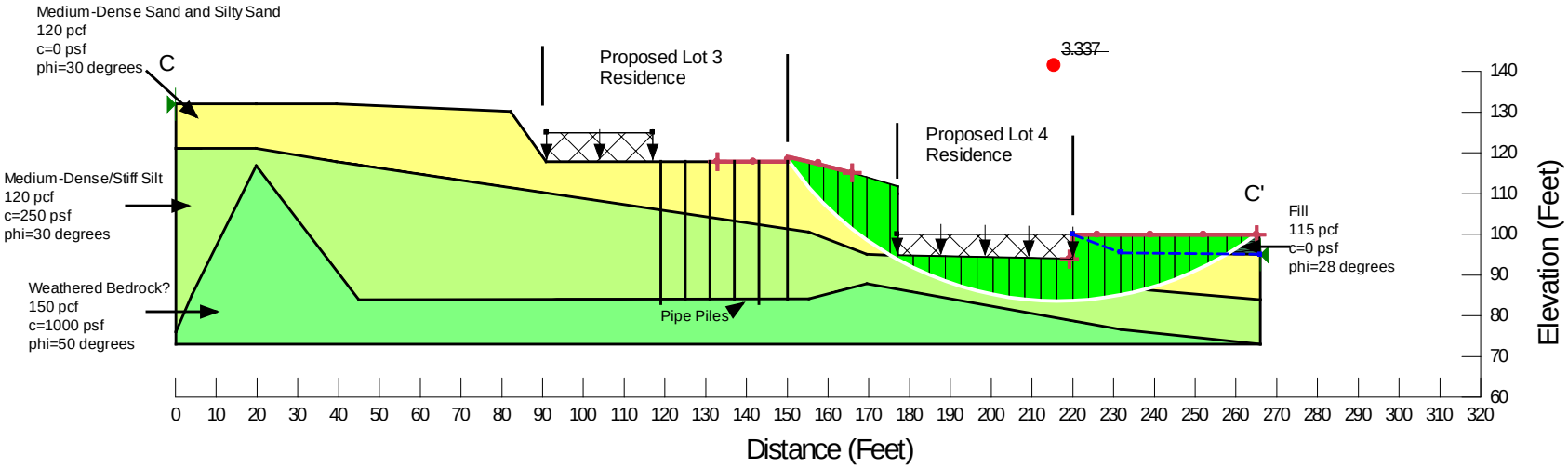
20046- Seascape Homes
Static



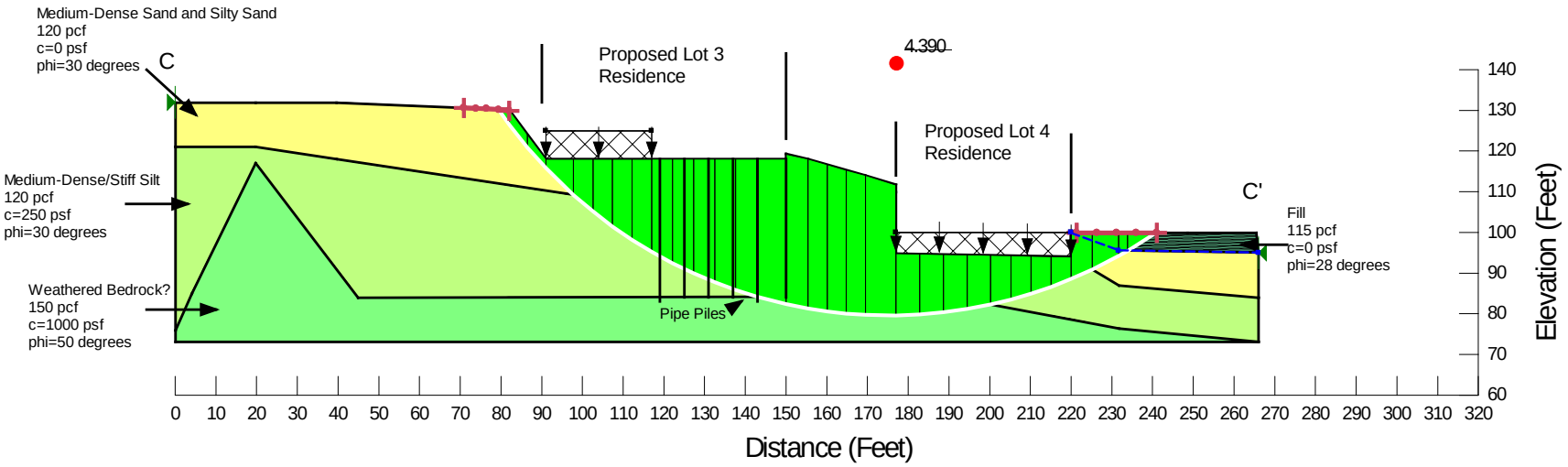
20046- Seascape Homes
Seismic



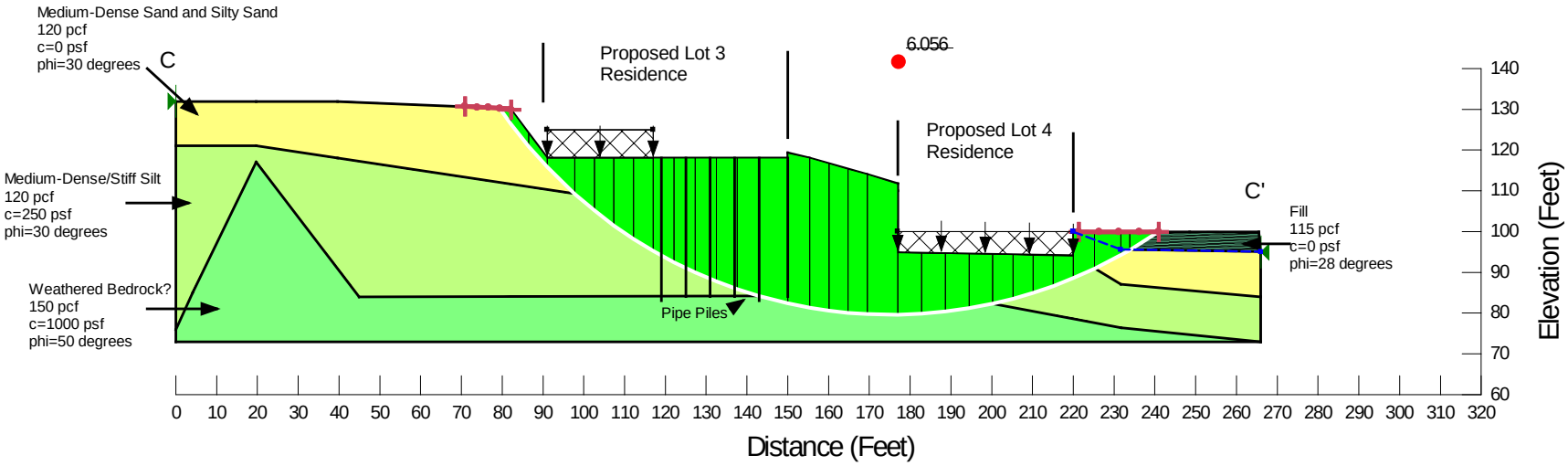
20046- Seascape Homes
Static



20046- Seascape Homes
Seismic



20046- Seascape Homes
Static



GEOTECH
CONSULTANTS, INC.

2401 10th Ave E
Seattle, Washington 98102
(425) 747-5618 FAX (425) 747-8561

rev March 2, 2025 ~~September 23, 2024~~

JN 20046

Seascape Homes LLC
PO Box 40568
Bellevue, Washington 98015

Attention: Jon Tellefson

Subject: **Review of Plans and Minimal Risk Statements -** Proposed Residence
Lot 1 – 5222 Forrest Avenue Southeast, Mercer Island, Washington

Reference: "Geotechnical Engineering Study," subject site, Geotech Consultants, March 18, 2020

Plans: ***Sturman Architects*** – Sheets A1.0 through A6.0, Dated September 11, 2024.
Longitude 120 – Sheets S-0 through SD-2, Dated May 16, 2024.
Patrick Herron & Assoc – Sheets C1.0 through C3.2, Dated September 4, 2024.

Dear Mr. Tellefson:

We have completed a general review of the geotechnical aspects of the referenced plans and specifications for the house to be constructed at Lot 1 – 5222 Forrest Avenue Southeast. Comments as follows:

- The foundations will need to be dug down to the medium-dense native soils located approximately 5 to 10 feet below the existing grades. Our engineers should be called to the site to evaluate these subgrades. Structural fill may be used to restore any necessary overexcavations.

We reviewed the referenced plans above. In our judgment, the plans conform to the recommendations in our geotechnical engineering report. If the recommendations and conditions of the geotechnical engineering report are satisfied during construction and use of the project, the proposed project will not increase the potential for soil movement. The areas disturbed by construction will be stabilized and should remain stable, subject to the conditions of our geotechnical engineering report.

As required by the City of Mercer Island, the following statement is made:

The geologic hazard area will be modified, or the development has been designed so that the risk to the lot and adjacent property is eliminated or mitigated such that the site is determined to be safe.

Responses to 19.07.100 - Mitigation sequencing are provided below:

Response to 19.07.100 - Mitigation sequencing: **Site is mapped in an Erosion and Potential Slide ECA but no steep slopes are present.**

A.Avoiding the impact altogether by not taking a certain action or parts of an action. The applicant shall consider reasonable, affirmative steps and make best efforts to avoid critical area impacts. However, avoidance shall not be construed to mean mandatory withdrawal or denial of the development proposal or activity if the proposal or activity is an allowed, permitted, or conditional use in this title. In determining the extent to which the proposal should be redesigned to avoid the impact, the code official may consider the purpose, effectiveness, engineering feasibility, commercial availability of technology, best management practices, safety and cost of the proposal and identified changes to the proposal. Development proposals should seek to avoid, minimize and mitigate overall impacts based on the functions and values of all of the relevant critical areas and based on the recommendations of a critical area study. If impacts cannot be avoided through redesign, use of a setback deviation pursuant to section 19.06.110(C), or because of site conditions or project requirements, the applicant shall then proceed with the sequence of steps in subsections B through E of this section; **The entire development is outside of the 60 foot setback from the NGPA buffer that was approved for the shortplat. As shown on A1.1 the entire development and disturbance area is located outside the mapped erosion and potential landslide areas at the site.**

B.Minimizing impacts by limiting the degree or magnitude of the action and its implementation, using a setback deviation pursuant to section 19.06.110(C), using appropriate technology, or by taking affirmative steps to avoid or reduce impacts; **There are no steep slopes to consider, and the development includes a full temporary erosion control and permanent erosion restoration plan.**

C.Rectifying the impact by repairing, rehabilitating, or restoring the affected environment; **Some replacement trees are planned in the northeast portion of the site. Runoff from the house and hardscapes are tightlined to the approved systems.**

D.Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; **Not applicable.**

E.Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and/or **Some replacement trees are planned in the northeast portion of the site. The plans incorporate final erosion conditions to prevent long term erosion. Runoff from the house and hardscapes are tightlined to the approved systems.**

F.Monitoring the impact and taking appropriate corrective measures to maintain the integrity of compensating measures. **Not necessary.**

We appreciate the opportunity to be of service on this project. Please contact us if you have any questions, or if we can be of further assistance.

Respectfully submitted,
GEOTECH CONSULTANTS, INC.



3.2.25

James H. Strange, P.E.
Associate

JHS:jhs

Altmann Oliver Associates, LLC

PO Box 578 Carnation, WA 98014 Office (425) 333-4535 Fax (425) 333-4509

AOA
Environmental
Planning &
Landscape
Architecture

August 23, 2024

AOA-6656

Jon Tellefson
mt1231@gmail.com

SUBJECT: **Stream Buffer Reduction and Enhancement for Forest Creek Lot 1**
5222 Forest Ave SE, Parcel 141030-0057, Mercer Island, WA

Dear Jon:

1.0 BACKGROUND AND EXISTING CRITICAL AREAS

On January 5, 2023 AOA conducted an initial wetland and stream reconnaissance and delineation on the adjacent property to the north and east of the subject property (i.e., Lot 2 Parcel 141030-0059). The reconnaissance was conducted utilizing the methodology outlined in the May 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0).*

No wetlands were identified on or adjacent to Parcel -0059 (Lot 2) during the initial field investigation. One stream (Stream 1) was observed draining from south to north within the central portion of Lot 2 and the northeastern portion of Lot 1. The ordinary high water (OHW) of the stream was delineated during the field investigation and subsequently surveyed (see survey drawing).

On May 17, 2024 a second field investigation was conducted to: 1) confirm that there are no wetlands on Lot 1 and that the surveyed delineation of Stream 1 remains valid, and 2) delineate the OHW of the east side of an off-site stream located to the west of Lot 1. During the May 2024 review, the lack of wetlands on Lot 1 was confirmed and the surveyed delineation remains valid. The off-site stream to the west (Stream 2) was also subsequently surveyed and is now depicted on the survey drawing.

Attachment A contains a data sheet prepared for a representative location in the uplands on Lot 1. This data sheet documents the vegetation, soils, and hydrology information that aided in the no wetland determination for the property.

1.1 Stream 1
The stream in the northeastern portion of Lot 1 is located within a well-defined channel and is considered a Type Np stream by the City of Mercer Island that requires a 60-foot buffer per MIMC 19.07.180.C.1. An additional 10-foot structure setback from the buffer is required per MIMC 19.07.180.C.7.

1.2 Stream 2
The stream off-site to the west of Lot 1 is also considered a Type Np stream by the City of Mercer Island that requires a 60-foot buffer per MIMC 19.07.180.C.1 and an additional 10-foot structure setback from the buffer is required per MIMC 19.07.180.C.7. Based on the survey drawing, this buffer and structure setback encroaches into the southwest corner of Lot 1.

2.0 PROPOSED PROJECT IMPACTS
The standard 60-foot watercourse buffer currently extends into the southwest portion of the site and the required location of the proposed residence.

2.1 Proposed Buffer Reduction
The City of Mercer Island allows for the reduction of a watercourse buffer if all of the criteria in MICC 19.07.180.C.5 are met.

Buffer width reduction shall be allowed provided the following requirements are met:

a. *The applicant has demonstrated that buffer averaging would not feasibly allow development*;

Stream 2 is located off-site and there are no areas on the property that are available or suitable for buffer replacement.

b. *The applicant has demonstrated how impacts will be minimized and that avoidance has been addressed consistent with section 19.07.100, mitigation sequencing*;

Since the site is highly constrained by the buffer from Stream 1, it is not possible to shift the house east and avoid the 60-foot standard buffer. Impacts to the buffer have been minimized to the extent feasible (see Section 2.2 below for mitigation sequencing).

c. The applicant has demonstrated how all proposed impacts have been mitigated consistent with subsection E of this section and will not result in a loss of ecological function;

The current stream buffer on the site and immediately adjacent to the western property line within the right-of-way is vegetated primarily by invasive Himalayan blackberry (*Rubus armeniacus*) and English ivy (*Hedera helix*). Native significant vegetation is generally limited to two Douglas fir (*Pseudotsuga menziesii*) trees that will be preserved as part of the project. The existing buffer does not provide a significant functional benefit to the off-site watercourse. We have prepared a buffer enhancement plan (**Figures 1 through 5**) that will increase the plant species and structural diversity of the

watercourse buffer over current conditions. There will be no loss of ecological function as part of the project.

d. The proposed buffer width is not less than 75 percent of the standard buffer width at any point; and

The watercourse buffer will be reduced from 60 feet to 45 feet in places and will not be less than 75% of the standard buffer.

e. *The proposed buffer reduction is not proposed in conjunction with buffer averaging*.

Buffer averaging is not proposed.

2.2 Mitigation Sequencing

The City of Mercer Island requires per MICC 19.01.100 that *an applicant for a development proposal or activity shall implement the following sequential measures, listed below in order of preference, to avoid, minimize, and mitigate impacts to environmentally critical areas and associated buffers. Applicants shall document how each measure has been addressed before considering and incorporating the next measure in the sequence:*

A. *Avoiding the impact altogether by not taking a certain action or parts of an action. The applicant shall consider reasonable, affirmative steps and make best efforts to avoid critical area impacts. However, avoidance shall not be construed to mean mandatory withdrawal or denial of the development proposal or activity if the proposal or activity is an allowed, permitted, or conditional use in this title. In determining the extent to which the proposal should be redesigned to avoid the impact, the code official may consider the purpose, effectiveness, engineering feasibility, commercial availability of technology, best management practices, safety and cost of the proposal and identified changes to the proposal. Development proposals should seek to avoid, minimize and mitigate overall impacts based on the functions and values of all of the relevant critical areas and based on the recommendations of a critical area study. If impacts cannot be avoided through redesign, use of a setback deviation pursuant to Section 19.06.110(C), or because of site conditions or project requirements, the applicant shall then proceed with the sequence of steps in subsections B through E of this section*;

Due to the constraints associated with the buffer in the eastern portion of the site adjacent Stream 1, it is not possible to shift the proposed house east outside of the 60-foot buffer.

B. *Minimizing impacts by limiting the degree or magnitude of the action and its implementation, using a setback deviation pursuant to Section 19.06.110(C), using appropriate technology, or by taking affirmative steps to avoid or reduce impacts*;

The proposed project would not reduce the buffer adjacent to any significant native vegetated areas and would only reduce the buffer in one small area in the vicinity of the existing access drive.

C. *Rectifying the impact by repairing, rehabilitating, or restoring the affected environment*;

The existing preserved buffer in the far western portion of the site and the adjacent right-of-way in the vicinity of the preserved trees would be restored with native plantings. Tree protection and construction limit fencing will be installed as required.

D. *Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action*;

The native plantings would be preserved in the buffer in perpetuity and the area maintained for a minimum of 5 years as part of an established monitoring and maintenance program.

E. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and/or

Although the area of proposed buffer impact is currently degraded and does not provide a significant functional benefit to the watercourse, we have prepared a compensatory mitigation planting plan (**Figures 1 through 5**) that will increase the habitat functions of the watercourse buffer over current conditions.

F. *Monitoring the impact and taking appropriate corrective measures to maintain the integrity of compensating measures*.

A 5 year monitoring program has been developed to ensure success of the proposed buffer enhancement plan.

3.0 PROPOSED BUFFER MITIGATION

A watercourse buffer enhancement plan has been prepared for the buffer reduction. As part of the mitigation plan, all remaining degraded portions of the watercourse buffer on the site and within the adjacent preserved right-of-way would be enhanced by the removal of non-native invasive species (i.e., blackberry and English ivy) and re-planted with native tree, shrub, and groundcover species.

The proposed plantings have been designed to increase the plant species and structural diversity within the buffer and to provide additional physical and visual screening to the watercourse from the residence. Increasing the plant species and structural diversity within the buffer would also increase the wildlife habitat of the area over current conditions.

3.1 Goal, Objective, and Performance Standard for Enhancement Area

The primary goal of the enhancement plan is to restore and enhance the watercourse buffer with native vegetation. To meet this goal, the following objectives and performance standards have been incorporated into the design of the plan:

Objective A: Increase the structural and plant species diversity within the enhancement area.
Performance Standard: There will be 100% survival of all planted species throughout the enhancement area at the end of the first year of planting. Following Year 1, success will be based on an 80% survival rate or areal cover of planted or recolonized native species of 15% after Year 1, 25% after Year 2, 40% after Year 3, and 60% after Year 5.

Objective B: Limit the amount of invasive and exotic species within the enhancement area.
Performance Standard: After installation and at the end of the fifth year after planting, exotic and invasive plant species will be maintained at levels below 10% total cover in all planted areas.

3.2 Monitoring Methodology

The monitoring program will be conducted for a period of five years, with annual reports submitted to the City of Mercer Island.

Photo-points will be established from which photographs will be taken throughout the monitoring period. These photographs will document general appearance and progress of plant community establishment in the enhancement area. Review of the photos over time will provide a visual representation of the success of the plan.

3.3 Maintenance

Maintenance will be conducted on a routine, year round basis. Additional maintenance needs will be identified and addressed following a twice-yearly maintenance review. Contingency measures and remedial action on the site shall be implemented on an as-needed basis at the direction of the consultant or the owner. Tall grasses and weeds shall be removed at the base of plants to prevent engulfment. Weed control should be performed by hand removal.

3.4 Contingency

All dead plants will be replaced with the same species or an approved substitute species that meets the goal of the enhancement plan. Plant material shall meet the same specifications as originally installed material. Replanting will not occur until after the reason for failure has been identified (e.g., moisture regime, poor plant stock, disease, shade/sun conditions, wildlife damage, etc.). Replanting shall be completed under the direction of the consultant, City of Mercer Island, or the owner.

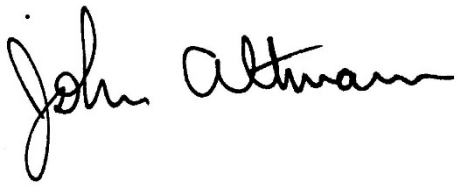
3.5 As-built

Following completion of construction activities, an as-built plan for the enhancement area will be provided to the City of Mercer Island. The plan will identify and describe any changes in relation to the original approved plan.

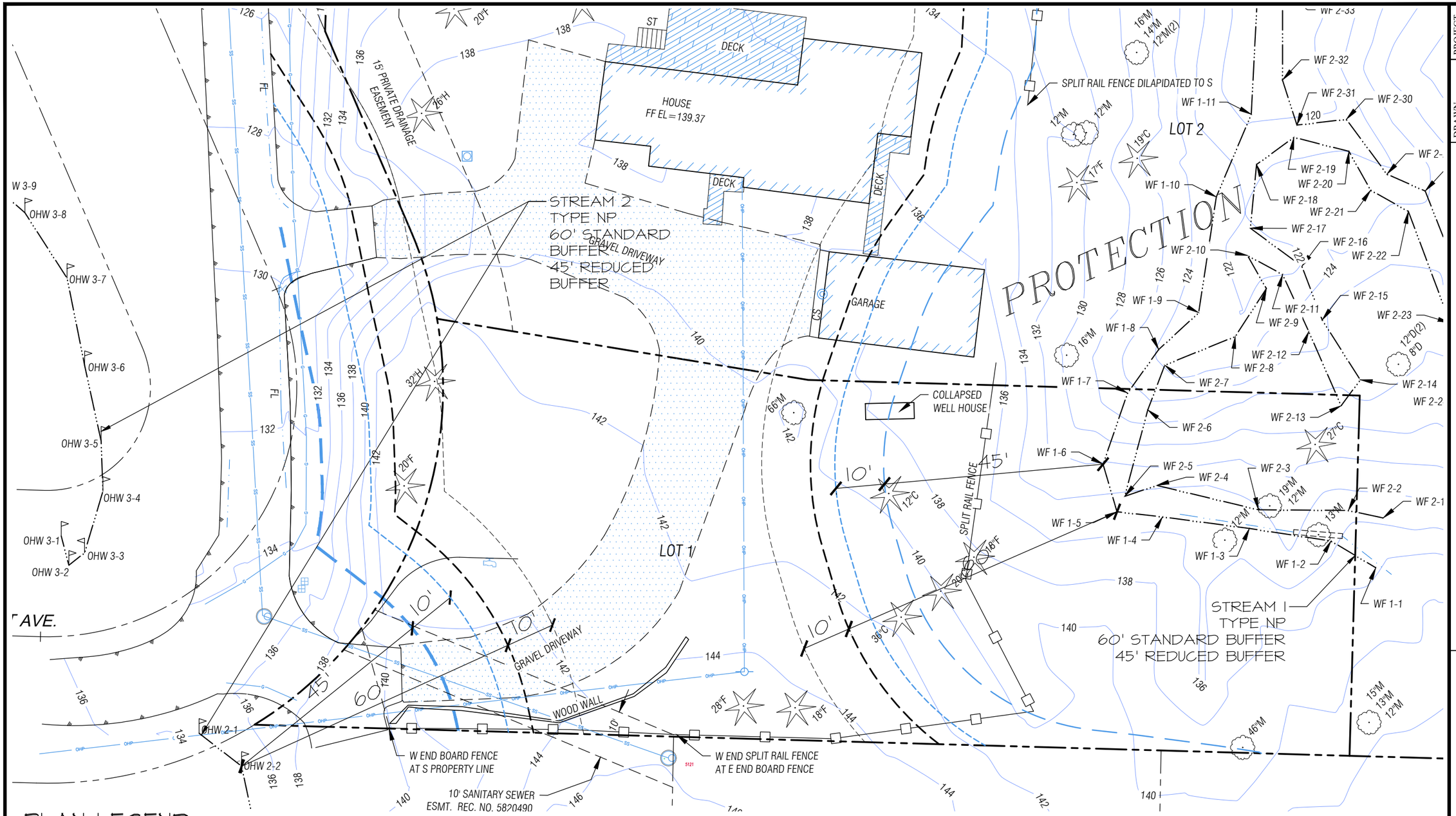
If you have any questions, please give me a call.

Sincerely,

ALTMANN OLIVER ASSOCIATES, LLC



John Altmann
Ecologist



PLAN LEGEND

- PROPERTY LINE
- OHW TYPE NP STREAMS
- 60' STANDARD BUFFER
- 45' REDUCED BUFFER
- 10' STRUCTURE SETBACK
- 10' STRUCTURE SETBACK FOR REDUCED BUFFER

GRAPHIC SCALE
(IN FEET)

0 10 20 30 40 60

SCALE: 1:20

N

NOTES

1. BASE INFORMATION PROVIDED BY MEAD GILMAN LAND SURVEYORS P.O.BOX 289, WOODINVILLE, WA 98072, 425.486.1252

FIGURE 1: EXISTING CONDITIONS
SEASCAPE HOMES
FOREST AVE - BUFFER MITIGATION PLAN
MERCER ISLAND, WASHINGTON
PARCELS 1410300057 & -0059

PROJECT 6656
DRAWN SO
SCALE AS NOTED
DATE 8-23-24
REVISED
1/5

Altmann Oliver Associates, LLC
AOA
Environmental Planning & Landscape Architecture
PO Box 578 Carnation, WA 98014 Office (425) 333-4535Fax (425) 333-4599

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STREAM 2
TYPE NP
60' STANDARD
BUFFER
45' REDUCED
BUFFER

PROTECTION

STREAM 1
TYPE NP
60' STANDARD BUFFER
45' REDUCED BUFFER

FOREST AVE.

10' SANITARY SEWER
ESMT. REC. NO. 5820490.

OHW 3-9
OHW 3-8
OHW 3-7
OHW 3-6
OHW 3-5
OHW 3-4
OHW 3-1
OHW 3-3
OHW 3-2
OHW 2-1
OHW 2-2
OHW 2-3

WF 1-1 WF 1-2 WF 1-3 WF 1-4 WF 1-5 WF 1-6 WF 1-7 WF 1-8 WF 1-9 WF 1-10
WF 2-1 WF 2-2 WF 2-3 WF 2-4 WF 2-5 WF 2-6 WF 2-7 WF 2-8 WF 2-9 WF 2-10 WF 2-11 WF 2-12 WF 2-13 WF 2-16 WF 2-17 WF 2-18 WF 2-21

PLAN LEGEND

- PROPERTY LINE
- OHW TYPE NP STREAMS
- 60' STANDARD BUFFER
- 45' REDUCED BUFFER
- 10' STRUCTURE SETBACK
- 10' STRUCTURE SETBACK FOR REDUCED BUFFER

MITIGATION LEGEND

BUFFER ENHANCEMENT - HAND REMOVE HIMALAYAN BLACKBERRY AND ENGLISH IVY AROUND EXISTING SNOWBERRY, SWORD FERN, TALL OREGON GRAPE, AND DOUGLAS FIR. REPLANT AT 75% PLANTING DENSITY	1,388 SF
BUFFER REPLACEMENT WITH ENHANCEMENT - PLANT AT 100% PLANTING DENSITY	934 SF

GRAPHIC SCALE
(IN FEET)
0 10 20 30 40 60
SCALE: 1:20

N

NOTES

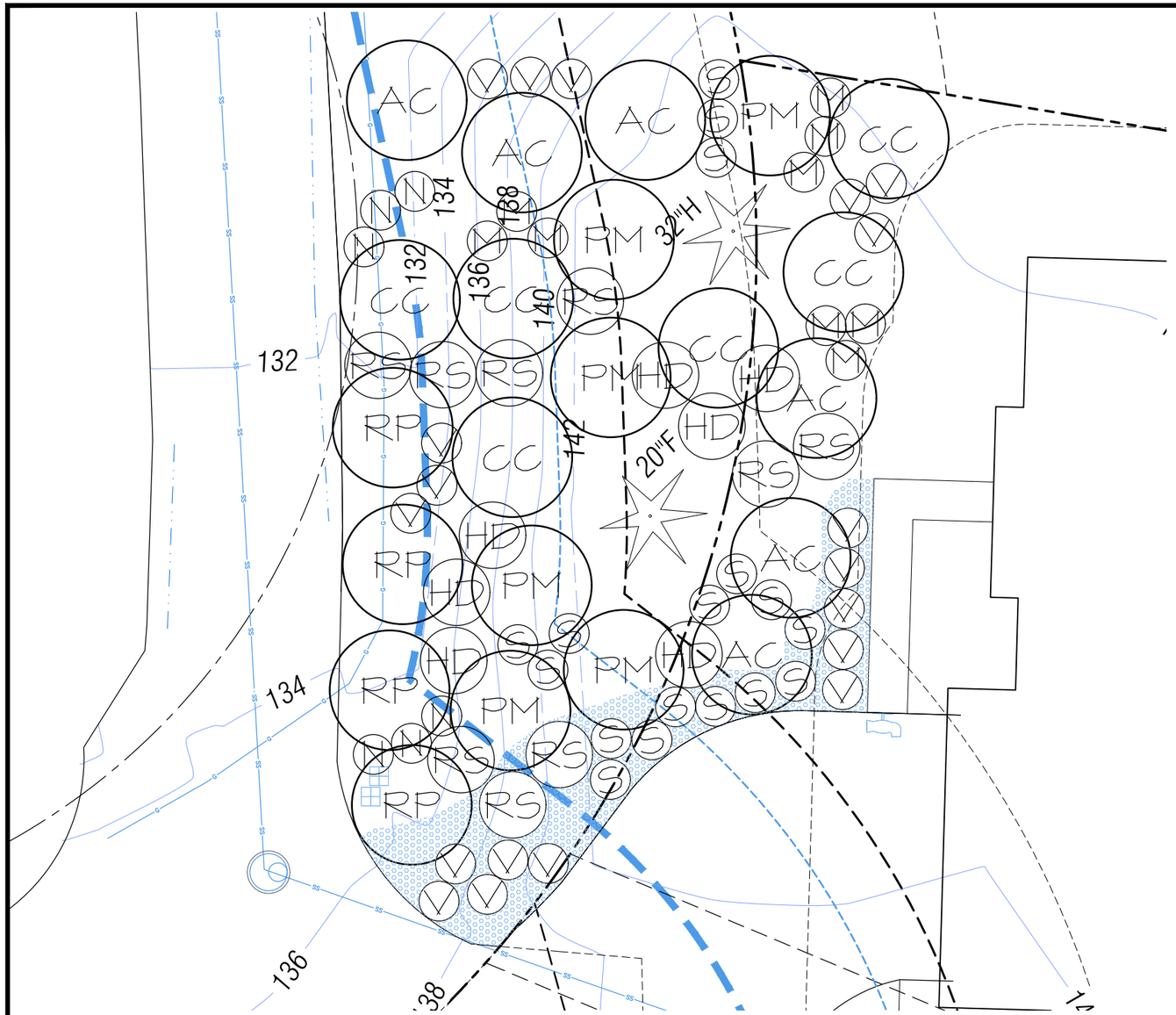
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PROJECT 6656
DRAWN SO
SCALE AS NOTED
DATE 8-23-24
REVISED
2/5

FIGURE 2: SITE PLAN
SEASCAPE HOMES
FOREST AVE - BUFFER MITIGATION PLAN
MERCER ISLAND, WASHINGTON
PARCELS 1410300057 & -0059

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AOA
Environmental Planning & Landscape Architecture
PO Box 578 Carnation, WA 98014 Office (425) 333-4535 Fax (425) 333-4569

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PLANT LIST (SEE FIGURE 4 FOR SCHEDULE)

TREES

KEY	COMMON NAME
AC	VINE MAPLE
CC	WESTERN HAZELNUT
PM	DOUGLAS FIR
RP	CASCARA

SHRUBS

KEY	COMMON NAME
HD	OCEAN SPRAY
M	TALL OREGON GRAPE
RS	RED FLOWERING CURRANT
N	NOOTKA ROSE
S	SNOWBERRY
V	EVERGREEN HUCKLEBERRY

GROUNDCOVER

KEY	COMMON NAME
	COAST STRAWBERRY

GRAPHIC SCALE
(IN FEET)

0 5 10 15 20 30

SCALE: 1:10

N

NOTES

1. BASE INFORMATION PROVIDED BY MEAD GILMAN LAND SURVEYORS P.O.BOX 289, WOODINVILLE, WA 98072, 425.486.1252

FIGURE 2: SITE PLAN
SEASCAPE HOMES
FOREST AVE - BUFFER MITIGATION PLAN
MERCER ISLAND, WASHINGTON
PARCELS 1410300057 & -0059

PROJECT 6656
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PLANT SCHEDULE

TREES

KEY	SCIENTIFIC NAME	COMMON NAME	SPACING	QTY	SIZE (MIN.)	NOTES
AC	ACER CIRCINATUM	VINE MAPLE	9' O.C.	6	2 GAL.	MULTI-STEM (3 MIN.)
CC	CORYLUS CORNUTA	WESTERN HAZELNUT	9' O.C.	6	2 GAL.	MULTI-STEM (3 MIN.)
PM	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	9' O.C.	6	2 GAL.	FULL & BUSHY
RP	RHAMNUS PURSHIANA	CASCARA	9' O.C.	4	2 GAL.	FULL & BUSHY

SHRUBS

KEY	SCIENTIFIC NAME	COMMON NAME	SPACING	QTY	SIZE (MIN.)	NOTES
HD	HOLODISCUS DISCOLOR	OCEAN SPRAY	5' O.C.	7	1 GAL.	MULTI-STEM (3 MIN.)
M	MAHONIA AQUIFOLIUM	TALL OREGON GRAPE	3' O.C.	9	1 GAL.	FULL & BUSHY
RS	RIBES SANUINEUM	RED FLOWERING CURRANT	5' O.C.	9	1 GAL.	MULTI-STEM (3 MIN.)
N	ROSA NUTKANA	NOOTKA ROSE	3' O.C.	6	1 GAL.	MULTI-STEM (3 MIN.)
S	SYMPHORICARPOS ALBUS	SNOWBERRY	3' O.C.	17	1 GAL.	MULTI-STEM (3 MIN.)
V	VACCINIUM OVATUM	EVERGREEN HUCKLEBERRY	3' O.C.	19	1 GAL.	FULL & BUSHY

GROUNDCOVER

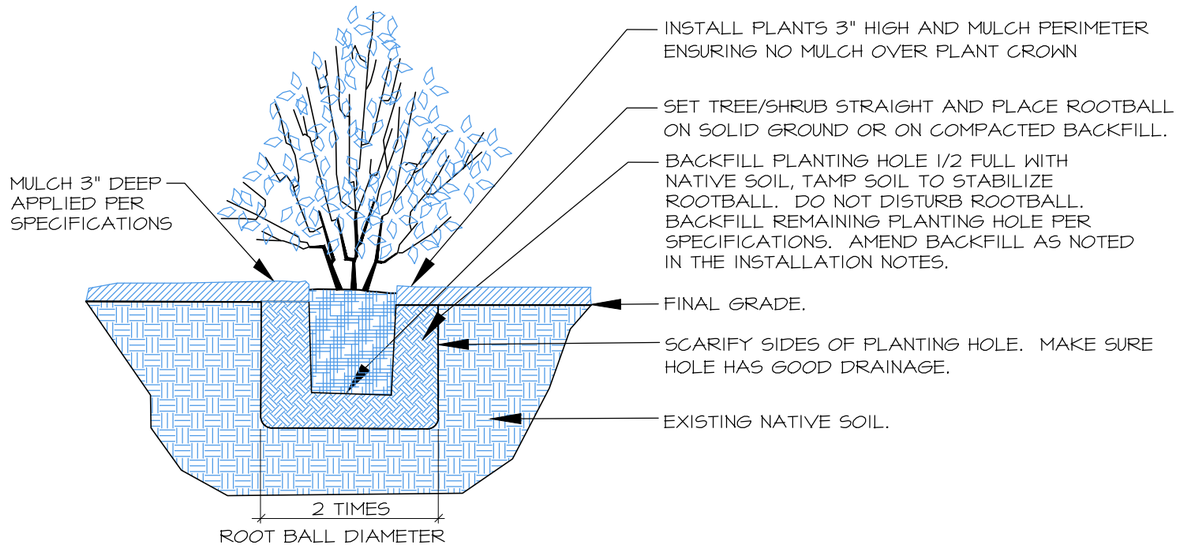
KEY	SCIENTIFIC NAME	COMMON NAME	DENSITY	QTY	SIZE (MIN.)	NOTES
	FRAGARIA CHILOENSIS	COAST STRAWBERRY	2' O.C.	50	1 GAL.	FULL & BUSHY

PROJECT 6656
DRAWN SO
SCALE AS NOTED
DATE 8-23-24
REVISED
4/5

FIGURE 4: PLANT SCHEDULE
SEASCAPE HOMES
FOREST AVE - BUFFER MITIGATION PLAN
MERCER ISLAND, WASHINGTON
PARCELS 1410300057 & -0059

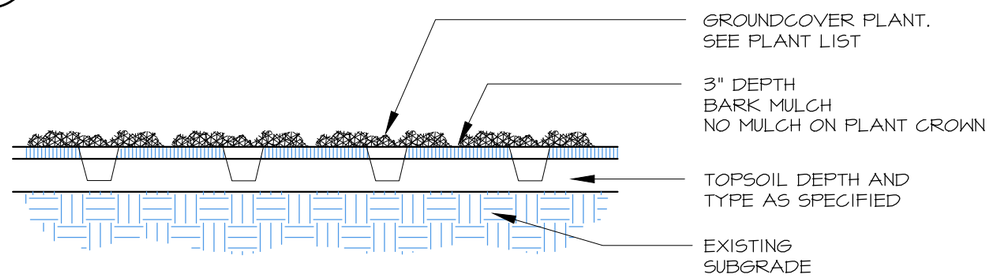
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1 CONTAINER TREE/SHRUB PLANTING (TYP.)

SCALE: NTS



2 GROUNDCOVER PLANTING (TYP.)

SCALE: NTS

SPECIFICATIONS

1. PRIOR TO PLANTING, ALL NON-ORGANIC DEBRIS AND NON-NATIVE, INVASIVE VEGETATION SHALL BE HAND-REMOVED AND EXPORTED OFF SITE.
2. PRIOR TO PLANTING, ALL NON-NATURAL MATERIALS SHALL BE REMOVED (GRAVEL, ROCK, CONCRETE) FROM EXISTING CLEARED AREAS. A 4" LIFT OF IMPORTED CEDAR GROVE 3-WAY TOPSOIL SHALL BE PLACED AND LIGHTLY RAKED INTO THE TOP 4" OF SUBGRADE PRIOR TO PLANTING.
3. ALL PLANTS SHOULD BE INSTALLED BETWEEN DECEMBER 1ST AND MARCH 15TH.
4. ALL PLANTS SHALL BE PIT-PLANTED IN PLANTING PITS EXCAVATED 2X THE DIAMETER OF THE PLANT. PITS SHALL BE BACKFILLED WITH A 30/70 MIX OF STEERCO TO NATIVE SOIL. PLANTS SHALL BE INSTALLED 2" HIGH AND SURFACED MULCHED TO A DEPTH OF 3" WITH HOG-FUEL PLACED CONTINUOUSLY THROUGHOUT THE PLANTING BED.
5. ALL PLANTS SHALL BE NURSERY GROWN (IN W. WA OR OR.) FOR AT LEAST 1 YEAR FROM PURCHASE DATE, FREE FROM DISEASE OR PESTS, WELL-ROOTED, BUT NOT ROOT-BOUND AND TRUE TO SPECIES.
6. LANDSCAPE CONTRACTOR TO INSTALL DRIP OR LOW-FLOW IRRIGATION SYSTEM CAPABLE OF HEAD TO HEAD COVERAGE OF ALL PLANTINGS.
7. ALL PLANTINGS SHALL BE IRRIGATED AT A RATE OF ½" OF FLOW 2-3 TIMES WEEKLY, FROM JUNE 15-OCT 15 THE FIRST YEAR AFTER PLANTING. THE SECOND YEAR, FLOW SHOULD BE REDUCED TO PROVIDE ½" OF FLOW 1-2 TIMES WEEKLY FROM JULY 1-SEPT 30. THE SYSTEM CAN BE REMOVED AFTER 3 YEARS.
8. UPON APPROVAL OF PLANTING INSTALLATION BY AOA, MERCER ISLAND WILL BE NOTIFIED TO CONDUCT A SITE REVIEW FOR FINAL APPROVAL OF CONSTRUCTION.
9. MAINTENANCE SHALL BE IMPLEMENTED ON A REGULAR BASIS ACCORDING TO THE SCHEDULE BELOW.

ANNUAL MAINTENANCE SCHEDULE

MAINTENANCE ITEM	J	F	M	A	M	J	J	A	S	O	N	D
WEED CONTROL			1		1		1			1		
GENERAL MAINT.			1		1		1			1		
WATERING - YEAR 1						4	8	8	8	4		
WATERING - YEAR 2							4	4	4			

1-8 = NUMBER OF TIMES TASK SHALL BE PERFORMED PER MONTH.

MAINTENANCE WILL INCLUDE:
1. REMOVAL OF NON-NATIVE PLANTS, BY HAND, AS LISTED ABOVE.
2. CONTINUED APPLICATION OF IRRIGATION, AS NOTED ABOVE.
3. REMOVAL OF PEST INFESTATIONS, LIKE TENT CATERPILLAR AND SPRUCE APHID.
4. THINNING OF RED ALDER AND MOWING OF TALL GRASSES, AS DIRECTED BY AOA TO ENSURE SURVIVAL OF PLANTED SPECIES.

PROJECT 6656
DRAWN SO
SCALE AS NOTED
DATE 8-23-24
REVISED
5/5

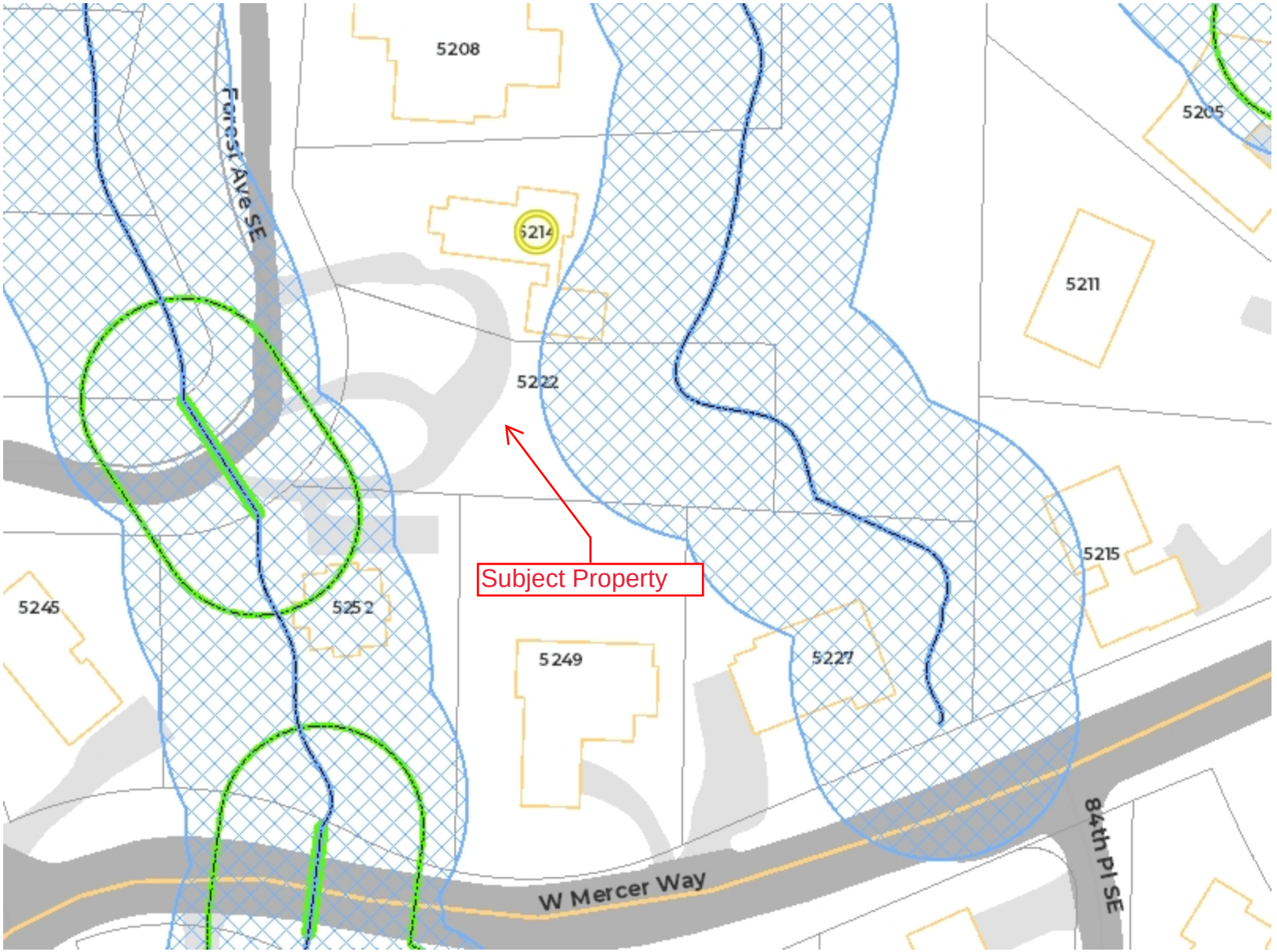
FIGURE 5: PLANTING DETAILS & SPECIFICATIONS
SEASCAPE HOMES
FOREST AVE - BUFFER MITIGATION PLAN
MERCER ISLAND, WASHINGTON
PARCELS 1410300057 & -0059

Altmann Oliver Associates, LLC
AOA Environmental Planning & Landscape Architecture
PO Box 578 Carnation, WA 98014 Office (425) 333-4535 Fax (425) 333-4569

6656-MIT-08-23-24.dwg

City of Mercer Island

Information & Geographic Services





Legend

- Unpiped Watercourse
  - Type "F" = Fish
  - Type "Np" = Non-Fish
  - Type "Ns" = Non-Fish Seasonal
  - Type "Np" (Unverified)
  - Type "Ns" (Unverifed)
- Piped Watercourse
- Watercourse Buffer/Setback
  - Type "F" = 120-Ft Buffer
  - Type "Np" = 60-Ft Buffer
  - Type "Ns" = 60-Ft Buffer
  - Type "Np" Unverifed = 60-Ft Buffer
  - Type "Ns" Unverified = 60-Ft Buffer
  - Piped Type F/Np/Ns = 45-Ft Setbac
- Address
- Building
- Property Line
- Docks
- Freeway
- Major Street
- Street
- Paved Driveway
- Paved Road
- Paved Parking Area
- Parks
- Lake Washington

0 67 134 Feet

1 inch = 133.6960385 feet

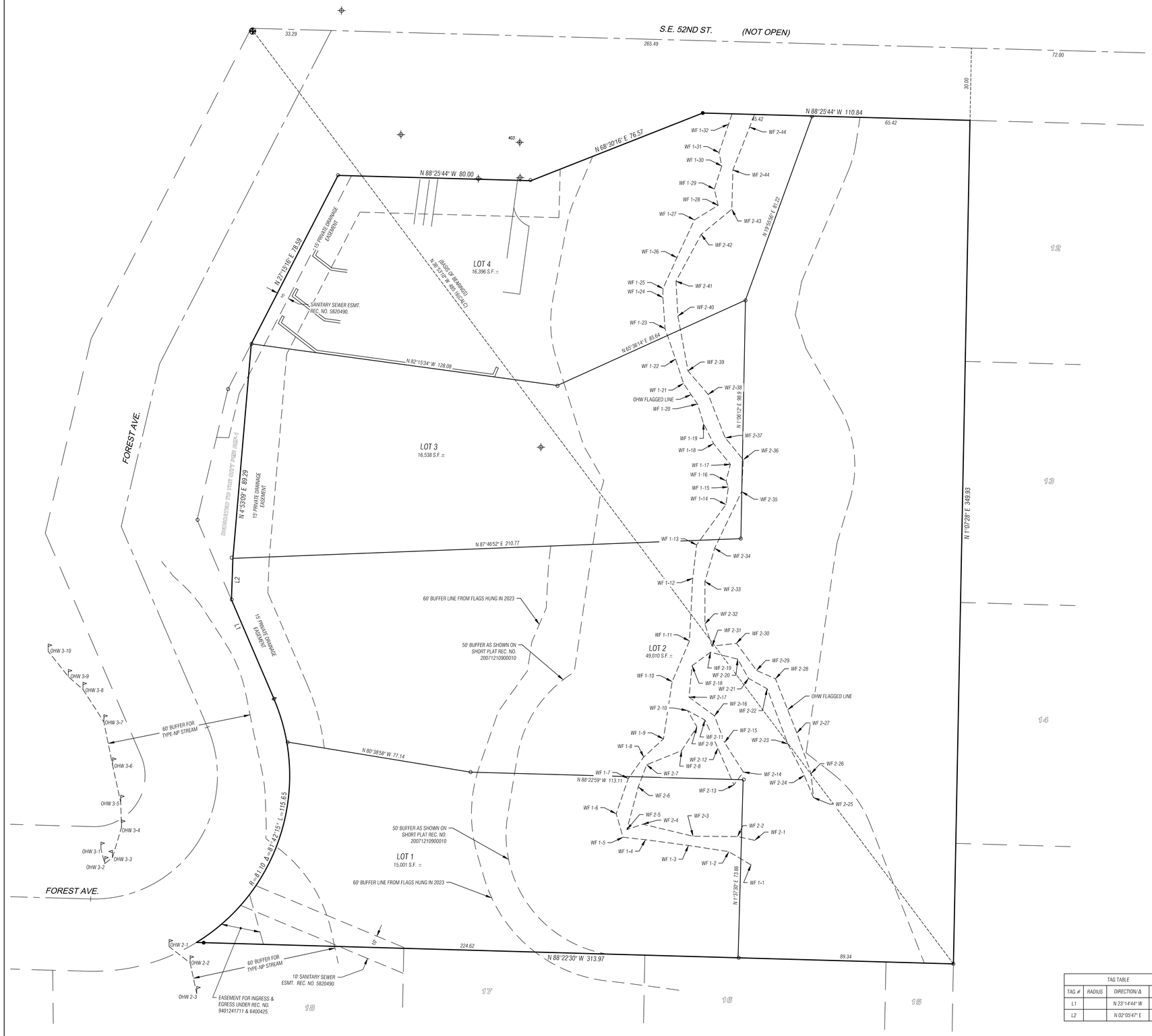
© City of Mercer Island

Map Printed: June 13, 2024

Disclaimer: These maps were developed by the City of Mercer Island and are intended to be a general purpose digital reference tool. These maps are not an accepted legal instrument for describing, establishing, recording or maintaining descriptions for property concerns or boundaries. The City makes no representation or warranty with respect to the accuracy or currency of these data sets, especially in regard to labeling of surveyed dimensions, or agreement with official sources such as records of survey, or mapped locations of features.

Notes

SE1/4, NE1/4, SEC. 24, TWP. 24 N., RGE. 4 E., W.M.



TAG TABLE			
TAG #	RADIUS	DIRECTION/Δ	LENGTH
L1		N 23°14'44" W	44.63
L2		N 02°05'47" E	17.18

0 20 40

SCALE: 1" = 20'

MERIDIAN

STATE PLANE COORDINATE SYSTEM - NORTH ZONE NAD83 (2011)
BASED ON RAPID STATIC GPS MEASUREMENTS WITH OPUS SOLUTION.

VERTICAL DATUM

NAVD 88 (GEOID 18)
BASED ON RAPID STATIC GPS MEASUREMENTS WITH OPUS SOLUTION.

BENCHMARKS

TBM-A
FOUND 4"X4" CONC MON WITH 2" BRASS DISC " LS#2534" WITH PUNCH 0.3' BELOW GRADE IN CASE 69.6' NW OF NW PROP CORNER.
ELEV. = 104.53'

TBM-B
FOUND 1/2" REBAR AND MGA CONTROL CAP AT W SIDE FOREST DRIVE , 0.5W OF WEST EDGE ASPHALT PAVEMENT AND 13.5W OF CB-5078 .
ELEV. = 113.94'

NOTES

1. A 5" ELECTRONIC TOTAL STATION WAS USED FOR THIS FIELD TRAVERSE SURVEY. ALL EQUIPMENT HAS BEEN MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S GUIDELINES. ACCURACY MEETS OR EXCEEDS W.A.C. 332-130-090.
2. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT.
3. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY MADE ON THE DATE INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITION EXISTING AT THAT TIME. ALL CONTROL INDICATED AS "FOUND" WAS RECOVERED FOR THIS PROJECT IN FEBRUARY 18, 2020, UNLESS OTHERWISE NOTED.
4. UNDERGROUND UTILITIES WERE LOCATED BASED ON SURFACE EVIDENCE (I.E. PAINT MARKS, SAW CUTS IN PAVEMENT, COVERS, LIDS, ETC.). THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION, ELEVATION, AND SIZE OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
5. TREE SIZES AND SPECIES WERE DETERMINED TO THE BEST OF OUR ABILITY. MEAD GILMAN AND ASSOCIATES DOES NOT WARRANT THE ACCURACY OF THE SIZE AND SPECIES OF ANY TREES SHOWN HEREON. ALL TREE SIZES SHOULD BE VERIFIED BY A TRAINED ARBORIST.
6. THIS MAP DOES NOT TO INTEND SHOW ALL EASEMENTS OF RECORD.
7. ALL CONTOUR INFORMATION EAST OF THE NATIVE GROWTH PROTECTION AREA BOUNDARY WAS GENERATED FROM PUBLIC LIDAR DATA.
8. FLAGS AT OHW ARE SET BY ALTMANN OLIVER ASSOCIATES, LLC IN JANUARY OF 2023
9. THIS UPDATE TO THE TOPOGRAPHIC SURVEY IS INTENDED TO JUST SHOW THE NEW BUFFER AND ORDINARY HIGH WATER FLAGS. NO ATTEMPT TO UPDATE ANY OTHER ASPECT OF THE MAP HAS BEEN DONE.

LEGAL DESCRIPTION

LOTS 1-4, KNUTSON SHORT PLAT, MERCER ISLAND SHORT PLAT NO SUB07-003 AS RECORDED UNDER REC. NO. 20071210900010.

REFERENCES

1. ROS REC. NO. 20071210001864, VOL. 236, PG. 232.
2. MERCER ISLAND SHORT PLAT NO SUB07-003, REC. NO. 2007121090001.

LEGEND

- SET 1/2" X 24' REBAR WITH YELLOW PLASTIC CAP STAMPED "MGA 35145 48383"
- FOUND CORNER
- FOUND MONUMENT
- TEMPORARY BENCHMARK
- GAS VALVE
- ELECTRICAL JUNCTION BOX
- UTILITY POLE
- CATCH BASIN - TYPE I
- CATCH BASIN - TYPE II
- STORM CLEANOUT
- YARD DRAIN
- SEWER MANHOLE
- FIRE HYDRANT
- HOSE BIB
- WATER METER
- WATER VALVE
- BOLLARD
- SIGN
- SOIL TEST PIT
- CONIFEROUS TREE
- DECIDUOUS TREE
- ASPHALT
- FENCE LINE
- OHP — OVERHEAD POWER LINES
- SS — SANITARY SEWER LINE
- SD — STORM DRAIN LINE
- G — GAS LINE
- W — WATER MAIN
- ASPHALT HATCH
- CONCRETE HATCH
- DECK HATCH
- GRAVEL HATCH

C CEDAR
D DECIDUOUS
E ELM
H HEMLOCK
M MAPLE

CS CONC SLAB
FF FINISH FLOOR
FL FLOW LINE/ ASPH THICKENED EDGE
ST STAIRS
WF# WETLAND FLAG NUMBER
OHW FLAGED OVERHEAD WATER LINE

CHRISTOPHER SHANE KNUTSON
STATE OF WASHINGTON
35145
REGISTERED
PROFESSIONAL LAND SURVEYOR

MEAD GILMAN
LAND SURVEYORS
P.O. BOX 289, WOODINVILLE, WA 98072 | PHONE: (425) 486-1252 | WWW.MEADGILMAN.COM

FOREST AVE LOTS
BOUNDARY & TOPOGRAPHIC SURVEY

SEASCAPE HOMES
PO BOX 40568
BELLEVUE WA 98015

DRAWN BY:	LSD
REVIEWED BY:	CSB
DATE:	03-11-2020
JOB NO.	20011
SHEET	1 OF 1

King County iMap



The information included on this map has been compiled by King County staff from a variety of sources and is subject to change without notice. King County makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a survey product. King County shall not be liable for any general, special, indirect, incidental, or consequential damages including, but not limited to, lost revenues or lost profits resulting from the use or misuse of the information contained on this map. Any sale of this map or information on this map is prohibited except by written permission of King County.

Date: 6/19/2024 Notes:

N

King County

ATTACHMENT A
DATA SHEETS

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: Parcel 141030-0057 City/County: Mercer Island/ Sampling Date: 5-17-24
Applicant/Owner: Tellefson State: WA Sampling Point: DP#1
Investigator(s): John Altmann, Dain Altmann, Jason Panzera Section, Township, Range: S24,T24N,R4E
Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): concave Slope (%): ____
Subregion (LRR): A Lat: 47.5556 Long: -122.22801 Datum: ____
Soil Map Unit Name: AgC NWI classification: ____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐	No ☒	**Is the Sampled Area within a Wetland?**	**Yes** ☐	**No** ☒
Hydric Soil Present?	Yes ☐	No ☒			
Wetland Hydrology Present?	Yes ☐	No ☒			

Remarks: Upland plot, see map for location.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 10)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Thuja plicata*	100	yes	FAC
2. ____	____	____	____
3. ____	____	____	____
4. ____	____	____	____
50% = 50, 20% = 20	100	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10)			
1. *Mahonia nervosa*	40	yes	FACU
2. *Oemleria cerasiformis*	40	yes	FACU
3. *Ilex aquifolium*	20	yes	FACU
4. ____	____	____	____
5. ____	____	____	____
50% = 50, 20% = 20	100	= Total Cover	
Herb Stratum (Plot size: 10)			
1. *Polystichum munitum*	10	yes	FACU
2. ____	____	____	____
3. ____	____	____	____
4. ____	____	____	____
5. ____	____	____	____
6. ____	____	____	____
7. ____	____	____	____
8. ____	____	____	____
9. ____	____	____	____
10. ____	____	____	____
11. ____	____	____	____
50% = 5, 20% = 2	10	= Total Cover	
Woody Vine Stratum (Plot size: 10)			
1. *Vinca minor*	10	yes	NL (UPL)
2. ____	____	____	____
50% = 5, 20% = 2	10	= Total Cover	

% Bare Ground in Herb Stratum ____

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	6	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	16	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	____	x1 =	____
FACW species	____	x2 =	____
FAC species	____	x3 =	____
FACU species	____	x4 =	____
UPL species	____	x5 =	____
Column Totals:	____ (A)		____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☐ **No** ☒

Remarks:

Project Site: Parcel 141030-0057

SOIL Sampling Point: DP#1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR3/6	100					silt loam	

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks: no redoximorphic features

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stresses Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):	
Water Table Present?	Yes	☐	No	☒	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	☐	No	☒	Depth (inches):	

Wetland Hydrology Present? **Yes** ☐ **No** ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: dry

Altmann Oliver Associates, LLC
AOA
PO Box 578 Carnation, WA 98014 Office (425) 333-4535 Fax (425) 333-4509
Environmental Planning & Landscape Architecture

January 27, 2025

AOA-6656

Jon Tellefson
mt1231@gmail.com

SUBJECT: **Stream Buffer Reduction and Enhancement for Forest Creek Lot 1**
5222 Forest Ave SE, Parcel 141030-0057, Mercer Island, WA
Revised (City File # CAO24-032)

Dear Jon:

We have updated this report and attached plan set per the comments presented in the January 7, 2025 review letter from the City of Mercer Island. Revisions requested included: 1) removal of reduced buffer from Stream 1 on Figure 2 of plan set, 2) clarification that no intrusion into the building setback of Stream 1 with any structure will occur, 3) clarify text in report that no buffer reduction from Stream 1 is proposed, and 4) removal of tree plantings within Forest Ave. right-of-way (only shrubs will be planted in right-of-way).

1.0 BACKGROUND AND EXISTING CRITICAL AREAS

On January 5, 2023 AOA conducted an initial wetland and stream reconnaissance and delineation on the adjacent property to the north and east of the subject property (i.e., Lot 2 Parcel 141030-0059). The reconnaissance was conducted utilizing the methodology outlined in the May 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0).*

No wetlands were identified on or adjacent to Parcel -0059 (Lot 2) during the initial field investigation. One stream (Stream 1) was observed draining from south to north within the central portion of Lot 2 and the northeastern portion of Lot 1. The ordinary high water (OHW) of the stream was delineated during the field investigation and subsequently surveyed (see survey drawing).

On May 17, 2024 a second field investigation was conducted to: 1) confirm that there are no wetlands on Lot 1 and that the surveyed delineation of Stream 1 remains valid, and 2) delineate the OHW of the east side of an off-site stream located to the west of Lot 1. During the May 2024 review, the lack of wetlands on Lot 1 was confirmed and the surveyed delineation remains valid. The off-site stream to the

west (Stream 2) was also subsequently surveyed and is now depicted on the survey drawing.

Attachment A contains a data sheet prepared for a representative location in the uplands on Lot 1. This data sheet documents the vegetation, soils, and hydrology information that aided in the no wetland determination for the property.

1.1 Stream 1

The stream in the northeastern portion of Lot 1 is located within a well-defined channel and is considered a Type Np stream by the City of Mercer Island that requires a 60-foot buffer per MIMC 19.07.180.C.1. An additional 10-foot structure setback from the buffer is required per MIMC 19.07.180.C.7.

1.2 Stream 2

The stream off-site to the west of Lot 1 is also considered a Type Np stream by the City of Mercer Island that requires a 60-foot buffer per MIMC 19.07.180.C.1 and an additional 10-foot structure setback from the buffer is required per MIMC 19.07.180.C.7. Based on the survey drawing, this buffer and structure setback encroaches into the southwest corner of Lot 1.

2.0 PROPOSED PROJECT IMPACTS

The standard 60-foot watercourse buffer from Stream 2 currently extends into the southwest portion of the site and the required location of the proposed residence. A reduced buffer is proposed for Stream 2. No buffer reduction is proposed for Stream 1

2.1 Proposed Buffer Reduction

The City of Mercer Island allows for the reduction of a watercourse buffer if all of the criteria in MICC 19.07.180.C.5 are met.

Buffer width reduction shall be allowed provided the following requirements are met:

a. *The applicant has demonstrated that buffer averaging would not feasibly allow development*;

Stream 2 is located off-site and there are no areas on the property that are available or suitable for buffer replacement.

b. *The applicant has demonstrated how impacts will be minimized and that avoidance has been addressed consistent with section 19.07.100, mitigation sequencing*;

Since the site is highly constrained by the buffer from Stream 1, it is not possible to shift the house east and avoid the 60-foot standard buffer from Stream 2. Impacts to the buffer have been minimized to the extent feasible (see Section 2.2 below for mitigation sequencing).

c. The applicant has demonstrated how all proposed impacts have been mitigated consistent with subsection E of this section and will not result in a loss of ecological function;

The current Stream 2 buffer on the site and immediately adjacent to the western property line within the right-of-way is vegetated primarily by invasive Himalayan blackberry (*Rubus armeniacus*) and English ivy (*Hedera helix*). Native significant vegetation is generally limited to two Douglas fir (*Pseudotsuga menziesii*) trees that will be preserved as part of the project. The existing buffer does not provide a significant functional benefit to the off-site watercourse. We have prepared a buffer enhancement plan (**Figures 1 through 5**) that will increase the plant species and structural diversity of the watercourse buffer over current conditions. There will be no loss of ecological function as part of the project.

d. The proposed buffer width is not less than 75 percent of the standard buffer width at any point; and

The Stream 2 watercourse buffer will be reduced from 60 feet to 45 feet in places and will not be less than 75% of the standard buffer.

e. *The proposed buffer reduction is not proposed in conjunction with buffer averaging*.

Buffer averaging is not proposed.

2.2 Mitigation Sequencing

The City of Mercer Island requires per MICC 19.01.100 that *an applicant for a development proposal or activity shall implement the following sequential measures, listed below in order of preference, to avoid, minimize, and mitigate impacts to environmentally critical areas and associated buffers. Applicants shall document how each measure has been addressed before considering and incorporating the next measure in the sequence:*

A. *Avoiding the impact altogether by not taking a certain action or parts of an action. The applicant shall consider reasonable, affirmative steps and make best efforts to avoid critical area impacts. However, avoidance shall not be construed to mean mandatory withdrawal or denial of the development proposal or activity if the proposal or activity is an allowed, permitted, or conditional use in this title. In determining the extent to which the proposal should be redesigned to avoid the impact, the code official may consider the purpose, effectiveness, engineering feasibility, commercial availability of technology, best management practices, safety and cost of the proposal and identified changes to the proposal. Development proposals should seek to avoid, minimize and mitigate overall impacts based on the functions and values of all of the relevant critical areas and based on the recommendations of a critical area study. If impacts cannot be avoided through redesign, use of a setback deviation pursuant to Section 19.06.110(C), or because of site conditions or project requirements, the applicant shall then proceed with the sequence of steps in subsections B through E of this section*;

Due to the constraints associated with the buffer in the eastern portion of the site adjacent Stream 1, it is not possible to shift the proposed house east outside of the 60-foot Stream 2 buffer.

B. *Minimizing impacts by limiting the degree or magnitude of the action and its implementation, using a setback deviation pursuant to Section 19.06.110(C), using appropriate technology, or by taking affirmative steps to avoid or reduce impacts*;

The proposed project would not reduce the buffer adjacent to any significant native vegetated areas and would only reduce the Stream 2 buffer in one small area in the vicinity of the existing access drive.

C. *Rectifying the impact by repairing, rehabilitating, or restoring the affected environment*;

The existing preserved buffer in the far western portion of the site and the adjacent right-of-way in the vicinity of the preserved trees would be restored with native plantings. Tree protection and construction limit fencing will be installed as required.

D. *Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action*;

The native plantings would be preserved in the buffer in perpetuity and the area maintained for a minimum of 5 years as part of an established monitoring and maintenance program.

E. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and/or

Although the area of proposed buffer impact is currently degraded and does not provide a significant functional benefit to the watercourse, we have prepared a compensatory mitigation planting plan (**Figures 1 through 5**) that will increase the habitat functions of the watercourse buffer over current conditions. It is our understanding that the City of Mercer Island does not want trees planted in the right-of-way so the enhancement plan focusses on shrubs in that area.

F. *Monitoring the impact and taking appropriate corrective measures to maintain the integrity of compensating measures*.

A 5 year monitoring program has been developed to ensure success of the proposed buffer enhancement plan.

3.0 PROPOSED BUFFER MITIGATION

A watercourse buffer enhancement plan has been prepared for the Stream 2 buffer reduction. As part of the mitigation plan, all remaining degraded portions of the watercourse buffer on the site and within the adjacent preserved right-of-way would be enhanced by the removal of non-native invasive species (i.e., blackberry and English ivy) and re-planted with native vegetation.

The proposed plantings have been designed to increase the plant species and structural diversity within the buffer and to provide additional physical and visual screening to the watercourse from the residence. Increasing the plant species and structural diversity within the buffer would also increase the wildlife habitat of the area over current conditions.

3.1 Goal, Objective, and Performance Standard for Enhancement Area

The primary goal of the enhancement plan is to restore and enhance the watercourse buffer with native vegetation. To meet this goal, the following objectives and performance standards have been incorporated into the design of the plan:

Objective A: Increase the structural and plant species diversity within the enhancement area.
Performance Standard: There will be 100% survival of all planted species throughout the enhancement area at the end of the first year of planting. Following Year 1, success will be based on an 80% survival rate or areal cover of planted or recolonized native species of 15% after Year 1, 25% after Year 2, 40% after Year 3, and 60% after Year 5.

Objective B: Limit the amount of invasive and exotic species within the enhancement area.
Performance Standard: After installation and at the end of the fifth year after planting, exotic and invasive plant species will be maintained at levels below 10% total cover in all planted areas.

3.2 Monitoring Methodology

The monitoring program will be conducted for a period of five years, with annual reports submitted to the City of Mercer Island.

Photo-points will be established from which photographs will be taken throughout the monitoring period. These photographs will document general appearance and progress of plant community establishment in the enhancement area. Review of the photos over time will provide a visual representation of the success of the plan.

3.3 Maintenance

Maintenance will be conducted on a routine, year round basis. Additional maintenance needs will be identified and addressed following a twice-yearly maintenance review. Contingency measures and remedial action on the site shall be implemented on an as-needed basis at the direction of the consultant or the owner. Tall grasses and weeds shall be removed at the base of plants to prevent engulfment. Weed control should be performed by hand removal.

3.4 Contingency

All dead plants will be replaced with the same species or an approved substitute species that meets the goal of the enhancement plan. Plant material shall meet the same specifications as originally installed material. Replanting will not occur until after the reason for failure has been identified (e.g., moisture regime, poor plant stock,

disease, shade/sun conditions, wildlife damage, etc.). Replanting shall be completed under the direction of the consultant, City of Mercer Island, or the owner.

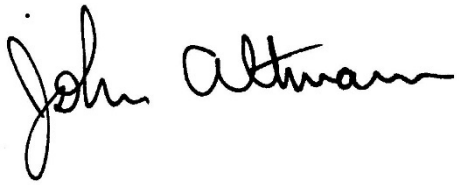
3.5 As-built

Following completion of construction activities, an as-built plan for the enhancement area will be provided to the City of Mercer Island. The plan will identify and describe any changes in relation to the original approved plan.

If you have any questions, please give me a call.

Sincerely,

ALTMANN OLIVER ASSOCIATES, LLC



John Altmann
Ecologist

Attachments

FIGURE 1: EXISTING CONDITIONS
SEASCAPE HOMES
FOREST AVE - BUFFER MITIGATION PLAN
MERCER ISLAND, WASHINGTON
PARCEL 1410300057

PROJECT 6656
DRAWN SO
SCALE AS NOTED
DATE 8-23-24
REVISED 01-27-25
1/5

Altmann Oliver Associates, LLC
PO Box 578 Carnation, WA 98014 Office (425) 333-4535 Fax (425) 333-4599
AOA Environmental Planning & Landscape Architecture

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PLAN LEGEND

- PROPERTY LINE
- OHW TYPE NP STREAMS
- 60' STANDARD BUFFER
- 45' REDUCED BUFFER FOR STREAM 2
- 10' STRUCTURE SETBACK
- 10' STRUCTURE SETBACK FOR REDUCED BUFFER

GRAPHIC SCALE (IN FEET)
0 10 20 30 40 60
SCALE: 1:20

N

NOTES

1. BASE INFORMATION PROVIDED BY MEAD GILMAN LAND SURVEYORS P.O.BOX 289, WOODINVILLE, WA 98072, 425.486.1252

STREAM 2
TYPE NP
60' STANDARD
BUFFER
45' REDUCED
BUFFER

EAVE
LINE - NO
STRUCTURE
IN BSBL

FOREST AVE.

FOREST AVE.

STREAM 1
TYPE NP
60' STANDARD BUFFER

10' SANITARY SEWER
ESMT. REC. NO. 5820490.

OHW 3-1
OHW 3-2
OHW 3-3
OHW 3-4
OHW 3-5
OHW 3-6
OHW 3-7
OHW 3-8
OHW 3-9
OHW 2-1
OHW 2-2
OHW 2-3

WF 1-1
WF 1-2
WF 1-3
WF 1-4
WF 1-5
WF 1-6
WF 1-7
WF 1-8
WF 1-9
WF 1-10
WF 2-1
WF 2-2
WF 2-3
WF 2-4
WF 2-5
WF 2-6
WF 2-7
WF 2-8
WF 2-9
WF 2-10
WF 2-11
WF 2-12
WF 2-13
WF 2-16
WF 2-17
WF 2-18
WF 2-21

45'
60'
10'
12'-6"
5121
17
18

PLAN LEGEND

- PROPERTY LINE
- OHW TYPE NP STREAMS
- 60' STANDARD BUFFER
- 45' REDUCED BUFFER
- PROPOSED BUFFER
- 10' STRUCTURE SETBACK
- 10' STRUCTURE SETBACK FOR REDUCED BUFFER

MITIGATION LEGEND

	BUFFER ENHANCEMENT - HAND REMOVE HIMALAYAN BLACKBERRY AND ENGLISH IVY AROUND EXISTING SNOWBERRY, SWORD FERN, TALL OREGON GRAPE, AND DOUGLAS FIR. REPLANT AT 75% PLANTING DENSITY	1,375 SF
	BUFFER REPLACEMENT WITH ENHANCEMENT - PLANT AT 100% PLANTING DENSITY	934 SF

GRAPHIC SCALE
(IN FEET)

0 10 20 30 40 60

SCALE: 1:20

N

NOTES

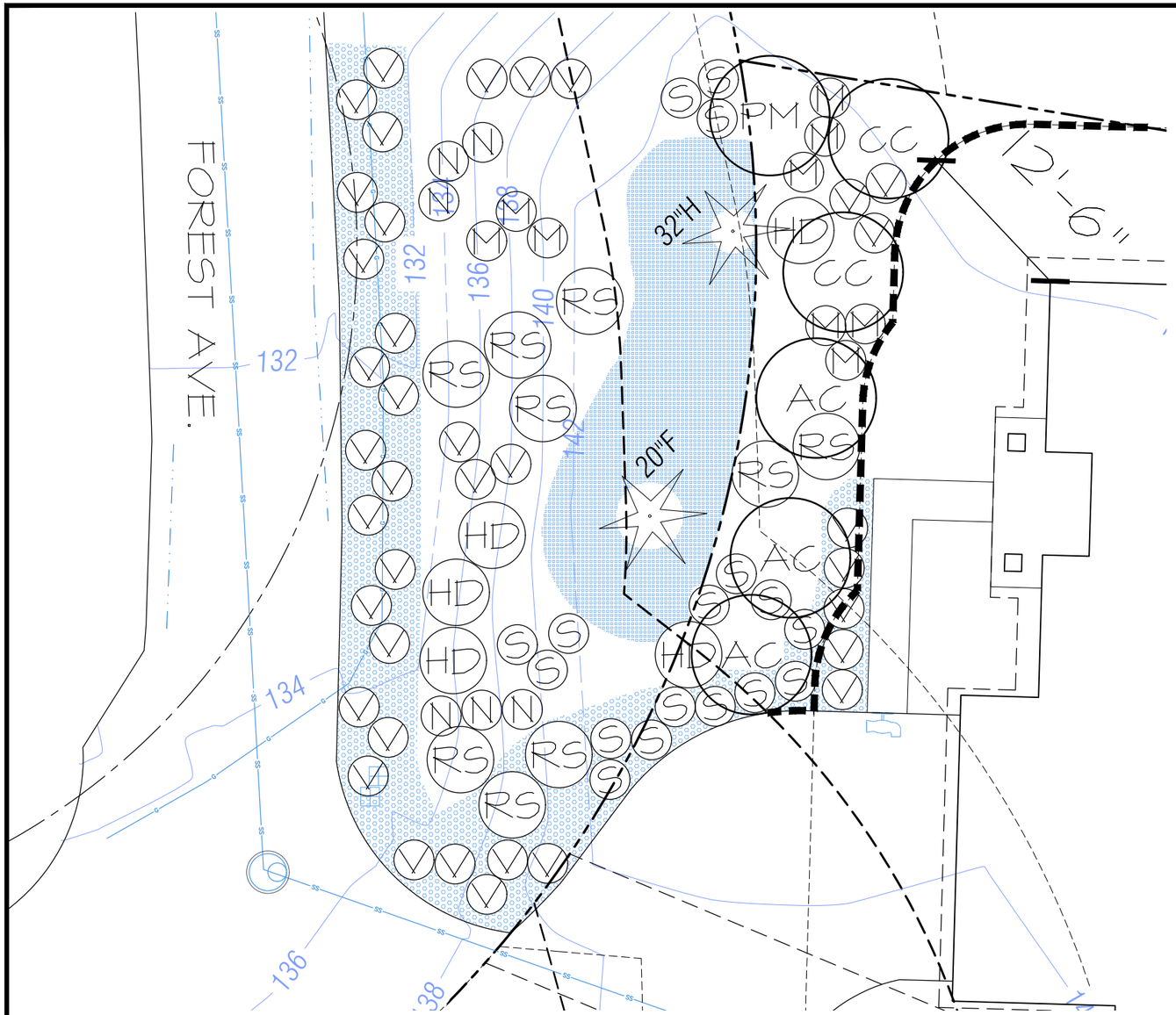
1. BASE INFORMATION PROVIDED BY MEAD GILMAN LAND SURVEYORS P.O.BOX 289, WOODINVILLE, WA 98072, 425.486.1252

PROJECT 6656
DRAWN SO
SCALE AS NOTED
DATE 8-23-24
REVISED 01-27-25
2/5

FIGURE 2: SITE PLAN
SEASCAPE HOMES
FOREST AVE - BUFFER MITIGATION PLAN
MERCER ISLAND, WASHINGTON
PARCEL 1410300057

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AOA
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PLANT LIST (SEE FIGURE 4 FOR SCHEDULE)

TREES

KEY	COMMON NAME
AC	VINE MAPLE
CC	WESTERN HAZELNUT
PM	DOUGLAS FIR
RP	CASCARA

SHRUBS

KEY	COMMON NAME
HD	OCEAN SPRAY
M	TALL OREGON GRAPE
RS	RED FLOWERING CURRANT
N	NOOTKA ROSE
S	SNOWBERRY
V	EVERGREEN HUCKLEBERRY

GROUNDCOVER

KEY	COMMON NAME
	COAST STRAWBERRY
	SALAL

GRAPHIC SCALE
(IN FEET)

0 5 10 15 20 30

SCALE: 1:10

N

NOTES

1. BASE INFORMATION PROVIDED BY MEAD GILMAN LAND SURVEYORS P.O.BOX 289, WOODINVILLE, WA 98072, 425.486.1252

PROJECT 6656
DRAWN SO
SCALE AS NOTED
DATE 8-23-24
REVISED 01-27-25
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FIGURE 2: SITE PLAN
SEASCAPE HOMES
FOREST AVE - BUFFER MITIGATION PLAN
MERCER ISLAND, WASHINGTON
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PLANT SCHEDULE

TREES

KEY	SCIENTIFIC NAME	COMMON NAME	SPACING	QTY	SIZE (MIN.)	NOTES
AC	ACER CIRCINATUM	VINE MAPLE	9' O.C.	3	2 GAL.	MULTI-STEM (3 MIN.)
CC	CORYLUS CORNUTA	WESTERN HAZELNUT	9' O.C.	2	2 GAL.	MULTI-STEM (3 MIN.)
PM	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	9' O.C.	1	2 GAL.	FULL & BUSHY

SHRUBS

KEY	SCIENTIFIC NAME	COMMON NAME	SPACING	QTY	SIZE (MIN.)	NOTES
HD	HOLODISCUS DISCOLOR	OCEAN SPRAY	5' O.C.	7	1 GAL.	MULTI-STEM (3 MIN.)
M	MAHONIA AQUIFOLIUM	TALL OREGON GRAPE	3' O.C.	12	1 GAL.	FULL & BUSHY
RS	RIBES SANUINEUM	RED FLOWERING CURRANT	5' O.C.	12	1 GAL.	MULTI-STEM (3 MIN.)
N	ROSA NUTKANA	NOOTKA ROSE	3' O.C.	9	1 GAL.	MULTI-STEM (3 MIN.)
S	SYMPHORICARPOS ALBUS	SNOWBERRY	3' O.C.	20	1 GAL.	MULTI-STEM (3 MIN.)
V	VACCINIUM OVATUM	EVERGREEN HUCKLEBERRY	3' O.C.	37	1 GAL.	FULL & BUSHY

GROUNDCOVER

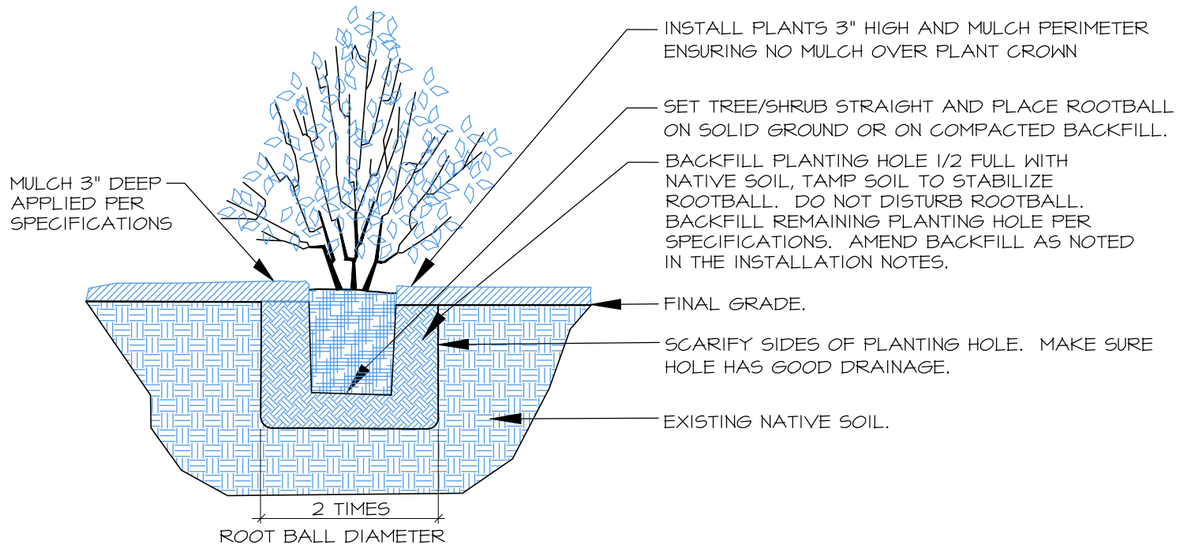
KEY	SCIENTIFIC NAME	COMMON NAME	DENSITY	QTY	SIZE (MIN.)	NOTES
	FRAGARIA CHILOENSIS	COAST STRAWBERRY	2' O.C.	75	1 GAL.	FULL & BUSHY
	GAULTHERIA SHALLON	SALAL	2' O.C.	35	1 GAL.	FULL & BUSHY

PROJECT 6656
DRAWN SO
SCALE AS NOTED
DATE 8-23-24
REVISED 01-27-25
4/5

FIGURE 4: PLANT SCHEDULE
SEASCAPE HOMES
FOREST AVE - BUFFER MITIGATION PLAN
MERCER ISLAND, WASHINGTON
PARCEL 1410300057

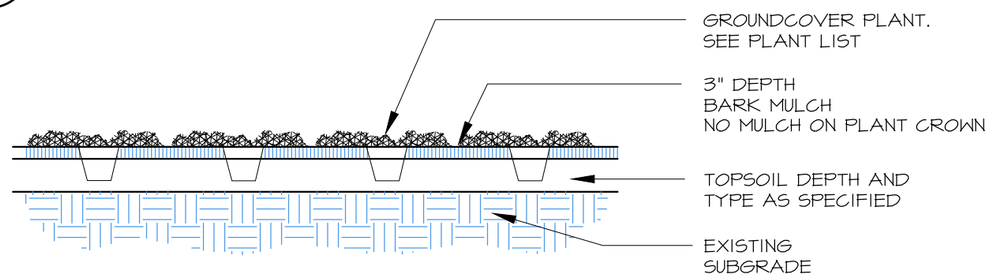
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1 CONTAINER TREE/SHRUB PLANTING (TYP.)

SCALE: NTS



2 GROUNDCOVER PLANTING (TYP.)

SCALE: NTS

SPECIFICATIONS

1. PRIOR TO PLANTING, ALL NON-ORGANIC DEBRIS AND NON-NATIVE, INVASIVE VEGETATION SHALL BE HAND-REMOVED AND EXPORTED OFF SITE.
2. PRIOR TO PLANTING, ALL NON-NATURAL MATERIALS SHALL BE REMOVED (GRAVEL, ROCK, CONCRETE) FROM EXISTING CLEARED AREAS. A 4" LIFT OF IMPORTED CEDAR GROVE 3-WAY TOPSOIL SHALL BE PLACED AND LIGHTLY RAKED INTO THE TOP 4" OF SUBGRADE PRIOR TO PLANTING.
3. ALL PLANTS SHOULD BE INSTALLED BETWEEN DECEMBER 1ST AND MARCH 15TH.
4. ALL PLANTS SHALL BE PIT-PLANTED IN PLANTING PITS EXCAVATED 2X THE DIAMETER OF THE PLANT. PITS SHALL BE BACKFILLED WITH A 30/70 MIX OF STEERCO TO NATIVE SOIL. PLANTS SHALL BE INSTALLED 2" HIGH AND SURFACED MULCHED TO A DEPTH OF 3" WITH HOG-FUEL PLACED CONTINUOUSLY THROUGHOUT THE PLANTING BED.
5. ALL PLANTS SHALL BE NURSERY GROWN (IN W. WA OR OR.) FOR AT LEAST 1 YEAR FROM PURCHASE DATE, FREE FROM DISEASE OR PESTS, WELL-ROOTED, BUT NOT ROOT-BOUND AND TRUE TO SPECIES.
6. LANDSCAPE CONTRACTOR TO INSTALL DRIP OR LOW-FLOW IRRIGATION SYSTEM CAPABLE OF HEAD TO HEAD COVERAGE OF ALL PLANTINGS.
7. ALL PLANTINGS SHALL BE IRRIGATED AT A RATE OF ½" OF FLOW 2-3 TIMES WEEKLY, FROM JUNE 15-OCT 15 THE FIRST YEAR AFTER PLANTING. THE SECOND YEAR, FLOW SHOULD BE REDUCED TO PROVIDE ½" OF FLOW 1-2 TIMES WEEKLY FROM JULY 1-SEPT 30. THE SYSTEM CAN BE REMOVED AFTER 3 YEARS.
8. UPON APPROVAL OF PLANTING INSTALLATION BY AOA, MERCER ISLAND WILL BE NOTIFIED TO CONDUCT A SITE REVIEW FOR FINAL APPROVAL OF CONSTRUCTION.
9. MAINTENANCE SHALL BE IMPLEMENTED ON A REGULAR BASIS ACCORDING TO THE SCHEDULE BELOW.
10. MONITORING AND MAINTENANCE SHALL BE COMPLETED IN MARCH, MAY JULY AND SEPTEMBER PER THE APPROVED STREAM BUFFER REDUCTIONS AND ENHANCEMENT REPORT PREPARED BY AOA.

ANNUAL MAINTENANCE SCHEDULE

MAINTENANCE ITEM	J	F	M	A	M	J	J	A	S	O	N	D
WEED CONTROL			1		1		1		1			
GENERAL MAINT.			1		1		1		1			
WATERING - YEAR 1						4-6	8-12	8-12	8-12	4-6		
WATERING - YEAR 2							4-8	4-8	4-8			

1-8 = NUMBER OF TIMES TASK SHALL BE PERFORMED PER MONTH.

MAINTENANCE WILL INCLUDE:

1. REMOVAL OF NON-NATIVE PLANTS, BY HAND, AS LISTED ABOVE.
2. CONTINUED APPLICATION OF IRRIGATION, AS NOTED ABOVE.
3. REMOVAL OF PEST INFESTATIONS, LIKE TENT CATERPILLAR AND SPRUCE APHID.
4. THINNING OF RED ALDER AND MOWING OF TALL GRASSES, AS DIRECTED BY AOA TO ENSURE SURVIVAL OF PLANTED SPECIES.

PROJECT 6656
DRAWN SO
SCALE AS NOTED
DATE 8-23-24
REVISED 01-27-25
5/5

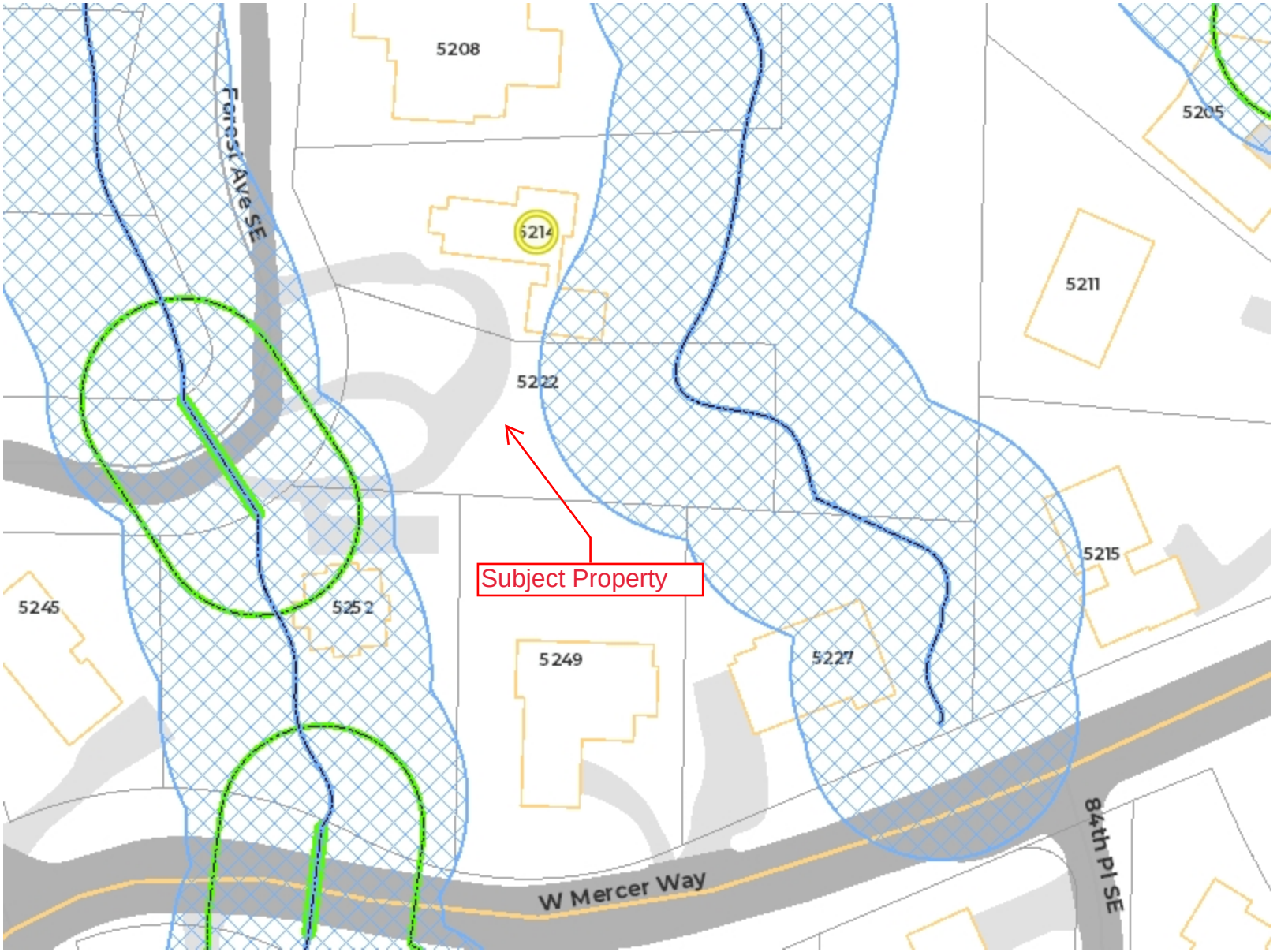
FIGURE 5: PLANTING DETAILS & SPECIFICATIONS
SEASCAPE HOMES
FOREST AVE - BUFFER MITIGATION PLAN
MERCER ISLAND, WASHINGTON
PARCEL 1410300057

Altmann Oliver Associates, LLC
AOA Environmental Planning & Landscape Architecture
PO Box 578 Carnation, WA 98014 Office (425) 333-4535 Fax (425) 333-4569

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City of Mercer Island

Information & Geographic Services





Legend

- Unpiped Watercourse
  - Type "F" = Fish
  - Type "Np" = Non-Fish
  - Type "Ns" = Non-Fish Seasonal
  - Type "Np" (Unverified)
  - Type "Ns" (Unverifed)
- Piped Watercourse
- Watercourse Buffer/Setback
  - Type "F" = 120-Ft Buffer
  - Type "Np" = 60-Ft Buffer
  - Type "Ns" = 60-Ft Buffer
  - Type "Np" Unverifed = 60-Ft Buffer
  - Type "Ns" Unverified = 60-Ft Buffer
  - Piped Type F/Np/Ns = 45-Ft Setbac
- Address
- Building
- Property Line
- Docks
- Freeway
- Major Street
- Street
- Paved Driveway
- Paved Road
- Paved Parking Area
- Parks
- Lake Washington

0 67 134 Feet

1 inch = 133.6960385 feet

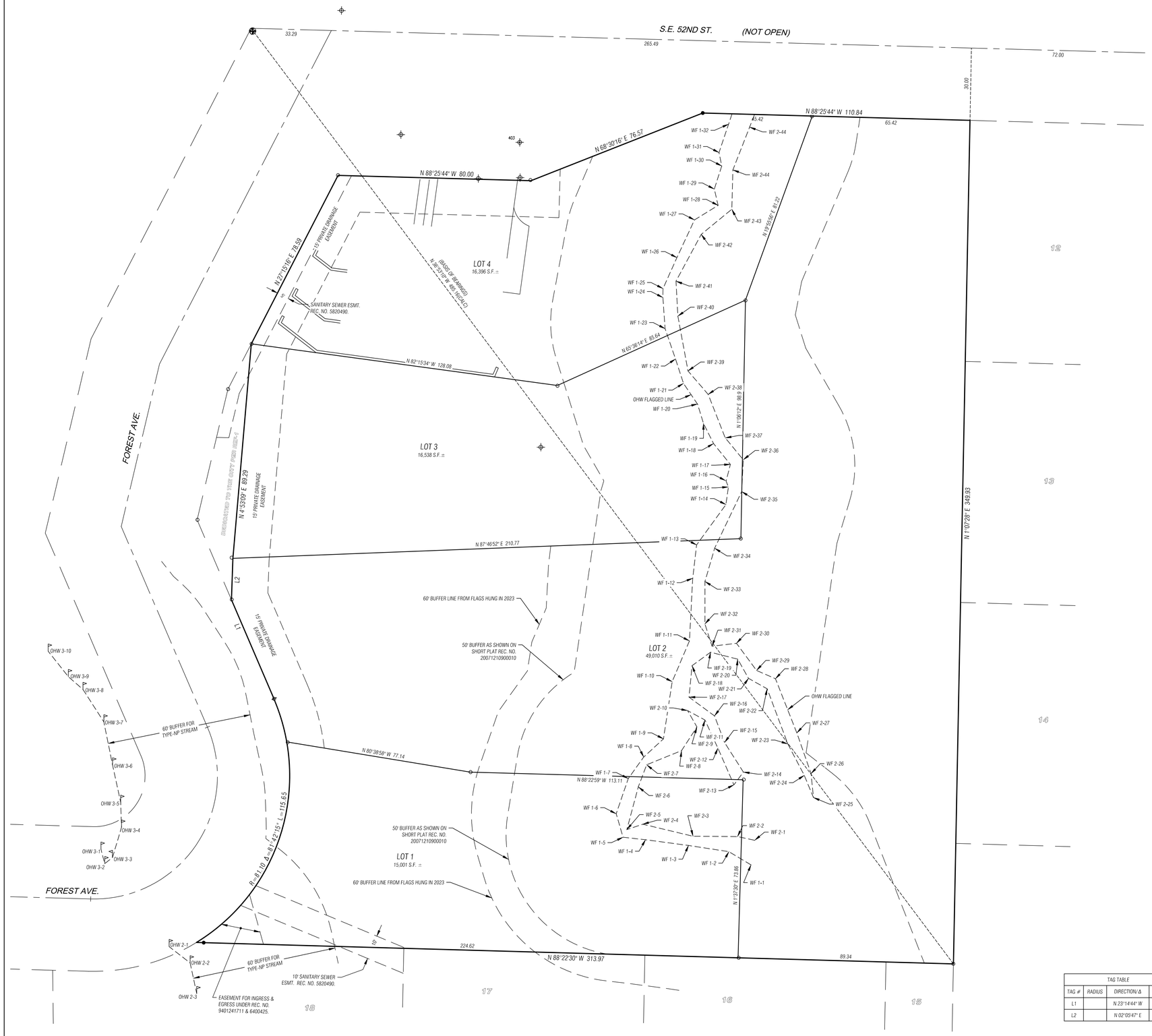
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Map Printed: June 13, 2024

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Notes

SE1/4, NE1/4, SEC. 24, TWP. 24 N., RGE. 4 E., W.M.



TAG TABLE			
TAG #	RADIUS	DIRECTION/Δ	LENGTH
L1		N 23°14'44" W	44.63
L2		N 02°05'47" E	17.18

0 20 40

SCALE: 1" = 20'

MERIDIAN

STATE PLANE COORDINATE SYSTEM - NORTH ZONE NAD83 (2011)
BASED ON RAPID STATIC GPS MEASUREMENTS WITH OPUS SOLUTION.

VERTICAL DATUM

NAVD 88 (GEOID 18)
BASED ON RAPID STATIC GPS MEASUREMENTS WITH OPUS SOLUTION.

BENCHMARKS

TBM-A
FOUND 4"X4" CONC MON WITH 2" BRASS DISC " LS#2534" WITH PUNCH 0.3' BELOW GRADE IN CASE 69.6' NW OF NW PROP CORNER.
ELEV. = 104.53'

TBM-B
FOUND 1/2" REBAR AND MGA CONTROL CAP AT W SIDE FOREST DRIVE , 0.5'W OF WEST EDGE ASPHALT PAVEMENT AND 15.5'W OF CB-5078 .
ELEV. = 113.94'

NOTES

1. A 5" ELECTRONIC TOTAL STATION WAS USED FOR THIS FIELD TRAVERSE SURVEY. ALL EQUIPMENT HAS BEEN MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S GUIDELINES. ACCURACY MEETS OR EXCEEDS W.A.C. 332-130-090.
2. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT.
3. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY MADE ON THE DATE INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITION EXISTING AT THAT TIME. ALL CONTROL INDICATED AS "FOUND" WAS RECOVERED FOR THIS PROJECT IN FEBRUARY 18, 2020, UNLESS OTHERWISE NOTED.
4. UNDERGROUND UTILITIES WERE LOCATED BASED ON SURFACE EVIDENCE (I.E. PAINT MARKS, SAW CUTS IN PAVEMENT, COVERS, LIDS, ETC.). THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION, ELEVATION, AND SIZE OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
5. TREE SIZES AND SPECIES WERE DETERMINED TO THE BEST OF OUR ABILITY. MEAD GILMAN AND ASSOCIATES DOES NOT WARRANT THE ACCURACY OF THE SIZE AND SPECIES OF ANY TREES SHOWN HEREON. ALL TREE SIZES SHOULD BE VERIFIED BY A TRAINED ARBORIST.
6. THIS MAP DOES NOT TO INTEND SHOW ALL EASEMENTS OF RECORD.
7. ALL CONTOUR INFORMATION EAST OF THE NATIVE GROWTH PROTECTION AREA BOUNDARY WAS GENERATED FROM PUBLIC LIDAR DATA.
8. FLAGS AT OHW ARE SET BY ALTMANN OLIVER ASSOCIATES, LLC IN JANUARY OF 2023
9. THIS UPDATE TO THE TOPOGRAPHIC SURVEY IS INTENDED TO JUST SHOW THE NEW BUFFER AND ORDINARY HIGH WATER FLAGS. NO ATTEMPT TO UPDATE ANY OTHER ASPECT OF THE MAP HAS BEEN DONE.

LEGAL DESCRIPTION

LOTS 1-4, KNUTSON SHORT PLAT, MERCER ISLAND SHORT PLAT NO SUB07-003 AS RECORDED UNDER REC. NO. 20071210900010.

REFERENCES

1. ROS REC. NO. 20071210001864, VOL. 236, PG. 232.
2. MERCER ISLAND SHORT PLAT NO SUB07-003, REC. NO. 2007121090001.

LEGEND

- SET 1/2" X 24' REBAR WITH YELLOW PLASTIC CAP STAMPED "MGA 35145 48383"
- FOUND CORNER
- FOUND MONUMENT
- TEMPORARY BENCHMARK
- GAS VALVE
- ELECTRICAL JUNCTION BOX
- UTILITY POLE
- CATCH BASIN - TYPE I
- CATCH BASIN - TYPE II
- STORM CLEANOUT
- YARD DRAIN
- SEWER MANHOLE
- FIRE HYDRANT
- HOSE BIB
- WATER METER
- WATER VALVE
- BOLLARD
- SIGN
- SOIL TEST PIT
- CONIFEROUS TREE
- DECIDUOUS TREE
- ASPHALT
- FENCE LINE
- OHP — OVERHEAD POWER LINES
- SS — SANITARY SEWER LINE
- SD — STORM DRAIN LINE
- G — GAS LINE
- W — WATER MAIN
- ASPHALT HATCH
- CONCRETE HATCH
- DECK HATCH
- GRAVEL HATCH

C CEDAR
D DECIDUOUS
E ELM
H HEMLOCK
M MAPLE

CS CONC SLAB
FF FINISH FLOOR
FL FLOW LINE/ ASPH THICKENED EDGE
ST STAIRS
WF# WETLAND FLAG NUMBER
OHW FLAGED OVERHEAD WATER LINE

CHRISTOPHER SHANE STANLEY
STATE OF WASHINGTON
35145
REGISTERED
PROFESSIONAL LAND SURVEYOR

MEAD GILMAN
LAND SURVEYORS
P.O. BOX 289, WOODINVILLE, WA 98072 | PHONE: (425) 486-1252 | WWW.MEADGILMAN.COM

FOREST AVE LOTS
BOUNDARY & TOPOGRAPHIC SURVEY

SEASCAPE HOMES
PO BOX 40568
BELLEVUE WA 98015

DRAWN BY:	LSD
REVIEWED BY:	CSB
DATE:	03-11-2020
JOB NO.	20011
SHEET	1 OF 1

King County iMap



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Date: 6/19/2024 Notes:

N

King County

ATTACHMENT A
DATA SHEETS

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: Parcel 141030-0057 City/County: Mercer Island/ Sampling Date: 5-17-24
Applicant/Owner: Tellefson State: WA Sampling Point: DP#1
Investigator(s): John Altmann, Dain Altmann, Jason Panzera Section, Township, Range: S24,T24N,R4E
Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): concave Slope (%): ____
Subregion (LRR): A Lat: 47.5556 Long: -122.22801 Datum: ____
Soil Map Unit Name: AgC NWI classification: ____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐	No ☒	**Is the Sampled Area within a Wetland?**	**Yes** ☐	**No** ☒
Hydric Soil Present?	Yes ☐	No ☒			
Wetland Hydrology Present?	Yes ☐	No ☒			

Remarks: Upland plot, see map for location.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 10)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Thuja plicata*	100	yes	FAC
2. ____			
3. ____			
4. ____			
50% = 50, 20% = 20	100	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10)			
1. *Mahonia nervosa*	40	yes	FACU
2. *Oemleria cerasiformis*	40	yes	FACU
3. *Ilex aquifolium*	20	yes	FACU
4. ____			
5. ____			
50% = 50, 20% = 20	100	= Total Cover	
Herb Stratum (Plot size: 10)			
1. *Polystichum munitum*	10	yes	FACU
2. ____			
3. ____			
4. ____			
5. ____			
6. ____			
7. ____			
8. ____			
9. ____			
10. ____			
11. ____			
50% = 5, 20% = 2	10	= Total Cover	
Woody Vine Stratum (Plot size: 10)			
1. *Vinca minor*	10	yes	NL (UPL)
2. ____			
50% = 5, 20% = 2	10	= Total Cover	
% Bare Ground in Herb Stratum ____			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 16 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	____	x1 =	____
FACW species	____	x2 =	____
FAC species	____	x3 =	____
FACU species	____	x4 =	____
UPL species	____	x5 =	____
Column Totals:	____ (A)		____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

☐ 1 – Rapid Test for Hydrophytic Vegetation
☐ 2 - Dominance Test is >50%
☐ 3 - Prevalence Index is ≤3.0[1]
☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ 5 - Wetland Non-Vascular Plants[1]
☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☐ **No** ☒

Remarks:

Project Site: Parcel 141030-0057

SOIL Sampling Point: DP#1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR3/6	100					silt loam	

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks: no redoximorphic features

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stresses Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):

Water Table Present? Yes ☐ No ☒ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches):

Wetland Hydrology Present? **Yes** ☐ **No** ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: dry

GENERAL NOTES

1. CODE COMPLIANCE:
ALL WORK SHALL COMPLY WITH THE 2021 WSEC, 2021 IRC, 2021 IMC, 2021 IFGC, 2021 UPC, 2021 IFC, 2021 IPMC, 2020 NEC, 2021 IECC WITH WA STATE AMENDMENTS, 2009 ICC A117.1, AND ALL LOCAL CODES AND ORDINANCES.

2. DIMENSIONS:
DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION. NOTIFY THE ARCHITECT OF DISCREPANCIES. IF WORK IS STARTED PRIOR TO NOTIFICATION, THE GENERAL AND SUBCONTRACTOR PROCEED AT THEIR OWN RISK.
UNLESS OTHERWISE NOTED, PLAN DIMENSIONS ARE TO FACE OF STUDS OR FACE OF CONCRETE WALLS. FACE OF STONE VENEER LIES 6" +/- OUTSIDE THE FACE OF FRAMING. INTERIOR PLAN DIMENSIONS ARE TO FACE OF STUDS UNLESS OTHERWISE NOTED. VERIFY ALL ROUGH-IN DIMENSIONS FOR WINDOWS, DOORS, PLUMBING, ELECTRICAL FIXTURES AND APPLIANCES PRIOR TO COMMITMENT OF WORK. NOTIFY ARCHITECT OF ANY DISCREPANCIES OF DIMENSIONAL TOLERANCES REQUIRED.

3. DOCUMENT REVIEW/VERIFICATION:
CONSULT WITH ARCHITECT REGARDING ANY SUSPECTED ERRORS, OMISSIONS, OR CHANGES ON PLANS BEFORE PROCEEDING WITH THE WORK

4. ROUGH OPENINGS/BACKING:
VERIFY SIZE AND LOCATION, AS WELL AS PROVIDE ALL OPENINGS THROUGH FLOORS AND WALLS, FURRING, CURBS, ANCHORS, INSERTS, EQUIPMENT BASES AND ROUGH BUCKS/BACKING FOR SURFACE-MOUNTED ITEMS.

5. FURRING:
PROVIDE FURRING AS REQUIRED TO CONCEAL MECHANICAL AND/OR ELECTRICAL EQUIPMENT IN FINISHED AREAS. FURRING NOT SHOWN ON PLANS SHALL BE APPROVED BY ARCHITECT PRIOR TO CONSTRUCTION.

6. GRADES:
VERIFY ALL GRADES AND THEIR RELATIONSHIP TO THE BUILDING(S).

7. FLOOR LINES:
FLOOR LINE" REFERS TO TOP OF CONCRETE SLAB OR TOP OF WOOD SUBFLOOR.

8. REPETITIVE FEATURES:
OFTEN DRAWN ONLY ONCE AND SHALL BE PROVIDED AS IF FULLY DRAWN.

9. DOORS:
DOORS NOT DIMENSIONALLY LOCATED SHALL BE 6" FROM STUD FACE TO EDGE OF DOOR, ROUGH OPENING OR CENTERED BETWEEN WALLS AS SHOWN.

10. WOOD MEMBERS IN CONTACT WITH CONCRETE, AND/OR EXPOSED TO WEATHER:
TO BE PRESSURE TREATED, TYPICAL. PROVIDE PRESSURE TREATED SILL PLATE IF FINISH GRADE IS WITHIN 8", TYPICAL.

11. FRAMING:
ALL NEW INTERIOR FRAME PARTITIONS TO BE 2X4 @ 16" O.C., & ALL NEW EXTERIOR FRAME PARTITIONS TO BE 2X6 @ 16" O.C., UNLESS OTHERWISE NOTED. VERIFY W/ STRUCTURAL DRAWINGS. EXISTING EXTERIOR WALLS ARE 2X4 STUDS @ 16" O.C., AND ARE TO REMAIN. NEW INTERMEDIATE FRAMING AT EXTERIOR WOOD WALLS REQUIRES HEADERS INSULATED WITH A MIN. R-10 INSULATION.

12. VENTILATION:
VENT ALL BATHROOM FANS, LAUNDRY FANS, RANGE HOODS AND DRYERS TO OUTSIDE ATMOSPHERE. BATHROOM/UTILITY ROOM FANS SHALL BE CAPABLE OF 5 AIR CHANGES PER HOUR AND SHALL BE VENTED DIRECTLY TO THE OUTSIDE THROUGH SMOOTH, RIGID, NON-CORROSIVE METAL, 24 GA. DUCTWORK. FLEX DUCTING IS NOT ALLOWED. WSEC R402.4.1.2 REQUIRES THE DWELLING UNIT TO BE TESTED AND VERIFIED AS HAVING AN AIR LEAKAGE RATE NOT EXCEEDING 1.5 AIR CHANGES PER HOUR. TESTING MUST BE CONDUCTED WITH A BLOWER DOOR AT A PRESSURE OF 0.2. NEW CONSTRUCTION MAY BE ISOLATED FROM EXISTING STRUCTURE FOR TESTING.

13. FLUES:
FLUES TO BE LOCATED MINIMUM 2" FROM ALL COMBUSTIBLE MATERIALS.

14. DOWNSPOUTS:
LOCATE NEW DOWNSPOUTS AS SHOWN ON ROOF PLAN, FLOOR PLANS & ELEVATIONS.

15. OTHER DOCUMENTATION:
REFER TO STRUCTURAL, MECHANICAL, ELECTRICAL, AND/OR LANDSCAPE DRAWINGS FOR ADDITIONAL DRAWINGS, NOTES, SCHEDULES, AND SYMBOLS.

16. PROTECTION:
PROTECT ALL EXISTING FINISHES AND SURFACES. ANY DAMAGE WILL BE REPAIRED WITHOUT ADDITIONAL COST TO OWNER.

17. PERMITS:
SEPARATE ELECTRICAL, MECHANICAL, AND PLUMBING PERMITS ARE REQUIRED IN ADDITION TO THE BASIC BUILDING PERMIT

18. ROOFING:
PROVIDE NEW ROOFING TO MATCH EXISTING.

19. EXHAUST DUCTS:
PROVIDE BACKDRAFT DAMPERS AT ALL EXHAUST DUCTS. PROVIDE COMBUSTION AIR OPENINGS INTO FURNACE ROOM PER UMC 703.

20. APPLIANCES:
CLEARANCES OF UL LISTED APPLIANCES FROM COMBUSTIBLE MATERIALS SHALL BE AS SPECIFIED IN UL LISTING.

21. WATER FLOW:
SHOWER SHALL BE EQUIPPED WITH FLOW CONTROL DEVICE TO LIMIT WATER FLOW TO 1.8 GALLONS PER MINUTE.

22. SMOKE DETECTORS:
SMOKE & CARBON MONOXIDE THROUGHOUT NEW CONSTRUCTION. TO BE MONITORED PER FIRE DEPARTMENT REQUIREMENTS. NFPA 72 CHAPTER 29 MONITORED FIRE ALARM SYSTEM PER CoMI STANDARDS. SEPARATE PERMIT REQUIRED.

23. FIREBLOCKING:
FIREBLOCKING SHALL BE PROVIDED IN WOOD-FRAMED CONSTRUCTION PER 2021 IRC SECTION R302.11: 1) IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, SPECIFICALLY VERTICALLY @ CEILING AND FLOOR LEVELS; AND HORIZONTALLY @ INTERVALS NOT EXCEEDING 10 FEET. 2) AT INTERCONNECTIONS BETWEEN CONCEALED VERTICAL AND HORIZONTAL SPACES. 3) IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT T.O. & B.O. RUN. 4) AT OPENINGS AROUND VENTS, PIPES, ETC. AT CEILING AND FLOOR LEVEL.

24. ADDITIONAL FIRE CODE ALTERNATES:
INSTALLATION OF 1-HR RATED GYPSUM IN ALL AREAS. PROVIDE SOLID CORE OR FIRE RATED DOORS. ⚠

ENERGY NOTES

CLIMATIC ZONE: ZONE #4C -MARINE

THERMAL STANDARDS FOR OPENINGS: UNLIMITED OPTION

CODE: 2021 W.S.E.C. & 2021 IRC, WAC 51-11R

SPACE HEAT TYPE: ELECTRIC AIR SOURCE HEAT PUMP

INSULATION VALUES: PRESCRIPTIVE METHOD

WALLS:	R-21+R-5 ci
FLAT ATTICS/CEILINGS:	R-60
VAULTED CEILINGS:	R-38
FLOORS (OVER UNHEATED SPACES):	R-38
SLAB-ON-GRADE:	R-10

PER WSEC R401.3, A CERTIFICATE IS REQUIRED TO BE POSTED IN AN APPROVED LOCATION. IT MUST INCLUDE THE FOLLOWING: PREDOMINATE R-VALUES, U-VALUES OF FENESTRATION, RESULTS FROM DUCT SYSTEM AND BUILDING ENVELOPE AIR LEAKAGE TESTING, THE EFFICIENCIES OF HEATING/COOLING/WATER HEATING EQUIPMENT AND THE CODE EDITION UNDER WHICH THE STRUCTURE WAS PERMITTED.

AIR INFILTRATION:
MANUFACTURED DOORS/WINDOWS: CONFORM TO SECTION R402.4.2 OF THE WASHINGTON STATE ENERGY CODE

EXTERIOR JOINTS/OPENINGS: SEAL, CAULK, GASKET OR WEATHERSTRIP TO LIMIT AIR LEAKAGE AT EXTERIOR JOINTS AROUND WINDOW AND DOOR FRAMES, OPENINGS BETWEEN WALLS AND FOUNDATION, BETWEEN WALLS AND ROOF; OPENINGS AT PENETRATIONS OF UTILITY SERVICES AND ALL OTHER SUCH OPENINGS IN THE BUILDING ENVELOPE.

MOISTURE CONTROL:
WALLS: VAPOR RETARDER BONDED TO BATT INSULATION; INSTALL WITH STAPLES NOT MORE THAN 8 INCHES ON CENTER AND WITH A GAP BETWEEN AND OVER FRAMING NOT GREATER THAN 1/16 OF AN INCH; OR, VAPOR RETARDER OF ONE PERM CUP RATING (4 MIL POLYETHYLENE).

ATTICS/CEILINGS: VAPOR RETARDER OF ONE PERM CUP RATING (4 MIL POLYETHYLENE). INSTALL CONTINUOUSLY.

CRAWL SPACE: 10 MIL POLYETHELENE.

VENTILATION:
ATTICS WITH LOOSE FILL: N.A. BAFFLE VENT OPENINGS TO DEFLECT AIR ABOVE INSULATION SURFACE.
ENCLOSED JOIST OR RAFTER SPACES: PROVIDE MINIMUM OF ONE INCH CLEAR VENTED AIR SPACE ABOVE INSULATION. TAPER OR COMPRESS INSULATION AT PERIMETER TO INSURE PROPER VENTILATION, MAINTAINING MINIMUM OF R-38.

HEATING & COOLING:
ELECTRIC AIR SOURCE HEAT PUMP.

TEMP. CONTROL:
FOR HEATING AND COOLING, THERMOSTAT SHALL BE CAPABLE OF BEING SET FROM 55-85 DEGREES FAHRENHEIT AND OF OPERATING THE HEATING/COOLING SYSTEM IN SEQUENCE. THERMOSTAT TO BE AUTOMATIC DAY/NIGHT SETBACK TYPE AND 7-DAY PROGRAMMABLE.

DUCT INSULATION:
THERMALLY INSULATE ALL PLENUMS, DUCTS AND ENCLOSURES IN ACCORDANCE WITH SECTION R403.3 OF THE 2021 WSEC.

a. ALL HEATING DUCTS OUTSIDE THE BUILDING THERMAL ENVELOPE SHALL BE INSULATED WITH A MIN. OF R-8. ALL SEAM JOINTS SHALL BE TAPED, SEALED AND FASTENED WITH THE MINIMUM OF FASTENERS PER WSEC.
b. DUCTS WITHIN A CONCRETE SLAB OR IN THE GROUND SHALL BE INSULATED TO R-10 WITH INSULATION DESIGNED TO BE USED BELOW GRADE.

LIGHTING:
RECESSED LIGHTING FIXTURES INSTALLED IN BUILDING ENVELOPE SHALL COMPLY WITH WSEC PROVISIONS AND SHALL BE IC LISTED. ALL PERMANENTLY INSTALLED LAMPS IN INTERIOR AND EXTERIOR LIGHTING FIXTURES, EXCLUDING KITCHEN APPLIANCE LIGHTING FIXTURES, MUST BE HIGH-EFFICACY LAMPS, PER 2021 WSEC R404.1, AND MUST BE CONTROLLED PER 2021 WSEC R404.2.

PIPE INSULATION:
ALL HOT WATER PIPES AND NON-RECIRCULATING COLD WATER PIPES LOCATED IN UNCONDITIONED SPACE SHALL BE INSULATED TO R-6 MIN. PLUMBING OR MECHANICAL CANNOT DISPLACE THE REQUIRED INSULATION.

PLUMBING FIXTURES:
ALL PLUMBING FIXTURES SHALL CONFORM TO WAC 51-56-0400

ALL TOILETS 1.28 GPM MAX	URINALS 1.0 GPF MAX
SHOWERHEADS <1.8 GPM	KITCHEN FAUCETS <1.8 GPM
LAVATORIES < 1.2 GPM	

WHOLE HOUSE VENTILATION

a. WHOLE HOUSE VENTILATION SHALL BE PROVIDED BY ERV/HRV W/ INTEGRAL FANS, PROVIDING MIN. 88 CFM RUNNING CONTINUOUSLY PER 2021 IRC TABLES M1505.4.3 (1&2). FAN SHALL BE LESS THAN .35 WATTS PER CFM AND RUN CONTINUOUSLY, AND HAVE A SONE RATING OF LESS THAN 1.0. VENTILATION SHALL BE ABLE TO OPERATE INDEPENDENTLY OF HEATING SYSTEM.

b. SYSTEM SHALL HAVE A 5"Ø SMOOTH FRESH AIR DUCT W/ LOUVER & SCREEN CONNECTED TO THE RETURN AIR STREAM 4' UPSTREAM OF THE AIR HANDLER AND SOUND INSULATED. ALL SUPPLY AND RETURN DUCTS IN INTERIOR SPACES SHALL ALSO BE INSULATED FOR SOUND.

c. SHALL HAVE A FILTER WITH A MERV OF AT LEAST 6 INSTALLED IN AN EASILY ACCESSIBLE LOCATION.

d. FRESH AIR VENT SHALL BE LOCATED AWAY FROM SOURCES OF ODORS OR FUMES, MIN 10' FROM PLUMBING OR APPLIANCE VENTS, AWAY FROM ROOMS W/ FUEL BURNING APPLIANCES, AND OUT OF ATTICS, CRAWL SPACES, AND GARAGES.

e. AIRFLOW FOR WHOLE HOUSE VENTILATION SHALL BE PROVIDED BY UNDERCUTTING INTERIOR DOORS 1/2" ABOVE FINISHED FLOOR, TYP.

f. WHOLE HOUSE VENTILATION SHALL BE TESTED, BALANCED AND VERIFIED AND A WRITTEN REPORT SHALL BE POSTED AND PROVIDED THE BUILDING OFFICIAL AND CERTIFICATION COMPLETED PER WSEC R403.6.2.

g. AN EXHAUST FAN WHOLE HOUSE VENTILATION IS NOT ALLOWED WITH AN ERV SYSTEM.

BEDROOMS	5
HEATED SQUARE FOOTAGE	4326 SF
AIRFLOW (CFM)	88 CFM MIN.

PROJECT DATA

PROJECT ADDRESS:	5222 FOREST AVE SE MERCER ISLAND 98040
PROPERTY TAX ID NUMBER:	141030-0057
SCOPE OF WORK:	CONSTRUCTION OF NEW TWO-STORY SINGLE FAMILY RESIDENCE WITH ATTACHED GARAGE
ZONING:	R-15
CONSTRUCTION TYPE:	TYPE V B
SEISMIC ZONE:	3
NUMBER OF STORIES:	2 STORIES
FIRE PROTECTION:	NFPA 13R FIRE SPRINKLERS
BUILDING HEIGHT	MAX. 30 FT ABOVE AVERAGE BUILDING ELEV.
GROSS FLOOR AREA	12,000 SF OR 40 % LOT AREA, WHICHEVER IS LESS
LOT AREA:	15,001 SF
SETBACKS:	FRONT: 20' SIDE: 15' TOTAL, MIN. 5' REAR: 10' FROM 60' NGPA BUFFER

PROJECT TEAM

OWNER:
SEASCAPE HOMES, LLC
PO BOX 40568
BELLEVUE, WA 98015
PHONE: 206.972.9950
CONTACT: JON TELLEFSON

ARCHITECT:
STURMAN ARCHITECTS, INC.
9 - 103RD AVE NE SUITE 203
BELLEVUE, WA 98004
PHONE: 425.451.7003
CONTACT: BRAD STURMAN

CIVIL ENGINEER:
PATRICK HARRON & ASSOCIATES, LLC
14900 INTERURBAN AVE S., SET. 279
SEATTLE, WA 98168
PHONE: 206.674.4659
CONTACT: SCHWIN CHAOSILAPAKUL

CONTRACTOR:
SEASCAPE HOMES, LLC
PO BOX 40568
BELLEVUE, WA 98015
PHONE: 206.972.9950
CONTACT: JON TELLEFSON

GEOTECHNICAL ENGINEER:
GEOTECH CONSULTANTS, INC.
2401 10TH AVE EAST
SEATTLE, WA 98102
PHONE: 425.747.5618
CONTACT: JAMES STRANGE

STRUCTURAL ENGINEER:
LONGITUDE120 ENGINEERING
-
-
PHONE: 206.790.9502
CONTACT: MANS THURFJELL

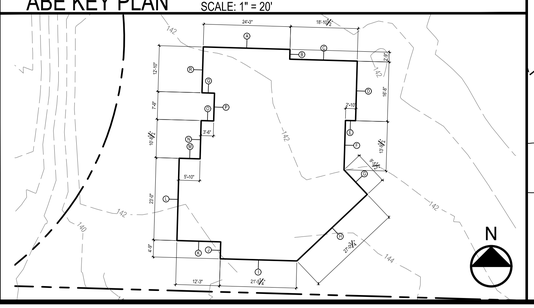
AVERAGE BUILDING ELEV.

AVERAGE BUILDING ELEVATION

	Wall Length	Elevation Pt.	Wall Length X Elev. Pt.
A	24.58	141.5	3478.07
B	2.75	141.0	387.75
C	18.875	140.5	2651.9375
D	16.67	140.5	2342.135
E	2.83	141.5	400.445
F	13.79	141.5	1951.285
G	9.46	142.0	1343.32
H	27.08	144.0	3899.52
I	21.42	142.5	3052.35
J	4.75	142.0	674.5
K	12.25	142.0	1739.5
L	23	142.0	3266
M	5.5	142.0	781
N	10.71	142.0	1520.82
O	3.5	142.0	497
P	7.75	142.0	1100.5
Q	3.5	142.0	497
R	12.83	142.0	1821.86
	221.245	**2553.0**	**31404.99**
31404.99	**141.95**	**Average Building Elevation**	
221.245			

ABE KEY PLAN

SCALE: 1" = 20'



SHEET INDEX

A1.0 COVER SHEET - GENERAL & ENERGY NOTES, LEGAL, PROJECT DATA, CUT-FILL CALC, INDEX, SITE PLAN
A1.1 FULL SITE PLAN
A1.2 REPLACEMENT TREE PLAN
SURVEY
C1.0 COVER SHEET AND SITE PLAN
C2.0 DEMO & TESC PLAN
C2.1 TESC DETAILS
C3.0 GRADING, STORM, DRAINAGE & UTILITY PLAN
C3.1 STORM DRAINAGE DETAILS FOR LOT 2
C3.2 UTILITY DETAILS
A2.0 MAIN FLOOR PLAN
A2.1 UPPER FLOOR
A2.2 ROOF PLAN
A3.0 EXTERIOR ELEVATIONS
A3.1 EXTERIOR ELEVATIONS
A4.0 BUILDING SECTIONS
A4.1 BUILDING SECTIONS
A4.2 BUILDING SECTIONS
A5.0 WALL SECTIONS
A6.0 ARCHITECTURAL DETAILS
S-0 COVER SHEET
S-1 STRUCTURAL GENERAL NOTES
S-2 FOUNDATION PLAN
S-3 FIRST FLOOR FRAMING PLAN
S-4 FIRST FLOOR WALL FRAMING & SHEAR WALL PLAN
S-5 SECOND FLOOR FRAMING PLAN
S-6 SECOND FLOOR WALL FRAMING & SHEAR WALL PLAN
S-7 ROOF FRAMING PLAN
SD-1 STRUCTURAL DETAILS
SD-2 STRUCTURAL DETAILS

2021 WSEC CREDITS

PROJECT IS A NEW RESIDENCE GREATER THAN 1500 SQ FT OF CONDITIONED AREA & LESS THAN 5000 SQ FT OF CONDITIONED AREA, AND SO IS A MEDIUM DWELLING UNIT REQUIRING 8.0 CREDITS

OPTION	CREDITS	DESCRIPTION
4	3.0	-HEAT PUMP EFFICIENCY (AIR COOLED) 14.3 SEER2, HSPF2 8.5
1.2	1.0	-VERTICAL FENESTRATION U = .28, FLOOR=R-38 -R-10 RIGID INSULATION ENTIRE PERIMETER AND UNDER ENTIRE SLAB
2.2	1.5	-REDUCE TESTED AIR LEAKAGE TO 1.5 AIR CHANGES PER HOUR MAX. AT 50 PASCALS -WHOLE HOUSE VENTILATION REQS MET W/ HEAT RECOVERY SYSTEM W/ MIN. EFFICIENCY OF 0.75, MIN. 88 CFM
3.3	0.5	-AIR SOURCE, CENTRALLY DUCTED HEAT PUMP W/ MIN. HSPF OF 9.5, HSPF2 8.5.
3.11	0.5	-CONNECTED THERMOSTAT MEETING ENERGY STAR CERTIFIED SMART THERMOSTATS/EPA ENERGY STAR SPECIFICATIONS.
5.4	1.0	-ENERGY STAR RATED GAS OR PROPANE WATER HEATER W/ A MIN. UEF OF 0.91
7.1	0.5	-ENERGY STAR RATED REFRIGERATOR, DISHWASHER, WASHING MACHINE, DRYER.
TOTAL CREDITS	8	

*PLEASE NOTE: ALL APPLIANCES SHALL BE INSTALLED WITH SUPPORTING DOCUMENTATION ON SITE PRIOR TO FINAL INSPECTION. NO DRYER DUCTS OR DRYER VENT CAPS SHALL NOT BE INSTALLED

LEGEND

- FINISH CONTOUR LINES
- DEMO CONTOUR LINES
- SILT FENCE
- TREE PROTECTION FENCING
- POWER LINE
- GAS LINE
- WATER LINE
- SANITARY SEWER LINE
- STORM DRAIN LINE
- AREA OF LOT COVERAGE
- AREA OF HARDSCAPE
- AREA OF NGPA

LEGAL DESCRIPTION

LOTS 1-4, KNUTSON SHORT PLAT, MERCER ISLAND SHORT PLAT NO SUB07-003 AS RECORDED UNDER REC. NO. 20071210900010.

CARRS LAKE SIDE ADD "LOT 2" MERCER ISLAND SHORT PLAT NO SUB07-003 REC NO 20071210900010 SD SHORT PLAT DAF -- LOTS 12,13,14,15,16,17 AND 18 OF CARR'S LAKE SIDE ADDITION PLAT LESS THE EAST 72.00 FT OF LOTS 12,13,14 AND 15 & ALSO LESS POR LY SOUTH OF A LN DRWN PLW AND 50.00 FT SOUTH OF WHEN MEAS AT R/A TO NORTH LN OF LOTS 15-16-17 AND 18

TREE PROTECTION

A TREE PROTECTION INSPECTION IS REQUIRED BEFORE START OF WORK

DUTY OF COOPERATION

RELEASE AND ACCEPTANCE OF THESE DOCUMENTS INDICATES COOPERATION AMONG THE OWNER, CONTRACTOR, AND STURMAN ARCHITECTS. ANY ERRORS, OMISSIONS, OR DISCREPANCIES DISCOVERED IN THE USE OF THESE DOCUMENTS SHALL BE REPORTED IMMEDIATELY TO STURMAN ARCHITECTS. FAILURE TO DO SO WILL RELIEVE STURMAN ARCHITECTS FROM ANY RESPONSIBILITY FOR THE CONSEQUENCES.

ANY DEVIATION FROM THESE DOCUMENTS WITHOUT THE CONSENT OF STURMAN ARCHITECTS IS UNAUTHORIZED. FAILURE TO OBSERVE THESE PROCEDURES SHALL RELIEVE STURMAN ARCHITECTS OF RESPONSIBILITY FOR ALL CONSEQUENCES ARISING FROM SUCH ACTIONS.

GEOTECH ENGINEER

GEOTECHNICAL ENGINEER REQUIRED TO BE PRESENT ON SITE DURING EXCAVATION AND AT REGULAR INTERVALS DURING CONSTRUCTION TO MONITOR THE STABILITY OF THE TEMPORARY OPEN CUT EXCAVATIONS PROPOSED FOR SITE RETAINING WALLS AND RESIDENTIAL STRUCTURE EXCAVATIONS.

NOXIOUS WEEDS

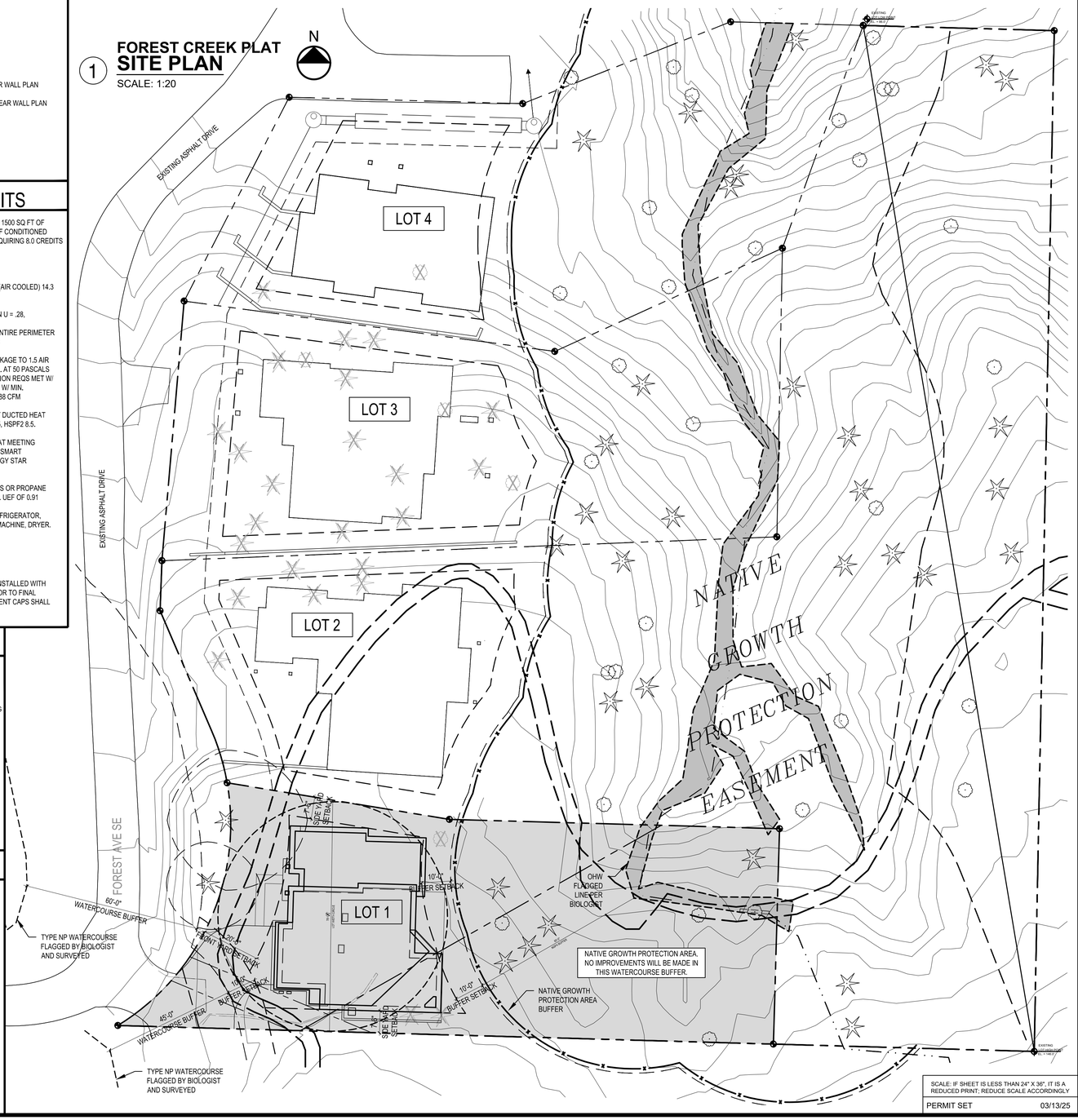
DEVELOPMENT PROPOSALS FOR A NEW SINGLE-FAMILY HOME SHALL REMOVE JAPANESE KNOTWEED (POLYGONUM CUSPIDATUM) AND REGULATED CLASS A, REGULATED CLASS B, AND REGULATED CLASS C WEEDS IDENTIFIED ON THE KING COUNTY NOXIOUS WEED LIST, AS AMENDED, FROM REQUIRED LANDSCAPING AREAS ESTABLISHED PURSUANT TO SUBSECTION 19.02.020(F)(3)(A). NEW LANDSCAPING ASSOCIATED WITH NEW SINGLE-FAMILY HOME SHALL NOT INCORPORATE ANY WEEDS IDENTIFIED ON THE KING COUNTY NOXIOUS WEED LIST, AS AMENDED. PROVIDED, THAT REMOVAL SHALL NOT BE REQUIRED IF THE REMOVAL WILL RESULT IN INCREASED SLOPE INSTABILITY OR RISK OF LANDSLIDE OR EROSION.

VICINITY MAP



1 FOREST CREEK PLAT SITE PLAN

SCALE: 1:20



SCALE: IF SHEET IS LESS THAN 24" X 36", IT IS A REDUCED PRINT; REDUCE SCALE ACCORDINGLY

PERMIT SET 03/13/25

STURMAN ARCHITECTS
9 - 103rd Avenue NE Suite 203
Bellevue, WA 98004
TEL 425.451.7003

REGISTERED ARCHITECT BRADLEY J. STURMAN STATE OF WASHINGTON 9902

www.sturmanarchitects.com
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FOREST CREEK ESTATES LOT 1

PERMIT SET

5222 FOREST AVE S.E.
MERCER ISLAND, WA 98040

LOT 1 SITE PLAN GENERAL NOTES

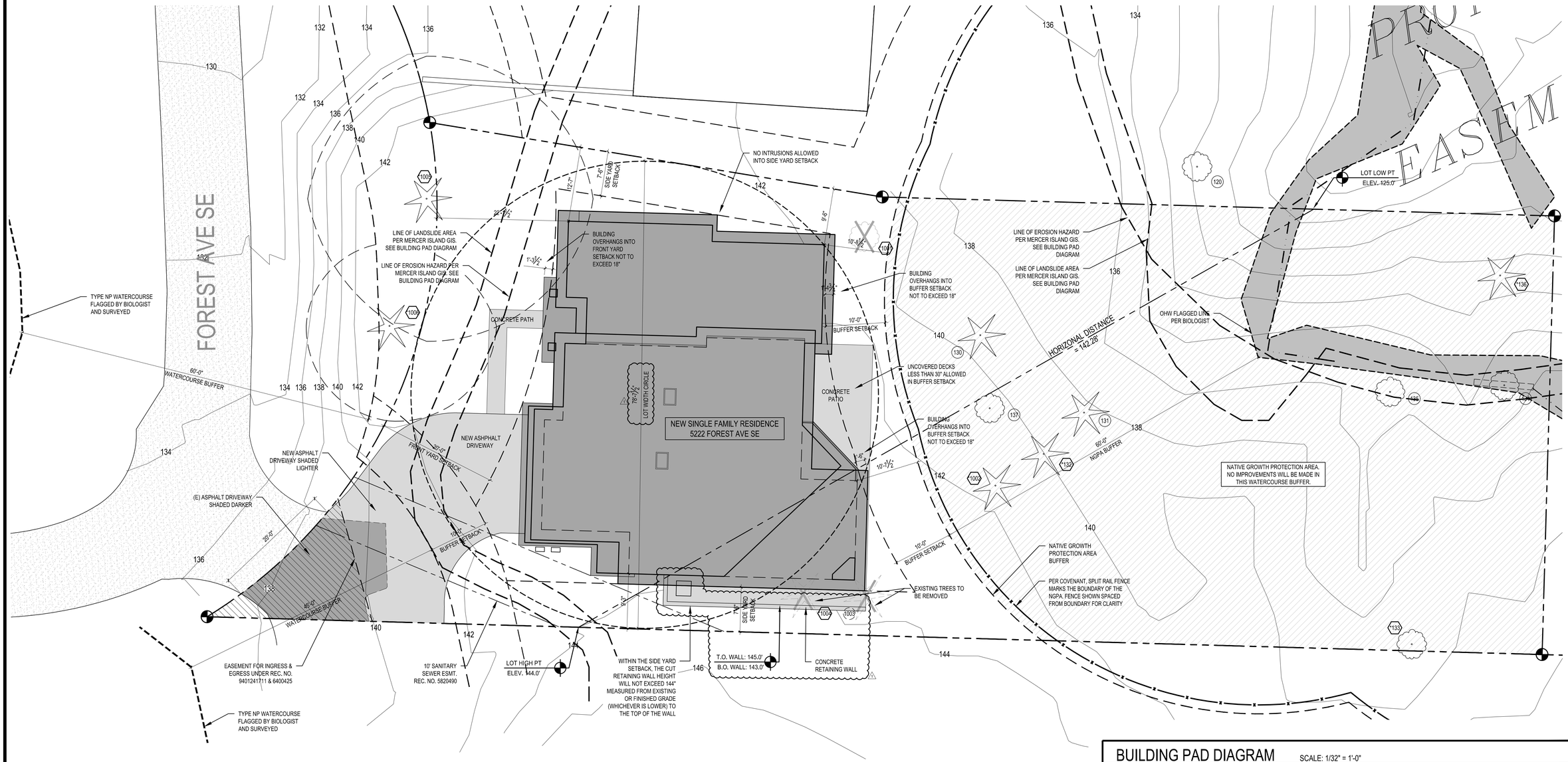
REVISIONS:
2025-3-13 Corrections #1

DRAWN BY: KE

CHECKED BY: BJS

SHEET A1.0

PLOT DATE: 3/13/2025



LEGEND:

- FINISH CONTOUR LINES
- DEMO CONTOUR LINES
- SILT FENCE
- TREE PROTECTION FENCING
- POWER LINE
- GAS LINE
- WATER LINE
- SANITARY SEWER LINE
- STORM DRAIN LINE
- AREA OF LOT COVERAGE
- AREA OF HARDSCAPE
- AREA OF NGPA

BUILDING AREA

		MAIN FLOOR	UPPER FLOOR		HEATED SUB-TOTAL	GARAGE/ WORKSHOP	GRAND TOTAL	UNHEATED PATIO	UNHEATED DECK
PROPOSED HOUSE:		1837 SF	2489 SF		4326 SF	588 SF	4914 SF	506 SF	61 SF

LOT COVERAGE AND HARDSCAPE

	GROSS LOT S.F.	MAIN ROOF STRUCT	DRIVES/ PARKING	TOTAL LOT COVERAGE	% LOT COVERAGE
EXISTING LOT COVERAGE AREA	15,001 SF	0 SF	291 SF	0 SF	0 %
PROPOSED LOT COVERAGE AREA		3077 SF	991 SF	4068 SF	27.1 %
NET GAIN/LOSS IMPERVIOUS AREA		+3077 SF	+700 SF	+4068 SF	+27.1 %
% ALLOWED IMPERVIOUS AREA				6000.4 SF ALLOWABLE	40 %

FRONT WALK	TRASH/ SIDEWALK	PATIO	RETAINING WALLS	TOTAL HARDSCAPE	% HARDSCAPE
0 SF	0 SF	0 SF	0 SF	0 SF	0 %
71 SF	123 SF	138 SF	27 SF	359 SF	2.4 %
+71 SF	+123 SF	+138 SF	+27 SF	+359 SF	+2.4 %
				1350 SF ALLOWABLE	9 %

HIGHEST EL: 144.0'
LOWEST EL: 125.0'
ELEVATION DIFFERENCE= 19.0'
19.0' DIVIDED BY 142.28' (HORIZ. DIST. BTWN. HIGHEST & LOWEST ELEV.) = .133

LOT SLOPE IS 13.3%, WHICH IS LESS THAN 15% SO LOT COVERAGE ALLOWED IS 40%.

ADDITIONAL 9% OF LOT SIZE WILL DETERMINE ALLOWABLE HARDSCAPE SURFACE

① LOT 1 SITE PLAN

SCALE: 1/8" = 1'-0"

N

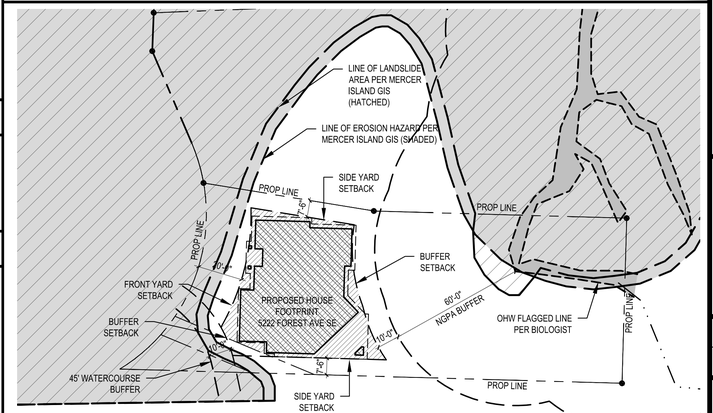
GROSS FLOOR AREA

	BASEMENT EXCLUSION	NEW FLOOR AREA
MAIN FLOOR		1837 SF
SECOND FLOOR		2489 SF
GARAGE		588 SF
GROSS FLOOR AREA		4914 SF

NET LOT AREA	15,001 SF
ALLOWED MAX. % GFA COVERAGE	40.0 % OR 12,000 SF
ALLOWED GROSS FLOOR AREA	6,000.4 SF
PROPOSED GROSS FLOOR AREA	4914 SF
12'+ CEILING OF ENTRY/STAIRS	+82.5 SF
12'+ CEILING OF BEDROOM-3	+84 SF
12'+ CEILING OF REC ROOM	+43.5 SF
12'+ CEILING OF PRIMARY BATH	+58 SF
TOTAL GFA COVERAGE	5182 SF
PROPOSED % GFA COVERAGE	34.5 %

BUILDING PAD DIAGRAM

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



SCALE: IF SHEET IS LESS THAN 24" X 36", IT IS A REDUCED PRINT; REDUCE SCALE ACCORDINGLY

PERMIT SET 03/13/25

STURMAN ARCHITECTS
9-103rd Avenue NE S.Ste 203
Bellevue, WA 98004
TEL: 425.457.7003
www.sturmanarchitects.com

REGISTERED ARCHITECT BRADLEY J. STURMAN STATE OF WASHINGTON 9962

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FOREST CREEK ESTATES LOT 1
PERMIT SET
5222 FOREST AVE S.E.
MERCER ISLAND, WA 98040

SITE PLAN
SITE CALCULATIONS

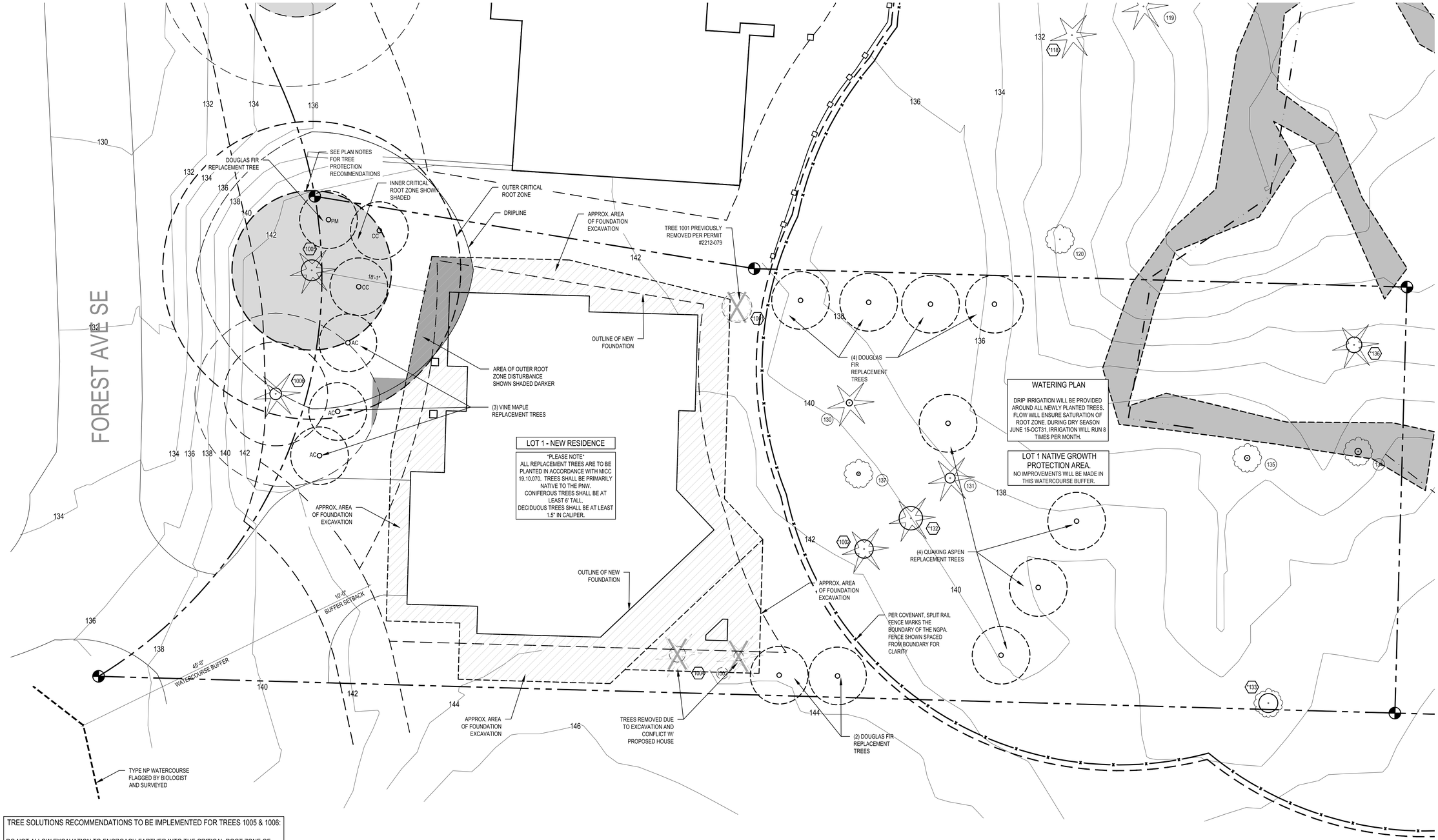
REVISIONS:
2025-3-13 Corrections #1

DRAWN BY: KE

CHECKED BY: BJS

SHEET A1.1

PLOT DATE: 3/13/2025



TREE SOLUTIONS RECOMMENDATIONS TO BE IMPLEMENTED FOR TREES 1005 & 1006:

DO NOT ALLOW EXCAVATION TO ENCROACH FARTHER INTO THE CRITICAL ROOT ZONE OF TREE 1005 AS WHAT IS CURRENTLY PROPOSED ON THE MOST RECENT PLANS.

INSTALL TREE PROTECTION FENCING CONSISTING OF 6-FOOT-TALL CHAIN-LINK FENCING AT THE PROPOSED LIMITS OF EXCAVATION.

CUT ANY ROOTS EXPOSED BY EXCAVATION CLEANLY AND IMMEDIATELY BACKFILL TO PREVENT DESICCATION.

NOTIFY THE PROJECT ARBORIST IF ANY ROOTS IN EXCESS OF 2-INCHES ARE EXPOSED BY EXCAVATION SO THAT IMPACTS MAY BE REASSESSED.

CONSIDER INSTALLING A 4-INCH LAYER OF COARSE WOODY MULCH (ARBORIST WOODCHIPS) TO THE CRITICAL ROOT ZONE OF TREE 1005 TO MITIGATE CONSTRUCTION STRESS AND IMPROVE SOIL STRUCTURE.

1 **LOT 1**
REPLACEMENT TREE PLAN
SCALE: 1/8" = 1'-0"

N

REPLACEMENT TREES:

ON-SITE:
QUAKING ASPEN = 4
(PM) DOUGLAS FIR= 7
(AC) VINE MAPLE= 3

TOTAL REQUIRED REPLACEMENT TREES = 14

PLEASE NOTE
FOR THE DEVELOPMENT OF PARCEL 1410300059 ("LOT 2"), TREE 1001 WAS REMOVED AS PART OF BUILDING PERMIT 2212-079. REPLACEMENT TREES FOR TREE 1001 WILL BE INCLUDED IN THE TOTAL REQUIRED AFTER THE REMOVAL OF TREES 1003 & 1004 FOR THE DEVELOPMENT OF PARCEL 141030-0057 ("LOT 1").

SCALE: IF SHEET IS LESS THAN 24" X 36", IT IS A REDUCED PRINT; REDUCE SCALE ACCORDINGLY

PERMIT SET 03/13/25

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9-103rd Avenue Jct E Suite 203
Bellevue, WA 98004
TEL 425.451.7003

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FOREST CREEK ESTATES LOT 1
PERMIT SET
5222 FOREST AVE S.E.
MERCER ISLAND, WA 98040

LOT 1 REPLACEMENT TREE PLAN

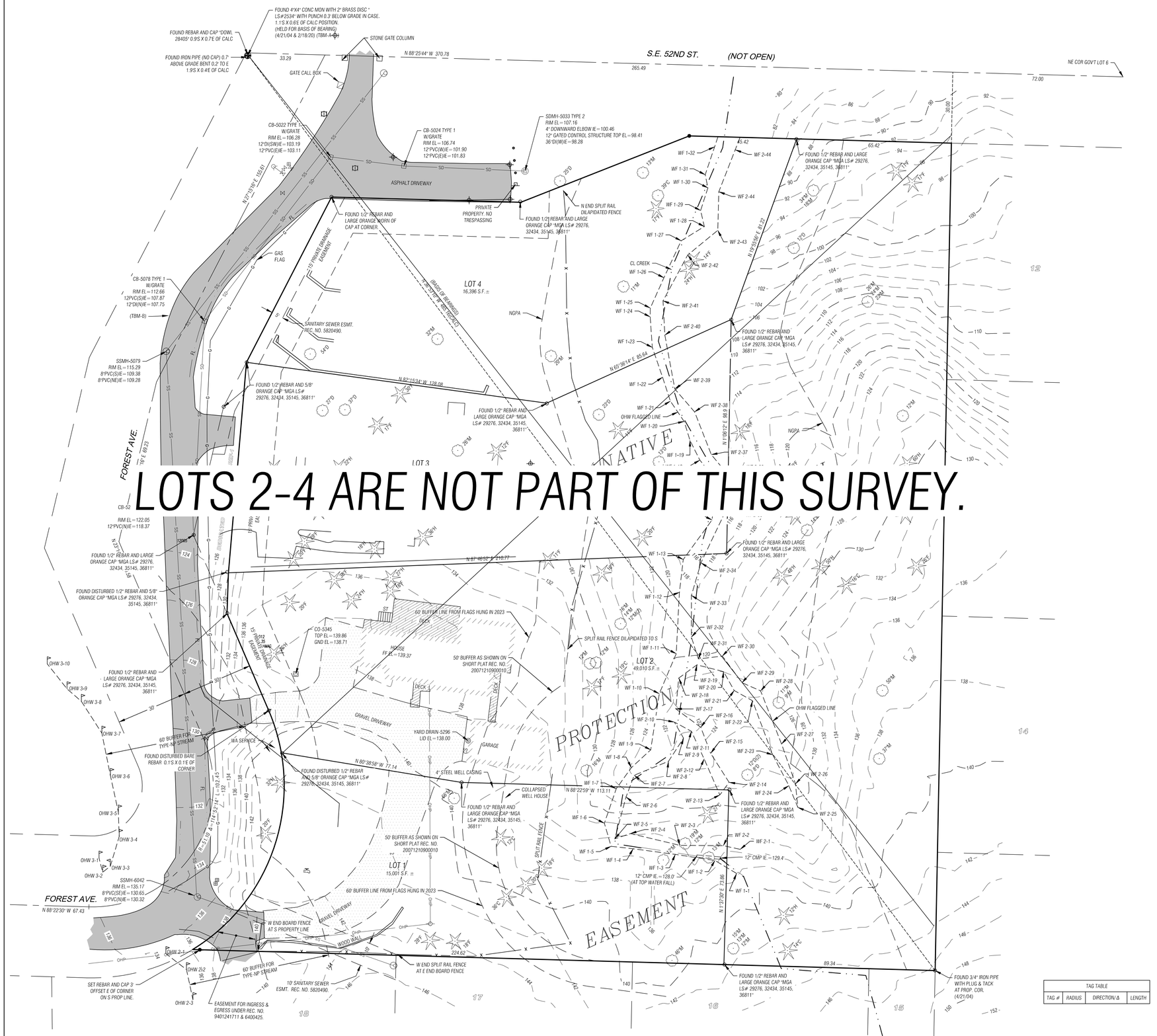
REVISIONS:
2025-3-13 Corrections #1

DRAWN BY: KE
CHECKED BY: BJS

SHEET A1.2

PLOT DATE: 3/13/2025

SE1/4, NE1/4, SEC. 24, TWP. 24 N., RGE. 4 E., W.M.



TAG TABLE			
TAG #	RADIUS	DIRECTION/Δ	LENGTH

0 20 40

SCALE: 1" = 20'

MERIDIAN

STATE PLANE COORDINATE SYSTEM - NORTH ZONE NAD83 (2011)
BASED ON RAPID STATIC GPS MEASUREMENTS WITH OPUS SOLUTION.

VERTICAL DATUM

NAVD 88 (GEOID 18)
BASED ON RAPID STATIC GPS MEASUREMENTS WITH OPUS SOLUTION.

THE AVERAGE CONTOUR ELEVATION WITHIN THE VICINITY OF THE PROPOSED BUILDING FOOTPRINT ON LOT 1, IS ACCURATE WITHIN 0.5' VERTICALLY AND HORIZONTALLY FROM ACTUAL ELEVATIONS

BENCHMARKS

TBM-A
FOUND 4"X4" CONC MON WITH 2" BRASS DISC " LS#2534" WITH PUNCH 0.3' BELOW GRADE IN CASE 69.6' NW OF NW PROP CORNER.
ELEV. = 104.53'

TBM-B
FOUND 1/2" REBAR AND MGA CONTROL CAP AT W SIDE FOREST DRIVE , 0.5'W OF WEST EDGE ASPHALT PAVEMENT AND 15.5'W OF CB-5078 .
ELEV. = 113.94'

NOTES

1. *A 5" ELECTRONIC TOTAL STATION WAS USED FOR THIS FIELD TRAVERSE SURVEY. ALL EQUIPMENT HAS BEEN MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S GUIDELINES. ACCURACY MEETS OR EXCEEDS W.A.C. 332-130-090.*
2. *THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT.*
3. *THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY MADE ON THE DATE INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITION EXISTING AT THAT TIME. ALL CONTROL INDICATED AS "FOUND" WAS RECOVERED FOR THIS PROJECT IN FEBRUARY 18, 2020, UNLESS OTHERWISE NOTED.*
4. *UNDERGROUND UTILITIES WERE LOCATED BASED ON SURFACE EVIDENCE (I.E. PAINT MARKS, SAW CUTS IN PAVEMENT, COVERS, LIDS, ETC.). THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION, ELEVATION, AND SIZE OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.*
5. *TREE SIZES AND SPECIES WERE DETERMINED TO THE BEST OF OUR ABILITY. MEAD GILMAN AND ASSOCIATES DOES NOT WARRANT THE ACCURACY OF THE SIZE AND SPECIES OF ANY TREES SHOWN HEREON. ALL TREE SIZES SHOULD BE VERIFIED BY A TRAINED ARBORIST.*
6. *THIS MAP DOES NOT TO INTEND SHOW ALL EASEMENTS OF RECORD.*
7. *ALL CONTOUR INFORMATION EAST OF THE NATIVE GROWTH PROTECTION AREA BOUNDARY WAS GENERATED FROM PUBLIC LIDAR DATA.*
8. *FLAGS AT OHW ARE SET BY ALTMANN OLIVER ASSOCIATES, LLC IN JANUARY OF 2023*
9. *THIS UPDATE TO THE TOPOGRAPHIC SURVEY IS INTENDED TO JUST SHOW THE NEW BUFFER AND ORDINARY HIGH WATER FLAGS. NO ATTEMPT TO UPDATE ANY OTHER ASPECT OF THE MAP HAS BEEN DONE.*

LEGAL DESCRIPTION

LOTS 1-4, KNUTSON SHORT PLAT, MERCER ISLAND SHORT PLAT NO SUB07-003 AS RECORDED UNDER REC. NO. 20071219000010.

LEGEND

- SET 1/2" X 24" REBAR WITH YELLOW PLASTIC CAP STAMPED "MGA 35145 RENEW"
- FOUND MONUMENT
- TEMPORARY BENCHMARK
- GAS VALVE
- ELECTRICAL JUNCTION BOX
- UTILITY POLE
- CATCH BASIN - TYPE I
- CATCH BASIN - TYPE II
- STORM CLEANOUT
- YARD DRAIN
- SEWER MANHOLE
- FIRE HYDRANT
- HOSE BIB
- WATER METER
- WATER VALVE
- BOLLARD
- SIGN
- SOIL TEST PIT
- CONIFEROUS TREE
- DECIDUOUS TREE
- ASPHALT
- X FENCE LINE
- OHP OVERHEAD POWER LINES
- SS SANITARY SEWER LINE
- SD STORM DRAIN LINE
- G GAS LINE
- W WATER MAIN
- ASPHALT HATCH
- CONCRETE HATCH
- DECK HATCH
- GRAVEL HATCH
- C CEDAR
- D DECIDUOUS
- E ELM
- H HEMLOCK
- M MAPLE
- CS CONC SLAB
- FF FINISH FLOOR
- FL FLOW LINE/ ASPH THICKENED EDGE
- ST STAIRS
- WF # WETLAND FLAG NUMBER
- OHW FLAGED OVERHEAD WATER LINE

REFERENCES

1. ROS REC. NO. 20071219001864, VOL. 236, PG. 232.
2. MERCER ISLAND SHORT PLAT NO SUB07-003, REC. NO. 20071219000010.

CHRISTOPHER SHANE SEARLES — STATE OF WASHINGTON — 35145 — REGISTERED PROFESSIONAL LAND SURVEYOR

12/19/2024

MEAD GILMAN LAND SURVEYORS
P.O. BOX 289, WOODINVILLE, WA 98072 | PHONE (425) 486-1252 | WWW.MEADGILMAN.COM

FOREST AVE LOTS
BOUNDARY & TOPOGRAPHIC SURVEY

SEASCAPE HOMES
PO BOX 40568
BELLEVUE WA 98015

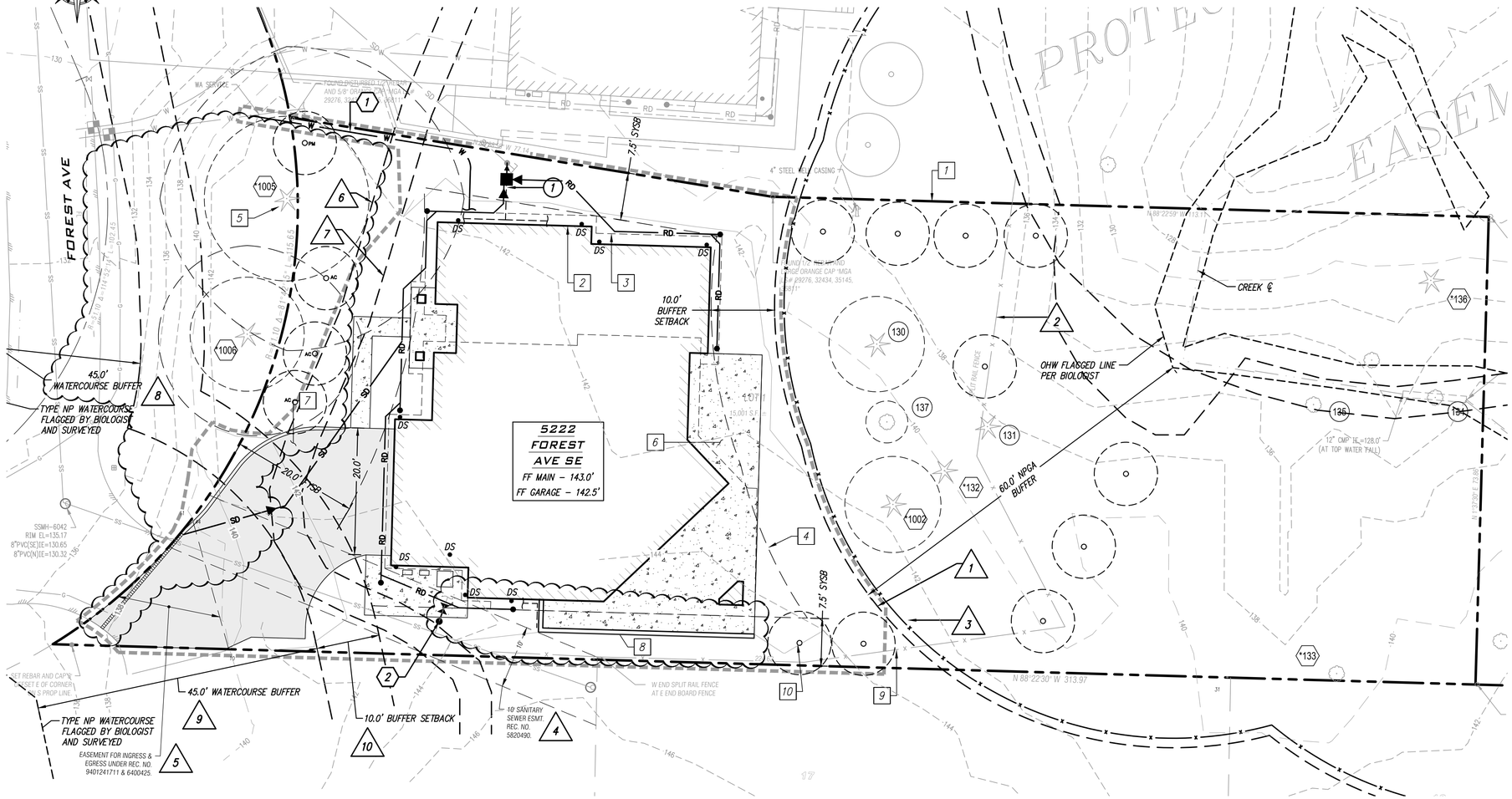
DRAWN BY:	LSD
REVIEWED BY:	CSB
DATE:	03-11-2020
JOB NO.	20011
SHEET	1 OF 1

0122

LOTS 2-4 ARE NOT PART OF THIS SURVEY.

FOREST CREEK ESTATES - LOT 1

SE 1/4, NE 1/4, SEC 24, T 24 N, R 04 E, W. M.



SITE PLAN

SCALE: 1"=10'

VICINITY MAP

SCALE: NTS

SHEET LIST

SHEET #	NAME	DESCRIPTION
1	C1.0	COVER SHEET & SITE PLAN
2	C2.0	DEMOLITION & TESC PLAN
3	C2.1	TESC DETAILS
4	C3.0	GRADING, STORM DRAINAGE & UTILITY PLAN
5	C3.1	STORM DRAINAGE DETAILS LOT 2
6	C3.2	UTILITY DETAILS

SITE CALLOUTS:

1. PROPERTY BOUNDARY, TYP.
2. PROPOSED BUILDING FOOTPRINT, TYP.
3. PROPOSED BUILDING ROOFLINE, TYP.
4. BUILDING SETBACK LINE, TYP. SEE DEVELOPMENT DATA NOTES FOR MINIMUM SETBACKS.
5. EXISTING TREES TO BE PROTECTED-IN-PLACE UNLESS OTHERWISE NOTED, TYP (SEE ARBORIST REPORT AND SHEET C2.0 FOR LIMITS OF DISTURBANCE AND TREE PROTECTION).
6. PROPOSED ON-SITE HARDSCAPES, TYP.
7. INSTALL 20.0' WIDE ASPHALT DRIVEWAY (WIDTH VARIES).
8. PROPOSED 2' TALL RETAINING WALL (BY OTHERS) (SEE SHEET C3.0 FOR GRADING PLAN).
9. PROTECT EX. FENCE, TYP.
10. PROPOSED REPLACEMENT TREE, TYP. (SEE ARCHITECTURAL PLANS).

STORM CALLOUTS:

1. PROPOSED STORM DRAINAGE SYSTEM, TYP (SEE SHEET C3.0 FOR DRAINAGE PLAN).

UTILITY CALLOUTS:

1. PROPOSED DOMESTIC WATER SYSTEM, TYP (SEE SHEET C3.0 FOR WATER PLAN).
2. PROPOSED SANITARY SEWER SYSTEM, TYP (SEE SHEET C3.0 FOR SEWER PLAN).

CRITICAL AREAS & EASEMENT CALLOUTS:

1. 60' NATIVE GROWTH PROTECTION AREA (NGPA) BUFFER.
2. EXISTING NGPA SPLIT-RAIL FENCE WITH SIGNAGE. FENCE TO BE REPAIRED IF REQUIRED.
3. PER COVENANT, SPLIT RAIL FENCE MARKS THE BOUNDARY OF THE NGPA. FENCE SHOWN SPACED FROM THE BOUNDARY FOR CLARITY (TYP).
4. 10' SANITARY SEWER ESMT REC NO 4820490
5. EASEMENT FOR INGRESS AND EGRESS UNDER REC NO 9401241711 & 6400425
6. LINE OF LANDSLIDE AREA PER MERCER ISLAND GIS. SEE BUILDING PAD DIAGRAM.
7. LINE OF EROSION HAZARD PER MERCER ISLAND GIS. SEE BUILDING PAD DIAGRAM.
8. 45' WATERCOURSE BUFFER.
9. 45' WATERCOURSE BUFFER.
10. 10' BUFFER SETBACK.

PROJECT TEAM:

OWNER:
SEASCAPE HOMES LLC
JON TELLEFSON
PO BOX 40568
BELLEVUE, WA 98015
PH: 206.972.9950
EMAIL: JMT1231@GMAIL.COM

PROJECT ARCHITECT:
STURMAN ARCHITECTS
BRAD STURMAN
9 – 103RD AVENUE NE SUITE 203
BELLEVUE, WA 98004
PH. 425.451.7003
EMAIL: BRADS@STURMANARCHITECTS.COM

PROJECT CIVIL ENGINEER:
PATRICK HARRON & ASSOCIATES, LLC
SCHWIN CHAOSILAPAKUL, PE
14900 INTERURBAN AVENUE S #279
SEATTLE, WA 98168
PH: 206.674.4659
EMAIL: SCHWIN@PATRICKHARRON.COM

PROJECT SURVEYOR:
MEAD GILMAN LAND SURVEYORS
P.O. BOX 289
WOODINVILLE, WA 98072
PH. 425.486.1252
EMAIL: WWW.MEADGILMAN.COM

PROJECT GEOTECHNICAL ENGINEER:
GEOTECH CONSULTANTS INC
JIM STRANGE, P.E.
2401 10TH AVE E, SEATTLE, WA 98102
PH: 425.747.5618
EMAIL: JAMESS@GEOTECHNW.COM

PROJECT ARBORIST:
ARBOR INFO, LLC
THOMAS M. HANSON, CF, RCA
2406 N CASTLE WAY
BRIER, WA 98036
PH: 206.300.9711
EMAIL: TOM.HANSON@ARBORINFO.COM

PROJECT INFORMATION:

DEVELOPMENT DATA:

SITE AREA	49,010 SF (1.12 AC)
SITE ADDRESS	5222 FOREST AVE SE MERCER ISLAND, WA 98040
PARCEL NUMBER	1410300-0057

LEGAL DESCRIPTION:

LOTS 1-4, KNUTSON SHORT PLAT, MERCER ISLAND SHORT PLAT NO SUB07-003 AS RECORDED UNDER REC. NO. 20071210900010.

VERTICAL DATUM:

NAVD 88 (GEOID 18) BASED ON RAPID STATIC GPS MEASUREMENTS WITH OPUS SOLUTION.

BENCHMARKS:

TBM-A – FOUND 4"X4" CONC MON WITH 2" BRASS DISC " LS#2534" WITH PUNCH 0.3' BELOW GRADE IN CASE 69.6' NW OF NW PROP CORNER.
ELEV. = 104.53'

TBM-B – FOUND 1/2" REBAR AND MGA CONTROL CAP AT W SIDE FOREST DRIVE , 0.5'W OF WEST EDGE ASPHALT PAVEMENT AND 15.5'W OF CB-5078 .
ELEV. = 113.94'

REFERENCES:

1. ARCHITECTURAL PLANS BY STURMAN ARCHITECTS.
2. BOUNDARY AND TOPOGRAPHIC SURVEY BY MEAD GILMAN LAND SURVEYORS.
3. GEOTECH REPORT BY GEOTECH CONSULTANTS, INC.
4. ARBORIST REPORT BY ARBOR INFO, LLC.

CALL 48 HOURS BEFORE YOU DIG 811

THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING THE UNDERGROUND LOCATE LINE AT 1-800-424-5555 OR 811 (CELL) A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION.

R#	DATE	DESCRIPTION	BY
1	3/10/25	CITY REVIEW COMMENTS	SC

SCHWIN CHAOSILAPAKUL 38168 REGISTERED PROFESSIONAL ENGINEER 3/10/25

CITY OF MERCER ISLAND
BUILDING PERMIT

COVER SHEET & SITE PLAN

PATRICK HARRON & ASSOCIATES, LLC
Civil Engineering & Planning
14900 Interurban Ave. S, Suite 279, Seattle, WA 98168
Phone: 206.674.4659
Web.: patrickharron.com

PROJ. NO.	DSN. BY:
20113	CC
DWN. BY:	CHK. BY:
CC	SC

FOREST CREEK ESTATES
LOT 1

5214 FOREST AVE SE
MERCER ISLAND, WA 98040

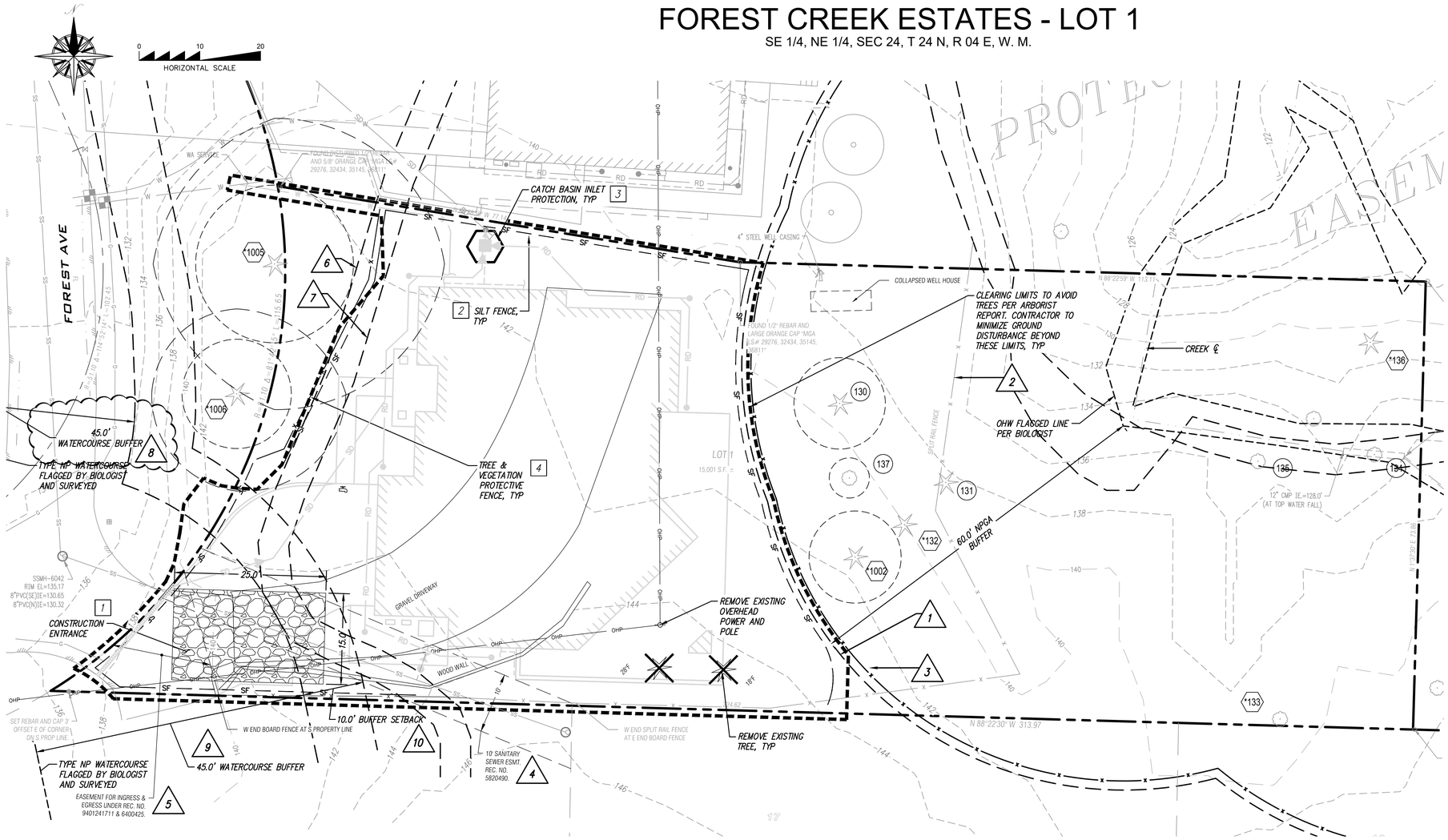
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DRAWING NO.	C1.0
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Mar 10, 2025 2:05:27PM – User Sherf Stark
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0123

FOREST CREEK ESTATES - LOT 1

SE 1/4, NE 1/4, SEC 24, T 24 N, R 04 E, W. M.



DEMOLITION & TESC PLAN

SCALE: 1"=10'

TESC LEGEND

- CATCH BASIN INLET PROTECTION
- TREE REMOVAL
- 201 201 — TREE NUMBER
- CLEARING LIMITS (ENTIRE PROPERTY OUTSIDE OF TREE PROTECTION AREA)
- SF — SILT FENCE
- x — TREE & VEGETATION PROTECTIVE FENCE
- CONSTRUCTION ENTRANCE

DEMOLITION & TESC CALLOUTS:

1. CONSTRUCTION ENTRANCE (SEE DETAIL 1, SHEET C2.1).
2. SILT FENCE, TYP (SEE DETAIL 2, SHEET C2.1).
3. CATCH BASIN INLET PROTECTION, TYP (SEE DETAIL 3, SHEET C2.1).
4. TREE & VEGETATION PROTECTIVE FENCE (SEE DETAIL 4, SHEET C2.1). SEE DEMOLITION & TESC NOTES, THIS SHEET, FOR ADDITIONAL TREE PROTECTION GUIDELINES.

TESC NOTES:

1. CLEARING LIMITS SHOWN ARE APPROXIMATE AND REPRESENT THE MINIMUM REQUIRED TO INSTALL PROPOSED IMPROVEMENTS. CLEARING LIMITS MAY BE ADJUSTED TO FIT FIELD CONDITIONS BUT SHALL NOT ENCROACH WITHIN CRITICAL ROOT ZONES OF TREES TO BE RETAINED; COORDINATE WITH PROJECT ARBORIST TO DETERMINE CRITICAL ROOT ZONES FOR DISTURBANCE WITHIN TREE DRIP LINES.
2. SILT FENCING TO BE INSTALLED ALONG DOWN-SLOPE OF AREAS TO BE DISTURBED WITHIN THE PROPERTY. ADJUST AS REQUIRED WITH CHANGES TO CLEARING LIMITS.
3. THIS TESC PLAN IS PROVIDED TO SHOW THE MINIMUM MEASURES REQUIRED TO CONTROL EROSION AND SEDIMENT TRANSPORT. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING APPROPRIATE MEASURES FOR CHANGING SITE CONDITIONS.
4. REFER TO ARCHITECTURAL TREE PLANS FOR ADDITIONAL TREE REMOVAL AND REPLACEMENT DETAILS.
5. REFER TO GEOTECHNICAL REPORT FOR RECOMMENDATIONS ON EXCAVATION AND SLOPES.
6. GEOTECHNICAL ENGINEER SHALL BE ON-SITE DURING EXCAVATION AND AT REGULAR INTERVALS DURING CONSTRUCTION TO MONITOR THE STABILITY OF THE TEMPORARY OPEN CUT EXCAVATIONS PROPOSED FOR SITE RETAINING WALLS AND RESIDENTIAL STRUCTURE EXCAVATIONS.
7. SOILS OF DISTURBED PERVIOUS AREAS THROUGHOUT THE DURATION OF THE PROJECT ARE TO BE AMENDED.

CRITICAL AREAS & EASEMENT CALLOUTS:

1. 60' NATIVE GROWTH PROTECTION AREA (NGPA) BUFFER.
2. EXISTING NGPA SPLIT-RAIL FENCE WITH SIGNAGE. FENCE TO BE REPAIRED IF REQUIRED.
3. PER COVENANT, SPLIT RAIL FENCE MARKS THE BOUNDARY OF THE NGPA. FENCE SHOWN SPACED FROM THE BOUNDARY FOR CLARITY (TYP).
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10. 10' BUFFER SETBACK.

CALL 48 HOURS BEFORE YOU DIG 811

THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING THE UNDERGROUND LOCATE LINE AT 1-800-424-5555 OR 811 (CELL) A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION.

R#	DATE	DESCRIPTION	BY
1	3/10/25	CITY REVIEW COMMENTS	SC

CHRISTOPHER J. APAKUL — EXPIRES: 6/16/2026 — PROFESSIONAL ENGINEER — 3/10/25

CITY OF MERCER ISLAND
BUILDING PERMIT

DEMOLITION & TESC PLAN

PATRICK HARRON & ASSOCIATES, LLC
Civil Engineering & Planning
14900 Interurban Ave. S, Suite 279, Seattle, WA 98168
Phone: 206.744.9405
Web: patrickharron.com

PROJ. NO.	DSN. BY:
20113	CC
DWN. BY:	CHK. BY:
CC	SC

FOREST CREEK ESTATES
LOT 1

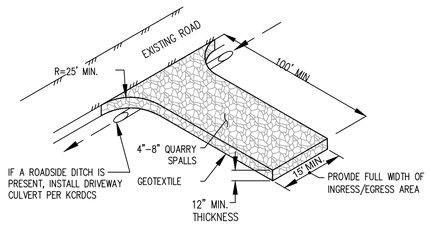
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MERCER ISLAND, WA 98040

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FOREST CREEK ESTATES - LOT 1

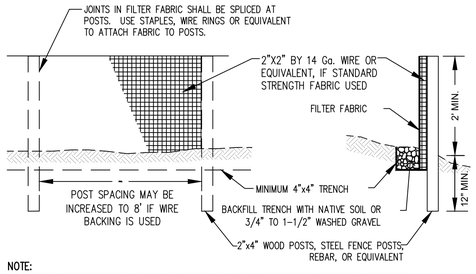
SE 1/4, NE 1/4, SEC 24, T 24 N, R 04 E, W. M.



NOTES:

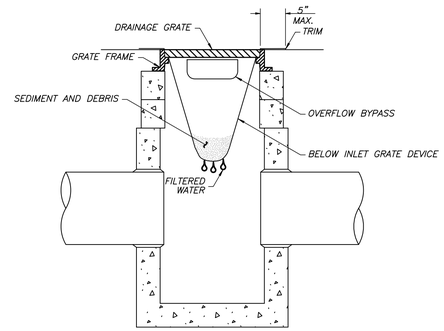
1. PER KING COUNTY ROAD DESIGN AND CONSTRUCTION STANDARDS (KCRDCS), DRIVEWAYS SHALL BE PAVED TO EDGE OF R-O-W PRIOR TO INSTALLATION OF THE CONSTRUCTION ENTRANCE TO AVOID DAMAGING OF THE ROADWAY.
2. IT IS RECOMMENDED THAT THE ENTRANCE BE CROWNED SO THAT RUNOFF DRAINS OFF THE PAD.

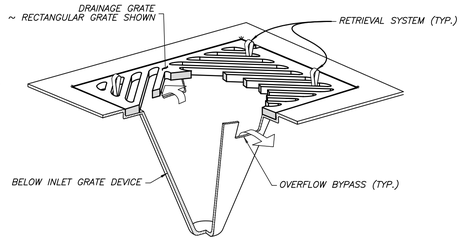
1 / C2.0 **CONSTRUCTION ENTRANCE**
SCALE: NTS



NOTE:
SILT FILTER FABRIC FENCES SHALL BE INSTALLED ALONG CONTOURS WHENEVER POSSIBLE

2 / C2.0 **SILT FENCE**
SCALE: NTS

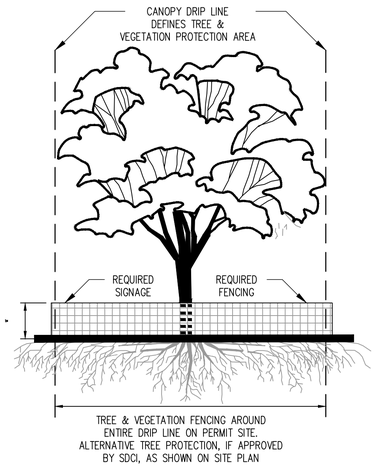




NOTES:

1. SIZE THE BELOW INLET GRATE DEVICE (BIGD) FOR THE STORM WATER STRUCTURE IT WILL SERVICE.
2. THE BIGD SHALL HAVE A BUILT-IN HIGH-FLOW RELIEF SYSTEM (OVERFLOW BYPASS).
3. THE RETRIEVAL SYSTEM MUST ALLOW REMOVAL OF THE BIGD WITHOUT SPILLING THE COLLECTED MATERIAL.
4. PERFORM MAINTENANCE IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATION 8-01.3(15).

3 / C2.0 **CATCH BASIN INLET PROTECTION**
SCALE: NTS



TREE PROTECTION FENCING AND SIGN

1. CHAIN LINK, WIRE MESH, OR SIMILAR OPEN RIGID MATERIAL (NO PLYWOOD)
2. MUST BE INSTALLED PRIOR TO DEMOLITION OR GROUND DISTURBANCE
3. KEPT IN PLACE FOR THE DURATION OF CONSTRUCTION
4. NO SOIL DISTURBANCE OR ACTIVITY ALLOWED WITHIN FENCED AREA: MATERIAL STORAGE/STOCKPILING, PARKING, EXCAVATION, DUMPING, OR WASHING
5. MODIFICATIONS OF THESE REQUIREMENTS BY APPROVAL OF SDCI PLANNER ONLY
6. IF ROOTS GREATER THAN 2 INCH FOUND OUTSIDE OF FENCING, PROTECT BY HAND EXCAVATION AND, IF NECESSARY, CUT CLEANLY AND KEEP MOIST
7. USE 3 INCHES OR DEEPER WOOD CHIP MULCH OUTSIDE FENCED AREAS TO PROTECT FEEDER ROOTS

VEGETATION PROTECTION

1. ORANGE MESH OR SIMILAR OPEN MATERIAL
2. MINIMIZE CONSTRUCTION ZONE
3. PROTECT VEGETATION OUTSIDE CONSTRUCTION ZONE WITH FENCING AS SHOWN
4. USE 3 INCHES OR DEEPER WOOD CHIP MULCH OUTSIDE FENCED AREAS TO PROTECT FEEDER ROOTS

4 / C2.0 **TREE & VEGETATION PROTECTIVE FENCE**
SCALE: NTS

CALL 48 HOURS BEFORE YOU DIG 811

THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING THE UNDERGROUND LOCATE LINE AT 1-800-424-5555 OR 811 (CELL) A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION.

R#	DATE	DESCRIPTION	BY
1	3/10/25	CITY REVIEW COMMENTS	SC

CHRISTOPHER J. APAKUL — 21868 — REGISTERED PROFESSIONAL ENGINEER — 3/10/25

CITY OF MERCER ISLAND
BUILDING PERMIT

TESC DETAILS

PATRICK HARRON & ASSOCIATES, LLC
Civil Engineering & Planning
14900 Interurban Ave. S, Suite 279, Seattle, WA 98168
Phone: 206.241.4655
Web: patrickharron.com

PROJ. NO.	DSN. BY:
20113	CC
DWN. BY:	CHK. BY:
CC	SC

FOREST CREEK ESTATES
LOT 1
5214 FOREST AVE SE
MERCER ISLAND, WA 98040

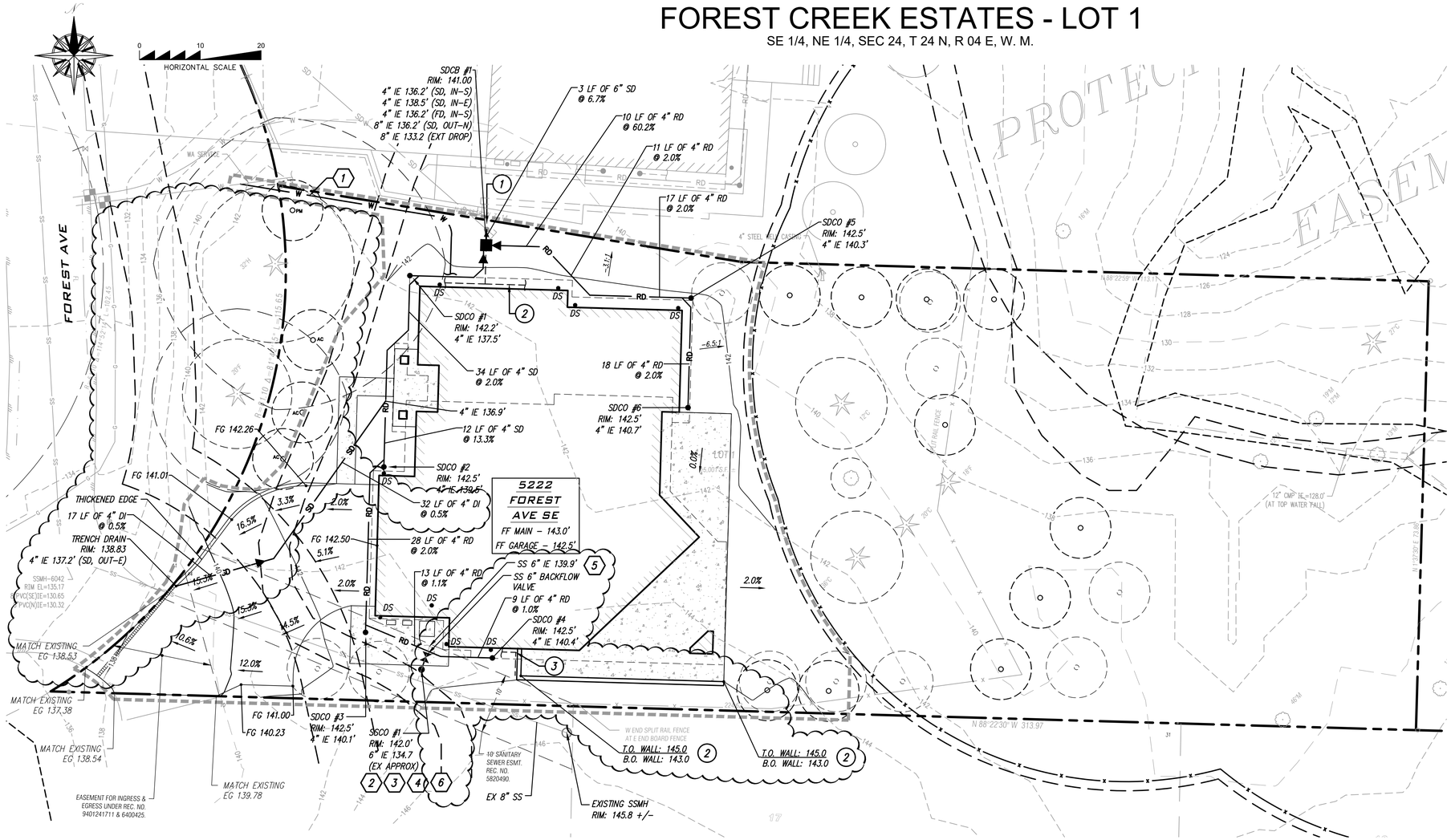
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3 OF 6

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0125

FOREST CREEK ESTATES - LOT 1

SE 1/4, NE 1/4, SEC 24, T 24 N, R 04 E, W. M.



GRADING, STORM DRAINAGE & UTILITY PLAN

SCALE: 1"=10'

STORM CALLOUTS:

1. CONNECT TO EXISTING LOT 2 STORM SYSTEM, VIA EXISTING CLEANOUT AT PROPERTY LINE (8" IE 133.0').
2. 4" FOOTING DRAIN SYSTEM TO EXTEND AROUND BUILDING PERIMETER. CONNECT TO SDCB #1 (PER PLAN) @ 2.0% (MIN) (4" IE 139.4'). INSTALL CLEANOUTS AT BUILDING CORNERS, TYP. REFER TO STRUCTURAL PLANS FOR FOOTING DRAIN DETAILS.
3. 4" WALL FOOTING DRAIN SYSTEM TO CONNECT TO STORM SYSTEM (4" IE 140.2'). REFER TO STRUCTURAL PLANS FOR WALL FOOTING DRAIN DETAILS.

UTILITY CALLOUTS:

1. FIELD LOCATE EX WATER STUB AND INSTALL NEW 2" WATER METER FOR DOMESTIC AND FIRE SYSTEM, PER CITY OF MERCER ISLAND STD. PLAN NO. W-14A (SEE DETAIL 2, SHEET C3.1). IF NEW SERVICE CONNECTION TO THE MAIN IS REQUIRED, NEAT LINE SAW-CUT FOR WATER LINE TRENCHING AND RESTORE PAVEMENT, PER CITY OF MERCER ISLAND STD. PLAN NO. W-3 (SEE DETAIL 1, SHEET C3.1).
2. CONNECT NEW 6" SEWER LINE TO EX. 6" SEWER STUB (APPROX. IE TBD±). PROVIDE MINIMUM OF 2.0% SLOPE AND CONNECT TO RESIDENCE (APPROX. IE 140.0±), PER CITY OF MERCER ISLAND STD. PLANS. COORDINATE WITH PUBLIC WORKS INSPECTOR FOR SCOPE AND RE-USE OF EXISTING LINE. THE EXISTING SIDE SEWER TO THE CITY SEWER MAIN MUST BE VIDEO INSPECTED AND REPAIRED/REPLACED AS NEEDED.
3. INSTALL 6" PVC SANITARY SEWER SERVICE @ 2.0% (MIN), PER CITY OF MERCER ISLAND STD. PLAN NO. S-3 AND S-18 (SEE DETAILS 3 AND 4, SHEET C3.1).
4. INSTALL SANITARY SEWER CLEANOUT, PER CITY OF MERCER ISLAND STD. PLAN NO. S-19, TYP (SEE DETAIL 5, SHEET C3.1).
5. CONNECT TO EX 6" STUB IE 134.7' (APPROX FROM AS-BUILT).
6. VIDEO INSPECTION REQUIRED OF THE EXISTING SIDE SEWER TO THE CITY SEWER MAIN.

STORM NOTE:

1. REFER TO C2.0 FOR TEMPORARY EXCAVATION PLAN FOR STORM SYSTEM.

CALL 48 HOURS BEFORE YOU DIG 811

THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING THE UNDERGROUND LOCATE LINE AT 1-800-424-5555 OR 811 (CELL) A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION.

R#	DATE	DESCRIPTION	BY
1	3/10/25	CITY REVIEW COMMENTS	SC

CHRISTOPHER J. APAKUL — 23810 — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — 3/10/25

CITY OF MERCER ISLAND BUILDING PERMIT

GRADING, STORM DRAINAGE & UTILITY PLAN

PATRICK HARRON & ASSOCIATES, LLC
Civil Engineering & Planning
14900 Interurban Ave. S. Suite 279, Seattle, WA 98168
Phone: (206) 674-4659
Web: patrickharron.com

PROJ. NO.	DSN. BY:
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DWN. BY:	CHK. BY:
CC	SC

FOREST CREEK ESTATES
LOT 1

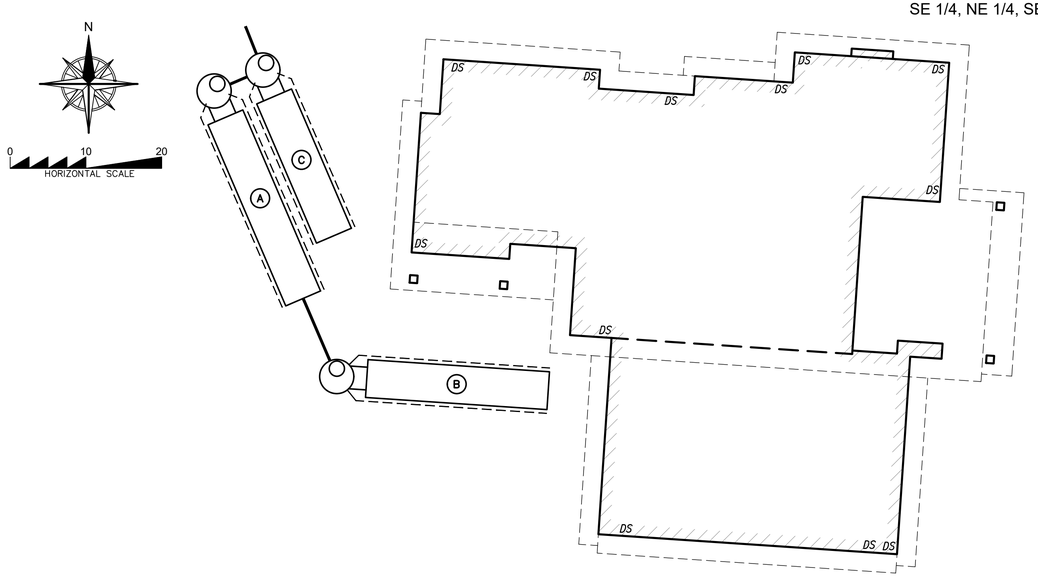
5214 FOREST AVE SE
MERCER ISLAND, WA 98040

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FOREST CREEK ESTATES - LOT 1

SE 1/4, NE 1/4, SEC 24, T 24 N, R 04 E, W. M.



DETENTION PIPE DIAGRAM

SCALE: 1"=10'

LOT 2 DETENTION SYSTEM (FOR REFERENCE ONLY)

Table 1

ON-SITE DETENTION DESIGN FOR PROJECTS BETWEEN 500 SF AND 9,500 SF NEW PLUS REPLACED IMPERVIOUS SURFACE AREA

New and Replaced Impervious Surface Area (sf)	Detention Pipe Diameter (in)	Detention Pipe Length (ft)		Lowest Orifice Diameter (in)[3]		Distance from Outlet Invert to Second Orifice (ft)		Second Orifice Diameter (in)	
		B soils	C soils	B soils	C soils	B soils	C soils	B soils	C soils
500 to 1,000 sf	36"	30	22	0.5	0.5	2.2	2.0	0.5	0.8
	48"	18	11	0.5	0.5	3.3	3.2	0.9	0.8
	60"	11	7	0.5	0.5	4.2	3.4	0.5	0.6
1,001 to 2,000 sf	36"	66	43	0.5	0.5	2.2	2.3	0.9	1.4
	48"	34	23	0.5	0.5	3.2	3.3	0.9	1.2
	60"	22	14	0.5	0.5	4.3	3.6	0.9	0.9
2,001 to 3,000 sf	36"	90	66	0.5	0.5	2.2	2.4	0.9	1.9
	48"	48	36	0.5	0.5	3.1	2.8	0.9	1.5
	60"	30	20	0.5	0.5	4.2	3.7	0.9	1.1
3,001 to 4,000 sf	36"	120	78	0.5	0.5	2.4	2.2	1.4	1.6
	48"	62	42	0.5	0.5	2.8	2.9	0.8	1.3
	60"	42	26	0.5	0.5	3.8	3.9	0.9	1.3
4,001 to 5,000 sf	36"	134	91	0.5	0.5	2.8	2.2	1.7	1.5
	48"	73	49	0.5	0.5	3.6	2.9	1.6	1.5
	60"	46	31	0.5	0.5	4.6	3.5	1.6	1.3
5,001 to 6,000 sf	36"	162	109	0.5	0.5	2.7	2.2	1.8	1.6
	48"	90	59	0.5	0.5	3.5	2.9	1.7	1.5
	60"	54	37	0.5	0.5	4.6	3.6	1.6	1.4
6,001 to 7,000 sf	36"	192	128	0.5	0.5	2.7	2.2	1.9	1.8
	48"	102	68	0.5	0.5	3.7	2.9	1.9	1.6
	60"	64	43	0.5	0.5	4.6	3.6	1.8	1.5
7,001 to 8,000 sf	36"	216	146	0.5	0.5	2.8	2.2	2.0	1.9
	48"	119	79	0.5	0.5	3.8	2.9	2.2	1.7
	60"	73	49	0.5	0.5	4.5	3.6	2.0	1.6
8,001 to 8,500 sf[1]	36"	228	155	0.5	0.5	2.8	2.2	2.1	1.9
	48"	124	84	0.5	0.5	3.7	2.9	1.9	1.8
	60"	77	53	0.5	0.5	4.6	3.6	2.0	1.6
8,501 to 9,000 sf	36"	NA [3]	164	0.5	0.5	NA [3]	2.2	NA [3]	1.9
	48"	NA [3]	89	0.5	0.5	NA [3]	2.9	NA [3]	1.9
	60"	NA [3]	55	0.5	0.5	NA [3]	3.6	NA [3]	1.7
9,001 to 9,500 sf[2] **	36"	NA [3]	174	0.5	0.5	NA [3]	2.2	NA [3]	2.1
	48"	NA [3]	94	0.5	0.5	NA [3]	2.9	NA [3]	2.0
	60"	NA [3]	58	0.5	0.5	NA [3]	3.7	NA [3]	1.7

Notes:

- Minimum Requirement #7 (Flow Control) is required when the 100-year flow frequency causes a 0.15 cubic feet per second increase (when modeled in WWHM with a 15-minute timestep). Breakpoints shown in this table are based on a flat slope (0-5%). The 100-year flow frequency will need to be evaluated on a site-specific basis for projects on moderate (5-15%) or steep (> 15%) slopes.
- Soil type to be determined by geotechnical analysis or soil map.
- Sizing includes a Volume Correction Factor of 120%.
- Upper bound contributing area used for sizing.

[1] On Type B soils, new plus replaced impervious surface areas exceeding 8,500 sf trigger Minimum Requirement #7 (Flow Control)

[2] On Type C soils, new plus replaced impervious surface areas exceeding 9,500 sf trigger Minimum Requirement #7 (Flow Control)

[3] Minimum orifice diameter = 0.5 inches

in = inch

ft = feet

sf = square feet

Basis of Sizing Assumptions:

Sized per MRM5 in the Stormwater Management Manual for Puget Sound Basin (1992 Ecology Manual)

SBUH, Type 1A, 24-hour hydrograph

2-year, 24-hour storm = 2 in; 10-year, 24-hour storm = 3 in; 100-year, 24-hour storm = 4 in

Predeveloped = second growth forest (CN = 72 for Type B soils, CN = 81 for Type C soils)

Developed = impervious (CN = 98)

0.5 foot of sediment storage in detention pipe

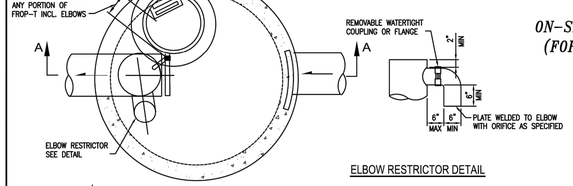
Overland slope = 5%

*** THE PROPOSED DETENTION PIPE SYSTEM ON LOT 2 IS SIZED TO ACCOMMODATE FUTURE IMPROVEMENTS FOR LOTS 1 & 2. THE FOLLOWING PARAMETERS WERE USED IN SIZING THE PROPOSED DETENTION PIPE:*

- *IMPERVIOUS AREA OF FUTURE LOT 1 & LOT 2 – 4,900 SF +6,500 SF (INCLUDES OFFSITE) = 11,400 SF.*
- *SIZING PER STANDARD TABLE 1 (THIS SHEET) FOR 60" DIAM. PIPE WITH IMPERVIOUS AREAS BETWEEN 9,001 SF – 9,500 SF ==> 9,500 SF / 58 LF = 164 SF / 1 LF.*
- *LOTS 1 & 2 REQUIRED DETENTION PIPE LENGTH = 11,400 SF / 164 SF/LF = 70 LF.*

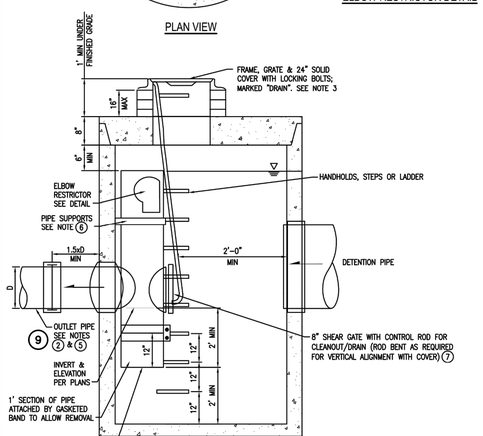
ATTACHMENT 1
CITY OF MERCER ISLAND
ON-SITE DETENTION SYSTEM WORKSHEET
(FOR NEW PLUS REPLACED IMPERVIOUS AREA OF 9,500 SF OR LESS)

OWNER: JON TELLEFSON
ADDRESS: 5214 FOREST AVE SE, MERCER ISLAND, WA 98040
PREPARED BY: SCHMIN CHAOSILAPAKUL, PE
PHONE: 206.384.7539
DATE: 8/28/23
PERMIT #: TBD
NEW PLUS REPLACED IMPERVIOUS SURFACE AREA (SF): 11,399 SF
SOIL TYPE: C
DETENTION PIPE DIA (INCH): 60
PIPE MATERIAL: CMP
DETENTION PIPE LENGTH (FT): A=26.0, B=24.0, C=20.0, TOTAL=70.0
ORIFICE #1 DIA 0.5" INCH, ELEV 126.3'
ORIFICE #2 DIA 1.7" INCH, ELEV 132.0'



ELBOW RESTRICTOR DETAIL

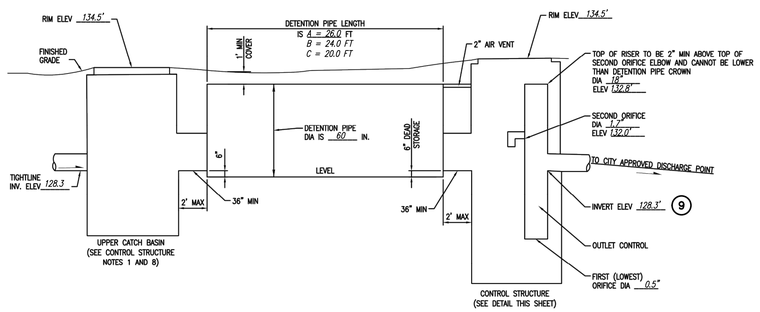
PLAN VIEW



SECTION A-A

CONTROL STRUCTURE DETAIL

NOT TO SCALE



ON-SITE DETENTION SYSTEM

NOT TO SCALE (ENGINEER TO FILL IN BLANKS)

NOTE: CONTROL STRUCTURE IN SDCB #1 ONLY

CONTROL STRUCTURE NOTES:

1. USE A MINIMUM OF A 54 IN. DIAM. TYPE 2 CATCH BASIN. THE ACTUAL SIZE IS DEPENDENT ON CONNECTING PIPE MATERIAL AND DIAMETER.
2. OUTLET PIPE: MIN. 6 INCH.
3. METAL PARTS: CORROSION RESISTANT. NON-GALVANIZED PARTS PREFERRED. GALVANIZED PIPE PARTS TO HAVE ASPHALT TREATMENT 1.
4. FRAME AND LADDER OR STEPS OFFSET SO:
   A. CLEANOUT GATE IS VISIBLE FROM TOP;
   B. CLIMB-DOWN SPACE IS CLEAR OF RISER AND CLEANOUT GATE;
   C. FRAME IS CLEAR OF CURB.
5. IF METAL OUTLET PIPE CONNECTS TO CEMENT CONCRETE PIPE, OUTLET PIPE TO HAVE SMOOTH O.D. EQUAL TO CONCRETE PIPE I.D. LESS 1/4 IN.
6. PROVIDE AT LEAST ONE 3 X 0.090 GAUGE SUPPORT BRACKET ANCHORED TO CONCRETE WALL WITH 5/8 IN. STAINLESS STEEL EXPANSION BOLTS OR EMBEDDED SUPPORTS 2 IN. INTO CATCH BASIN WALL (MAXIMUM 3'-0" VERTICAL SPACING).
7. THE SHEAR GATE SHALL BE MADE OF ALUMINUM ALLOY IN ACCORDANCE WITH ASTM B 26M AND ASTM B 275, DESIGNATION 20132A; OR CAST IRON IN ACCORDANCE WITH ASTM A 48, CLASS 30B. THE LIFT HANDLE SHALL BE MADE OF A SIMILAR METAL TO THE GATE (TO PREVENT GALVANIC CORROSION), IT MAY BE OF SOLID ROD OR HOLLOW TUBING, WITH ADJUSTABLE HOOK AS REQUIRED. A NEOPRENE RUBBER GASKET IS REQUIRED BETWEEN THE RISER MOUNTING FLANGE AND THE GATE FLANGE. INSTALL THE GATE SO THAT THE LEVEL-LINE MARK IS LEVEL WHEN THE GATE IS CLOSED. THE MATING SURFACES OF THE LID AND THE BODY SHALL BE MACHINED FOR PROPER FIT. ALL SHEAR GATE BOLTS SHALL BE STAINLESS STEEL.
8. THE UPPER CATCH BASIN IS REQUIRED IF THE LENGTH OF THE DETENTION PIPE IS GREATER THAN 50 FT.
9. *INSTALL EXTERNAL DROP CONNECTION AT 8" OUTLET FROM THE CONTROL STRUCTURE (SDCB #1 ONLY).*

ON-SITE DETENTION SYSTEM NOTES:

1. CALL DEVELOPMENT SERVICES (206-275-7605) 24 HOURS IN ADVANCE FOR A DETENTION SYSTEM INSPECTION BEFORE BACKFILLING AND FOR FINAL INSPECTIONS.
2. RESPONSIBILITY FOR OPERATION AND MAINTANANCE OF DRAINAGE SYSTEMS ON PRIVATE PROPERTY IS RESPONSIBILITY OF THE PROPERTY OWNER. MATERIAL ACCUMULATED IN THE STORAGE PIPE MUST BE REMOVED FROM CATCH BASINS TO ALLOW PROPER OPERATION. THE OUTLET CONTROL ORIFICE MUST BE KEPT OPEN AT ALL TIMES.
3. PIPE MATERIAL, JOINT, AND PROTECTIVE TREATMENT SHALL BE IN ACCORDANCE WITH SECTION 7.04 AND 9.05 OF THE WSDOT STANDARD SPECIFICATION FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, LATEST VERSION. SUCH MATERIALS INCLUDE THE FOLLOWING, LINED CORRUGATED POLYETHYLENE PIPE (LCPE), ALUMINIZED TYPE 2 CORRUGATED STEEL PIPE AND PIPE ARCH (MEETS AASHTO DESIGNATIONS M274 AND M36), CORRUGATED OR SPIRAL RIB ALUMINUM PIPE, OR REINFORCED CONCRETE PIPE. CORRUGATED STEEL PIPE IS NOT ALLOWED.
4. FOOTING DRAINS SHALL NOT BE CONNECTED TO THE DETENTION SYSTEM.

CALL 48 HOURS BEFORE YOU DIG 811

THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING THE UNDERGROUND LOCATE LINE AT 1-800-424-5555 OR 811 (CELL) A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION.

R#	DATE	DESCRIPTION	BY
1	3/10/25	CITY REVIEW COMMENTS	SC

SCHMIN CHAOSILAPAKUL 22400 PROFESSIONAL ENGINEER 3/10/25

CITY OF MERCER ISLAND
BUILDING PERMIT

STORM DRAINAGE DETAILS LOT 2

PATRICK HARRON & ASSOCIATES, LLC
Civil Engineering & Planning
14900 Interurban Ave. S. Suite 279, Seattle, WA 98168
Phone: 206.486.1256
Web: patrickharron.com

PROJ. NO.	DSN. BY:
20113	CC
DWN. BY:	CHK. BY:
CC	SC

FOREST CREEK ESTATES
LOT 1

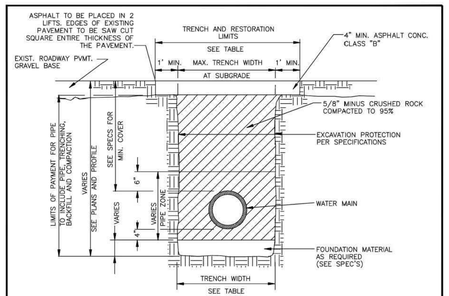
5214 FOREST AVE SE
MERCER ISLAND, WA 98040

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FOREST CREEK ESTATES - LOT 1

SE 1/4, NE 1/4, SEC 24, T 24 N, R 04 E, W. M.



TRENCH WIDTH			
PIPE SIZE	PIPE ZONE MAX. TRENCH WIDTH	MAX. TRENCH WIDTH AT SUBGRADE	MAX. RESTORATION WIDTH AT SURFACE
WATER SERVICES	2'-0"	2'-0"	4'-0"
4" OR 6"	2'-2"	3'-0"	5'-0"
8"	2'-4"	4'-0"	6'-0"
10"	2'-6"	4'-0"	6'-0"
12"	2'-8"	4'-6"	6'-6"
16"	3'-0"	5'-0"	7'-0"

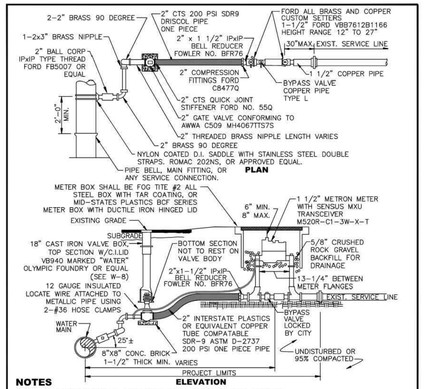
NOTES

1. CALL TWO BUSINESS DAYS BEFORE YOU DIG. (1-800-424-5555)
2. ALL TRENCH BACKFILL MATERIAL SHALL BE 100% 5/8" MINUS CRUSHED ROCK PER WSDOT 9-03.9(3) UNLESS DIRECTED OTHERWISE BY CITY ENGINEER.

CITY OF MERCER ISLAND
STANDARD DETAILS
WATER
TRENCH SECTION

12-23-2013	NO SCALE	W-3
REV DATE		APPROVED

1 W-3 C3.0 SCALE: NTS



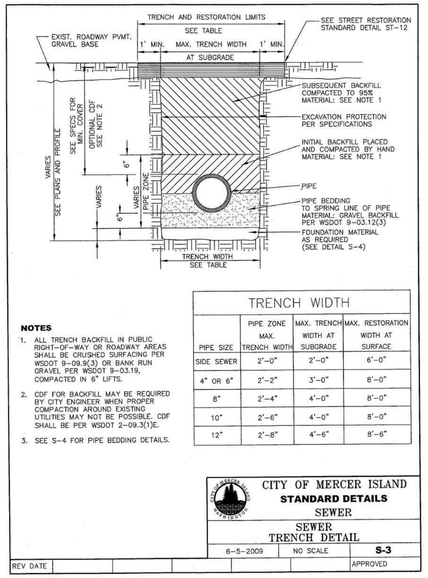
NOTES

1. MINIMUM DISTANCE BETWEEN CORP STOPS SHALL BE 18'. MINIMUM DISTANCE BETWEEN TAPS, BETWEEN CORP STOP AND PIPE ENDS SHALL BE 24', ALL HORIZONALLY STAGGERED.
2. PLASTIC METER BOXES SHALL NOT BE INSTALLED WITHIN ROADWAY, SIDEWALK, OR DRIVEWAYS.
3. WHEN METER BOXES ARE INSTALLED IN PORTLAND CEMENT CONCRETE PAVEMENT OR SIDEWALK, CONTINUOUS FELT EXPANSION MATERIAL SURROUNDING THE PERIMETER OF THE METER BOX SHALL BE PROVIDED.
4. WHEN CONNECTING TO EXISTING SERVICE LINE CONTAINING FERROUS METAL, PROVIDE INSULATING COUPLING (DI SERIES WITH C21 CTS SERIES ADAPTERS) AND PROVIDE REDUCER AS NECESSARY TO MATCH EXISTING SERVICE LINE DIAMETER.
5. SERVICE LINE SHALL BE PERPENDICULAR TO THE WATER MAIN AND STRAIGHT TO METER METER, UNLESS OTHERWISE APPROVED BY CITY ENGINEER. PROVIDE WINDING SLACK IN THE SERVICE LINE BETWEEN THE MAIN AND WATER METER.
6. WATER METER SUPPLIED BY CITY.
7. ALL FITTINGS TO BE BRASS COMPRESSION TYPE, FORD QUICK JOINT OR EQUAL.
8. NO SERVICE CONNECTIONS BETWEEN BLOW-OFF AND END OF MAIN.

CITY OF MERCER ISLAND
STANDARD DETAILS
WATER
1-1/2" WATER METER INSTALLATION

10-16-2013	NO SCALE	W-14
REV DATE		APPROVED

2 W-14 C3.0 SCALE: NTS



TRENCH WIDTH			
PIPE SIZE	PIPE ZONE MAX. TRENCH WIDTH	MAX. TRENCH WIDTH AT SUBGRADE	MAX. RESTORATION WIDTH AT SURFACE
SIDE SEWER	2'-0"	2'-0"	6'-0"
4" OR 6"	2'-2"	3'-0"	6'-0"
8"	2'-4"	4'-0"	8'-0"
10"	2'-6"	4'-0"	8'-0"
12"	2'-8"	4'-6"	8'-6"

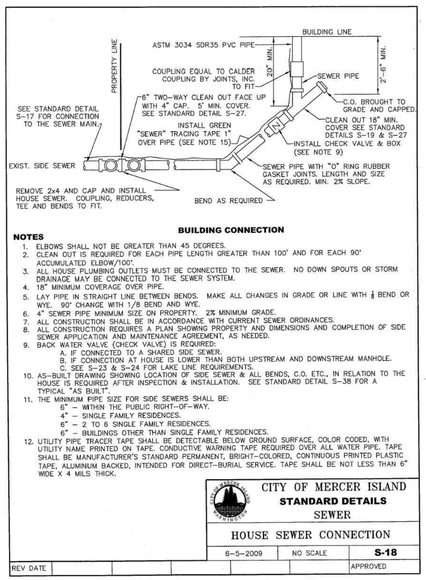
NOTES

1. ALL TRENCH BACKFILL IN PUBLIC RIGHT-OF-WAY OR ROADWAY AREAS SHALL BE CRUSHED SURFACING PER WSDOT 9-09.9(3) OR BANK RUN GRAVEL PER WSDOT 9-03.19, COMPACTED IN 6" LIFTS.
2. CDF FOR BACKFILL MAY BE REQUIRED BY CITY ENGINEER WHEN PROPER COMPACTION AROUND EXISTING UTILITIES MAY NOT BE POSSIBLE. CDF SHALL BE PER WSDOT 2-09.3(1)E.
3. SEE S-4 FOR PIPE BEDDING DETAILS.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
SEWER TRENCH DETAIL

6-5-2009	NO SCALE	S-3
REV DATE		APPROVED

3 S-3 C3.0 SCALE: NTS



BUILDING CONNECTION

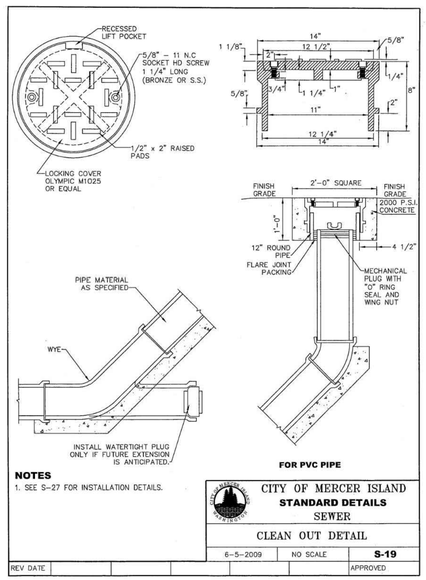
NOTES

1. ELBOWS SHALL NOT BE GREATER THAN 45 DEGREES.
2. CLEAN OUT IS REQUIRED FOR EACH PIPE LENGTH GREATER THAN 100' AND FOR EACH 90° ACCUMULATED ELBOW/100'.
3. ALL HOUSE PLUMBING OUTLETS MUST BE CONNECTED TO THE SEWER. NO DOWN SPOUTS OR STORM DRAINAGE MAY BE CONNECTED TO THE SEWER SYSTEM.
4. 18" MINIMUM COVERAGE OVER PIPE.
5. LAY PIPE IN STRAIGHT LINE BETWEEN BENDS. MAKE ALL CHANGES IN GRADE OR LINE WITH ¼ BEND OR WYE. 90° CHANGE WITH 1/8 BEND AND WYE.
6. 4" SEWER PIPE MINIMUM SIZE ON PROPERTY. 2% MINIMUM GRADE.
7. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT SEWER ORDINANCES.
8. ALL CONSTRUCTION REQUIRES A PLAN SHOWING PROPERTY AND DIMENSIONS AND COMPLETION OF SIDE SEWER APPLICATION AND MAINTENANCE AGREEMENT, AS NEEDED.
9. BACK WATER VALVE (CHECK VALVE) IS REQUIRED:
   A. IF CONNECTED TO A SHARED SIDE SEWER.
   B. IF CONNECTION AT HOUSE IS LOWER THAN BOTH UPSTREAM AND DOWNSTREAM MANHOLE.
   C. SEE S-23 & S-24 FOR LAKE LINE REQUIREMENTS.
10. AS-BUILT DRAWING SHOWING LOCATION OF SIDE SEWER & ALL BENDS, C.O. ETC., IN RELATION TO THE HOUSE IS REQUIRED AFTER INSPECTION & INSTALLATION. SEE STANDARD DETAIL S-38 FOR A TYPICAL "AS BUILT".
11. THE MINIMUM PIPE SIZE FOR SIDE SEWERS SHALL BE:
    6" – WITHIN THE PUBLIC RIGHT-OF-WAY.
    4" – SINGLE FAMILY RESIDENCES.
    6" – 2 TO 6 SINGLE FAMILY RESIDENCES.
    6" – BUILDINGS OTHER THAN SINGLE FAMILY RESIDENCES.
12. UTILITY PIPE TRACER TAPE SHALL BE DETECTABLE BELOW GROUND SURFACE, COLOR CODED, WITH UTILITY NAME PRINTED ON TAPE. CONDUCTIVE WARNING TAPE REQUIRED OVER ALL WATER PIPE. TAPE SHALL BE MANUFACTURER'S STANDARD PERMANENT, BRIGHT-COLORED, CONTINUOUS PRINTED PLASTIC TAPE, ALUMINIUM BACKED, INTENDED FOR DIRECT-BURIAL SERVICE. TAPE SHALL BE NOT LESS THAN 6" WIDE X 4 MILS THICK.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
HOUSE SEWER CONNECTION

6-5-2009	NO SCALE	S-18
REV DATE		APPROVED

4 S-18 C3.0 SCALE: NTS



NOTES

1. SEE S-27 FOR INSTALLATION DETAILS.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
CLEAN OUT DETAIL

6-5-2009	NO SCALE	S-19
REV DATE		APPROVED

6 S-19 C3.0 SCALE: NTS

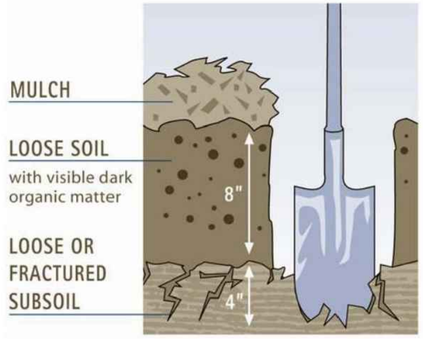


Figure 5.3.3 – Planting bed Cross-Section

5 C3.0 SOIL AMENDMENT DETAIL BMP T5.13 SCALE: NTS

DESIGN GUIDELINES:

- SOIL RETENTION. RETAIN, IN AN UNDISTURBED STATE, THE DUFF LAYER AND NATIVE TOPSOIL TO THE MAXIMUM EXTENT PRACTICABLE. IN ANY AREAS REQUIRING GRADING REMOVE AND STOCKPILE THE DUFF LAYER AND TOPSOIL ON SITE IN A DESIGNATED, CONTROLLED AREA, NOT ADJACENT TO PUBLIC RESOURCES AND CRITICAL AREAS, TO BE REAPPLIED TO OTHER PORTIONS OF THE SITE WHERE FEASIBLE.
- SOIL QUALITY. ALL AREAS SUBJECT TO CLEARING AND GRADING THAT HAVE NOT BEEN COVERED BY IMPERVIOUS SURFACE, INCORPORATED INTO A DRAINAGE FACILITY OR ENGINEERED AS STRUCTURAL FILL OR SLOPE SHALL, AT PROJECT COMPLETION, DEMONSTRATE THE FOLLOWING:

1. A TOPSOIL LAYER WITH A MINIMUM ORGANIC MATTER CONTENT OF 10% DRY WEIGHT IN PLANTING BEDS, AND 5% ORGANIC MATTER CONTENT IN TURF AREAS, AND A PH FROM 6.0 TO 8.0 OR MATCHING THE PH OF THE UNDISTURBED SOIL. THE TOPSOIL LAYER SHALL HAVE A MINIMUM DEPTH OF EIGHT INCHES EXCEPT WHERE TREE ROOTS LIMIT THE DEPTH OF INCORPORATION OF AMENDMENTS NEEDED TO MEET THE CRITERIA. SUBSOILS BELOW THE TOPSOIL LAYER SHOULD BE SCARIFIED AT LEAST 4 INCHES WITH SOME INCORPORATION OF THE UPPER MATERIAL TO AVOID STRATIFIED LAYERS, WHERE FEASIBLE.
2. MULCH PLANTING BEDS WITH 2 INCHES OF ORGANIC MATERIAL.
3. USE COMPOST AND OTHER MATERIALS THAT MEET THESE ORGANIC CONTENT REQUIREMENTS:
   a. THE ORGANIC CONTENT FOR "PRE-APPROVED" AMENDMENT RATES CAN BE MET ONLY USING COMPOST MEETING THE COMPOST SPECIFICATION FOR BIORETENTION (BMP T7.30), WITH THE EXCEPTION THAT THE COMPOST MAY HAVE UP TO 35% BIOSOLIDS OR MANURE. THE COMPOST MUST ALSO HAVE AN ORGANIC MATTER CONTENT OF 40% TO 65%, AND A CARBON TO NITROGEN RATIO BELOW 25:1. THE CARBON TO NITROGEN RATIO MAY BE AS HIGH AS 35:1 FOR PLANTINGS COMPOSED ENTIRELY OF PLANTS NATIVE TO THE PUGET SOUND LOWLANDS REGION.
   b. CALCULATED AMENDMENT RATES MAY BE MET THROUGH USE OF COMPOSTED MATERIAL MEETING (A.) ABOVE; OR OTHER ORGANIC MATERIALS AMENDED TO MEET THE CARBON TO NITROGEN RATIO REQUIREMENTS, AND NOT EXCEEDING THE CONTAMINANT LIMITS IDENTIFIED IN TABLE 220-B, TESTING PARAMETERS, IN WAC 173-350-220.

THE RESULTING SOIL SHOULD BE CONDUCIVE TO THE TYPE OF VEGETATION TO BE ESTABLISHED.

- IMPLEMENTATION OPTIONS: THE SOIL QUALITY DESIGN GUIDELINES LISTED ABOVE CAN BE MET BY USING ONE OF THE METHODS LISTED BELOW:

1. LEAVE UNDISTURBED NATIVE VEGETATION AND SOIL, AND PROTECT FROM COMPACTION DURING CONSTRUCTION.
2. AMEND EXISTING SITE TOPSOIL OR SUBSOIL EITHER AT DEFAULT "PRE-APPROVED" RATES, OR AT CUSTOM CALCULATED RATES BASED ON TESTS OF THE SOIL AND AMENDMENT.
3. STOCKPILE EXISTING TOPSOIL DURING GRADING, AND REPLACE IT PRIOR TO PLANTING. STOCKPILED TOPSOIL MUST ALSO BE AMENDED IF NEEDED TO MEET THE ORGANIC MATTER OR DEPTH REQUIREMENTS, EITHER AT A DEFAULT "PRE-APPROVED" RATE OR AT A CUSTOM CALCULATED RATE.
4. IMPORT TOPSOIL MIX OF SUFFICIENT ORGANIC CONTENT AND DEPTH TO MEET THE REQUIREMENTS. MORE THAN ONE METHOD MAY BE USED ON DIFFERENT PORTIONS OF THE SAME SITE. SOIL THAT ALREADY MEETS THE DEPTH AND ORGANIC MATTER QUALITY STANDARDS, AND IS NOT COMPACTED, DOES NOT NEED TO BE AMENDED.

MAINTENANCE:

- ESTABLISH SOIL QUALITY AND DEPTH TOWARD THE END OF CONSTRUCTION AND ONCE ESTABLISHED, PROTECT FROM COMPACTION, SUCH AS FROM LARGE MACHINERY USE, AND FROM EROSION.
- PLANT VEGETATION AND MULCH THE AMENDED SOIL AREA AFTER INSTALLATION.
- LEAVE PLANT DEBRIS OR ITS EQUIVALENT ON THE SOIL SURFACE TO REPLENISH ORGANIC MATTER.
- REDUCE AND ADJUST, WHERE POSSIBLE, THE USE OF IRRIGATION, FERTILIZERS, HERBICIDES AND PESTICIDES, RATHER THAN CONTINUING TO IMPLEMENT FORMERLY ESTABLISHED PRACTICES.

CALL 48 HOURS BEFORE YOU DIG 811

THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING THE UNDERGROUND LOCATE LINE AT 1-800-424-5555 OR 811 (CELL) A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION.

R#	DATE	DESCRIPTION	BY
1	3/10/25	CITY REVIEW COMMENTS	SC

CHRISTOPHER J. APAKUL — 24868 — REGISTERED PROFESSIONAL ENGINEER — 3/10/25

CITY OF MERCER ISLAND
BUILDING PERMIT

UTILITY DETAILS

PATRICK HARRON & ASSOCIATES, LLC
Civil Engineering & Planning
14900 Interurban Ave. S. Suite 279, Seattle, WA 98168
Phone: (425) 445-4635
Web: patrickharron.com

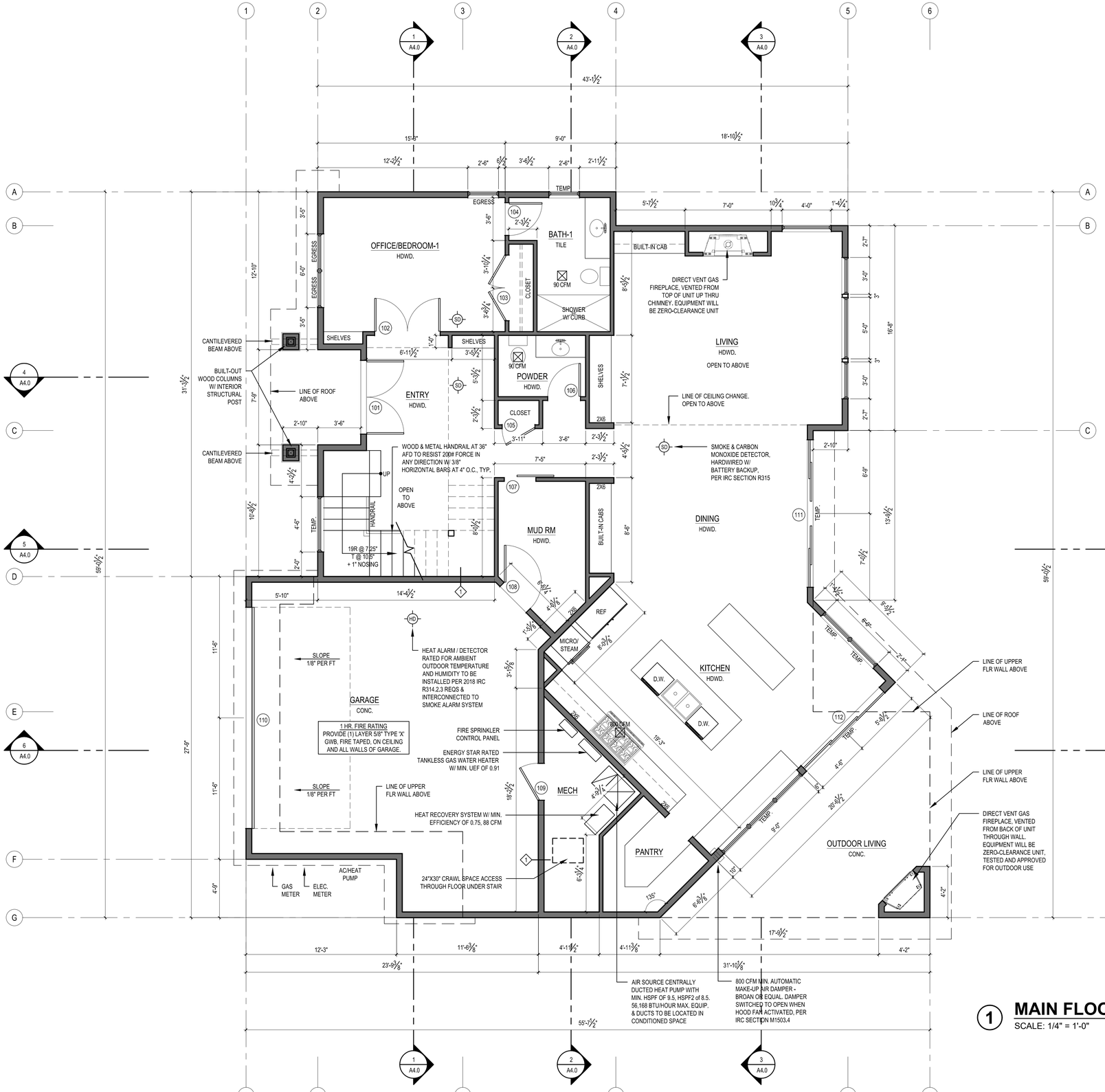
PROJ. NO.	DSN. BY:
20113	CC
DWN. BY:	CHK. BY:
CC	SC

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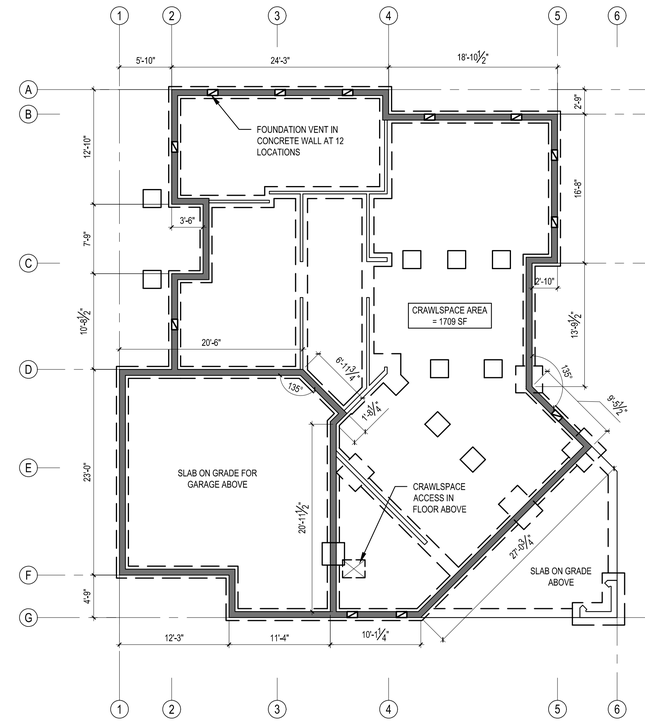
DATE:	3/10/25
SCALE:	AS SHOWN
DRAWING NO.	C3.2
	6 OF 6

Mar 10, 2025 2:05:55PM – User: Sheri Stark
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0128



1 MAIN FLOOR PLAN
SCALE: 1/4" = 1'-0"



2 CRAWLSPACE VENTING PLAN
SCALE: 1/8" = 1'-0"

CRAWLSPACE VENTING:

(AREA) 1709 SF / 300 = 5.7 SF VENTING REQ'D.
5.7 SF X 144 = 820.8 SQ. IN.
68 SQ. IN. STND. VENT.
820.8 / 68 = 12 VENTS REQ.
12 VENTS WILL BE PROVIDED

USE APPROVED CLASS I VAPOR RETARDER PER IBC R408.2, EXCEPTION.

WALL PARTITION TYPES:
N.T.S. (SEE STRUCTURAL SHEETS FOR SHEARWALLS.

TYPICAL EXTERIOR WALL
EXTERIOR WALL FINISH o/ CONTINUOUS R-5 RIGID INSULATION o/ (2) LAYERS 60# BLDG. PAPER OR WRB o/ SHEATHING PER STRUCT o/ 2x6 WOOD STUDS AT 16" O.C. w/ 5/8" w/ GYPSUM WALLBOARD AT INTERIOR & R-21 BATT INSULATION EXCEPT EXT. OF GARAGE

TYPICAL INTERIOR PARTITION
U.N.O. ALL INTERIOR WALL SHALL BE 2x4 WOOD STUDS @ 16" O.C. w/ 5/8" GYPSUM WALLBOARD EACH SIDE.

1HR. FIRE RATED GARAGE WALL
5/8" GYPSUM WALLBOARD @ INTERIOR o/ 2X6 WOOD STUDS @ 16" O.C. w/ R-21 BATT INSULATION w/ CONTINUOUS R-5 RIGID INSULATION w/ (1) LAYER 5/8" TYPE 'X' GWB PANEL NAILED 7" O.C.- 1 7/8" CEM CTD NAILS- JOINTS EXP OR FIN - PERIM CAULKED- UL DES U305 & U314- JOINTS FIN

SCALE: IF SHEET IS LESS THAN 24" X 36", IT IS A REDUCED PRINT. REDUCE SCALE ACCORDINGLY

PERMIT SET 03/13/25

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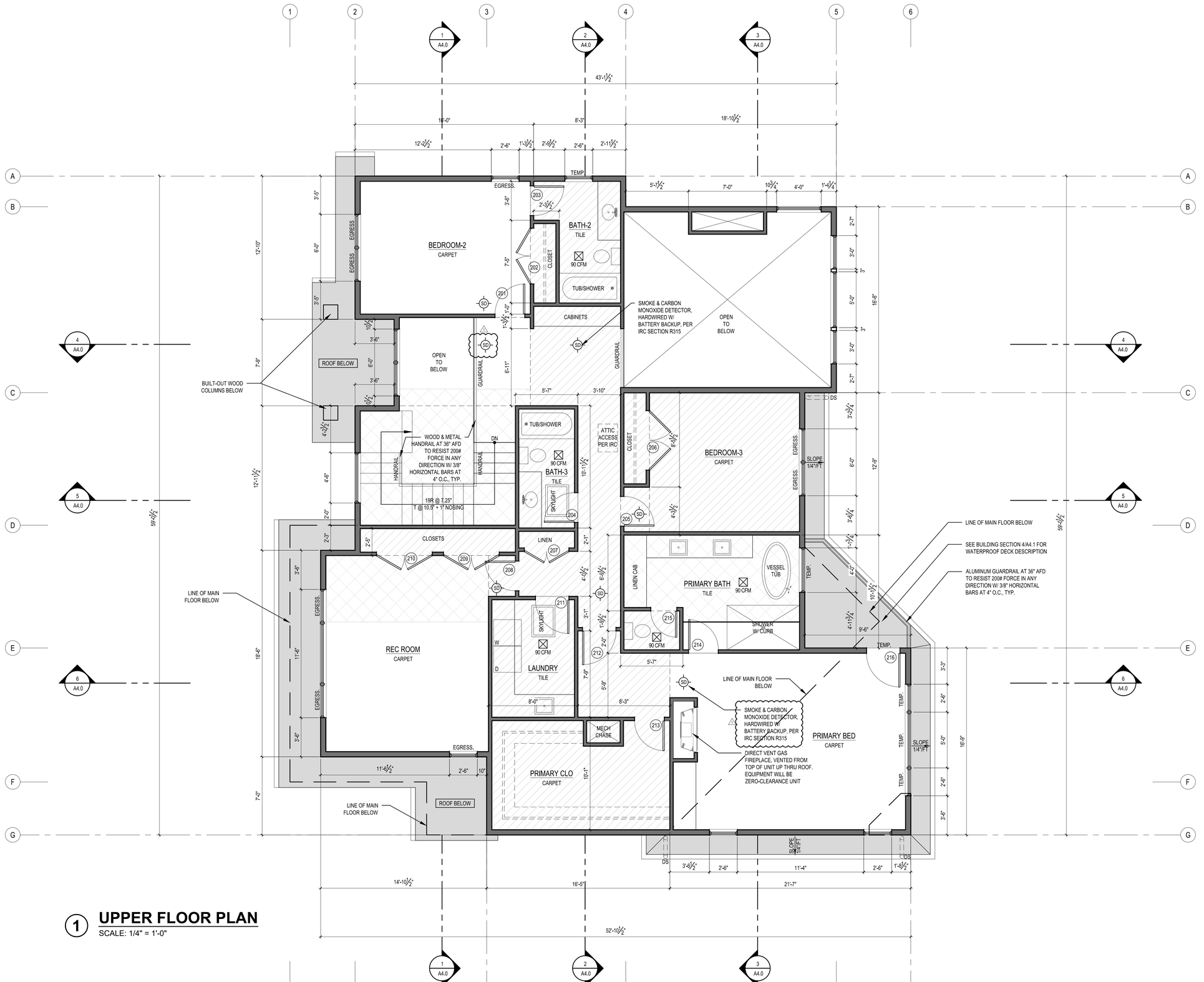
MAIN FLOOR PLAN

REVISIONS:
2025-3-13 Corrections #1

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CHECKED BY: BJS

SHEET
A2.0

PLOT DATE: 3/13/2025



1 UPPER FLOOR PLAN

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

POCHE LEGEND:

- AREA OF ROOF BELOW
- AREA OF FURRED DOWN FLAT CEILING
- AREA OF CEILING TALLER THAN 12'

WALL PARTITION TYPES:

N.T.S. (SEE STRUCTURAL SHEETS FOR SHEARWALLS.

TYPICAL EXTERIOR WALL
EXTERIOR WALL FINISH o/ CONTINUOUS R-5 RIGID INSULATION o/ (2) LAYERS 60# BLDG. PAPER OR WRB o/ SHEATHING PER STRUCT o/ 2x6 WOOD STUDS AT 16" O.C. w/ 5/8" w/ GYPSUM WALLBOARD AT INTERIOR & R-21 BATT INSULATION EXCEPT EXT. OF GARAGE

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UPPER FLOOR PLAN

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PLOT DATE: 3/13/2025

ROOF VENT CALCULATIONS

CODE REQUIREMENT				CALCULATIONS								ACTUAL	
DESCRIPTION	SF AREA	REQ. VENTING PER SF AREA		VENT TYPE		X	VENT L.F.	=	TOTAL VENT AREA SQ. IN.	X	SF CONVERT. 1/144	X	80% EFF FACTOR	TOTAL
		150	300	RIDGE	SOFFIT									
ROOF A	2,048				24 SQ.IN./FT.		116.75		2802		19.46		15.57	15.57
		13.65			2" VENT									
				12 SQ.IN/FT.					0		0.00		0.00	
				CONTINUOUS										
ROOF B	864				18 SQ.IN./FT.		80		1440		10.00		8.00	8.00
		5.76			1.5" VENT									
				12 SQ.IN/FT.					0		0.00		0.00	
				CONTINUOUS										
ROOF C	170				18 SQ.IN./FT.		28		504		3.50		2.80	2.80
		1.13			1.5" VENT									
				12 SQ.IN/FT.					0		0.00		0.00	
				CONTINUOUS										
ROOF D	82				18 SQ.IN./FT.		7.5		135		0.94		0.75	0.75
		0.55			1.5" VENT									
				12 SQ.IN/FT.					0		0.00		0.00	
				CONTINUOUS										
ROOF E	SPRAY FOAM				18 SQ.IN./FT.						0.00		0.00	0.00
					1.5" VENT									
				12 SQ.IN/FT.					0		0.00		0.00	
				CONTINUOUS										

SHORT RAKE THIS AREA TO NOT INTRUDE INTO SIDE YARD SETBACK

LINE OF UPPER FLR WALL BELOW

ROOF B

ROOF D

BUILT-OUT COLUMNS BELOW

ROOF TO WALL TRANSITION VENT

ROOF TO WALL TRANSITION VENT

LINE OF MAIN FLR WALL BELOW

SKYLIGHT

SKYLIGHT

ROOF A

LOWER GUTTER

LINE OF MAIN FLOOR BELOW

ROOF E
SPRAY FOAM

SEE BUILDING SECTION 4/A4.1 FOR WATERPROOF DECK DESCRIPTION

ALUMINUM GUARDRAIL AT 36" AFD TO RESIST 200# FORCE IN ANY DIRECTION W/ 3/8" HORIZONTAL BARS AT 4" O.C., TYP.

ROOF C

LINE OF MAIN FLR WALL BELOW

LINE OF UPPER FLR WALL BELOW

LINE OF UPPER FLR WALL BELOW

UPPER GUTTER

UPPER GUTTER

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

POCHE LEGEND:

MAIN FLOOR ROOF

UPPER FLOOR ROOF

SCALE: IF SHEET IS LESS THAN 24" X 36", IT IS A REDUCED PRINT; REDUCE SCALE ACCORDINGLY

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ROOF PLAN

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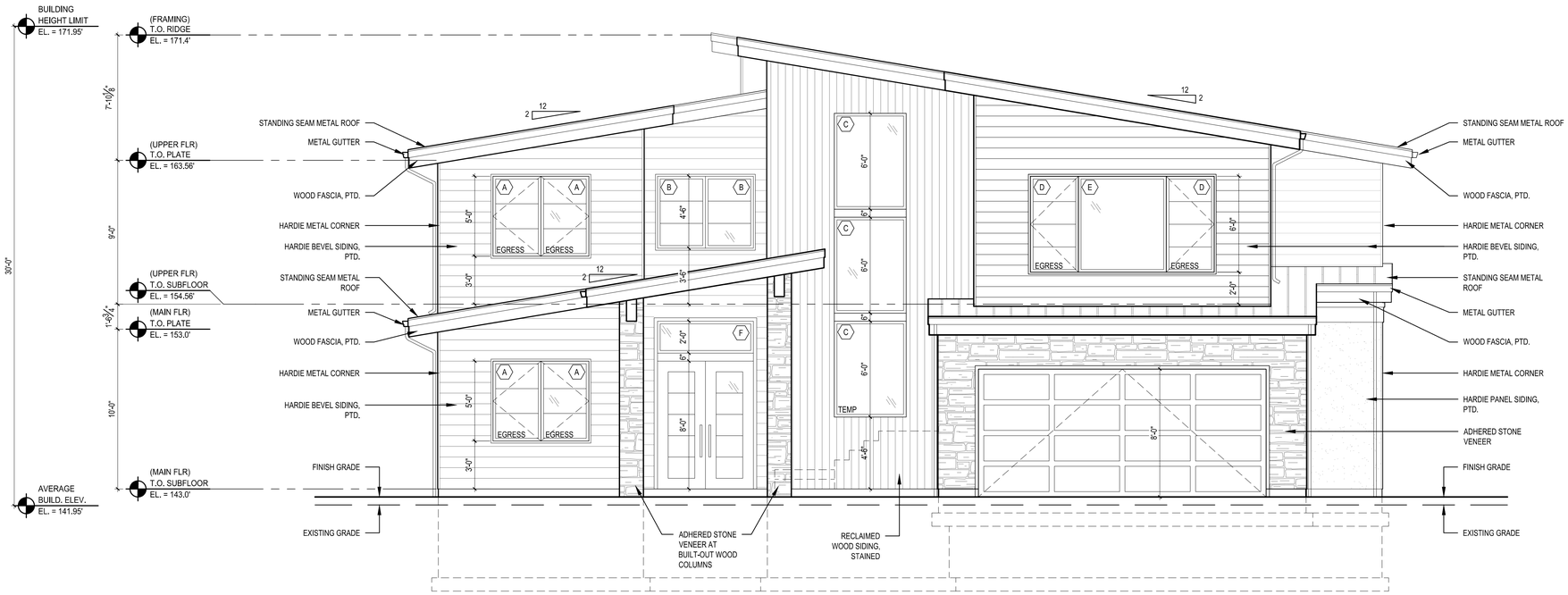
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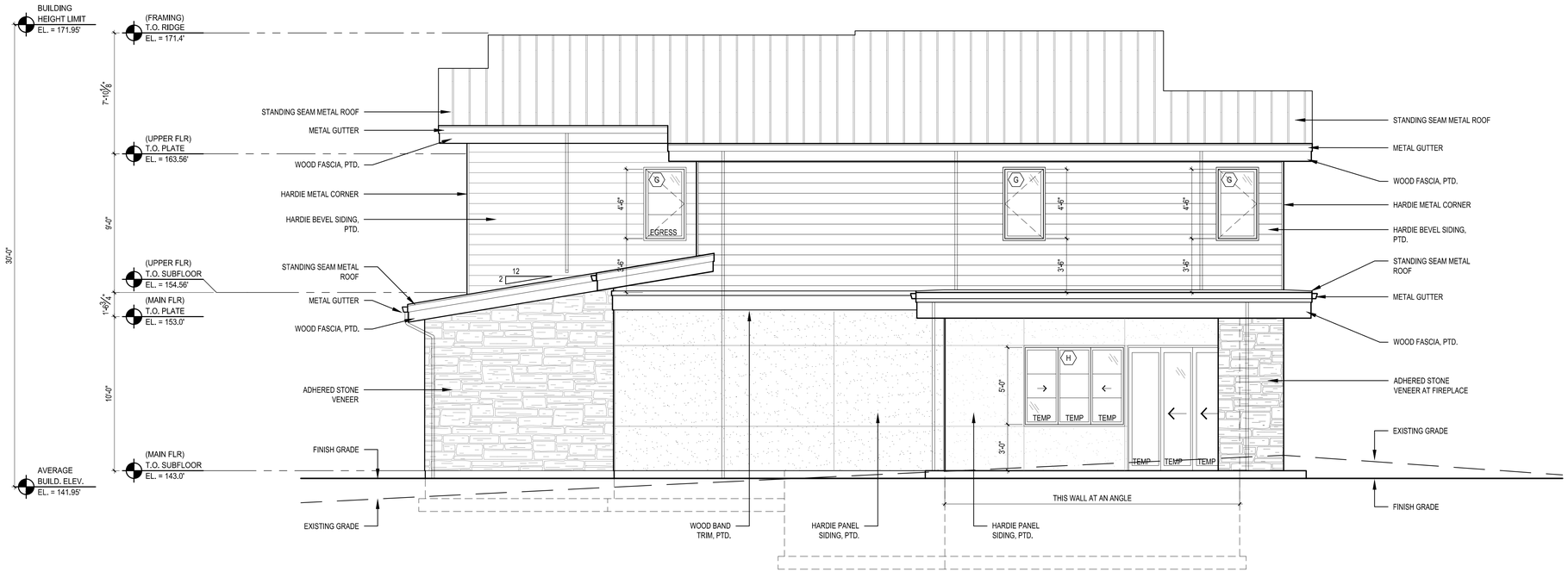
PLOT DATE: 3/13/2025

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1 FRONT ELEVATION

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



2 SOUTH ELEVATION

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

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EXTERIOR ELEVATIONS

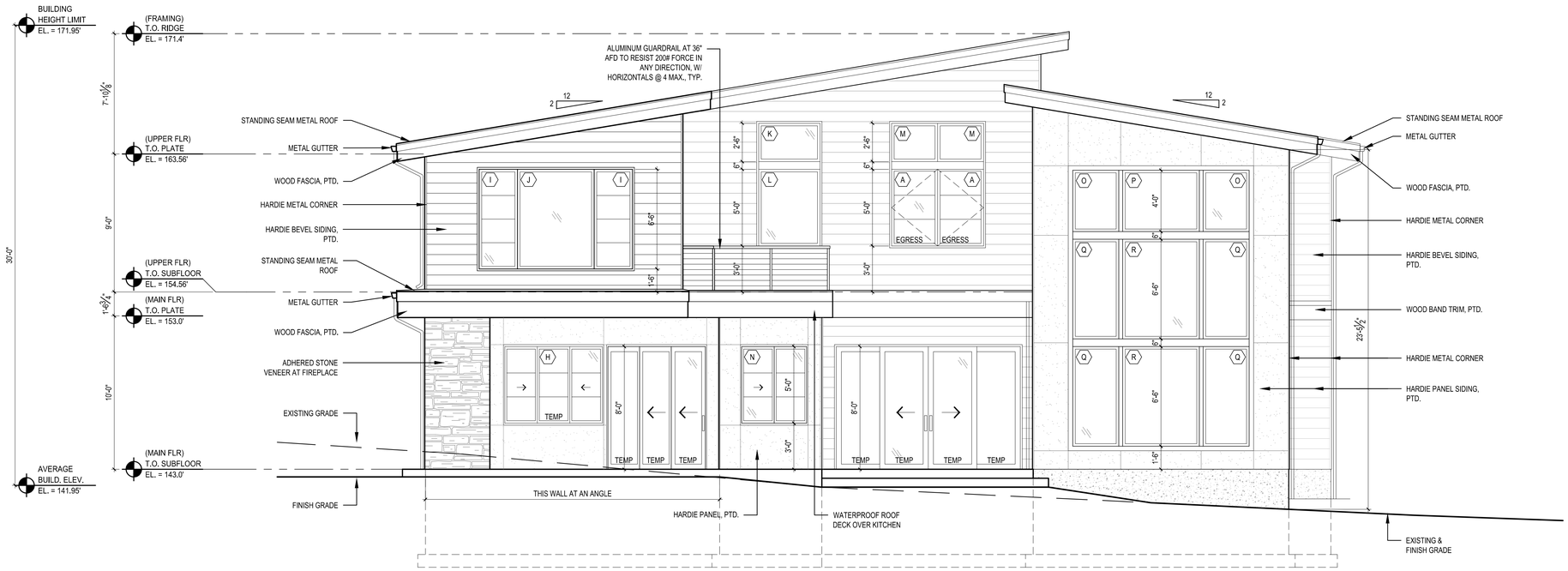
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PLOT DATE: 3/13/2025



3 **EAST ELEVATION**
SCALE: 1/4" = 1'-0"



4 **NORTH ELEVATION**
SCALE: 1/4" = 1'-0"

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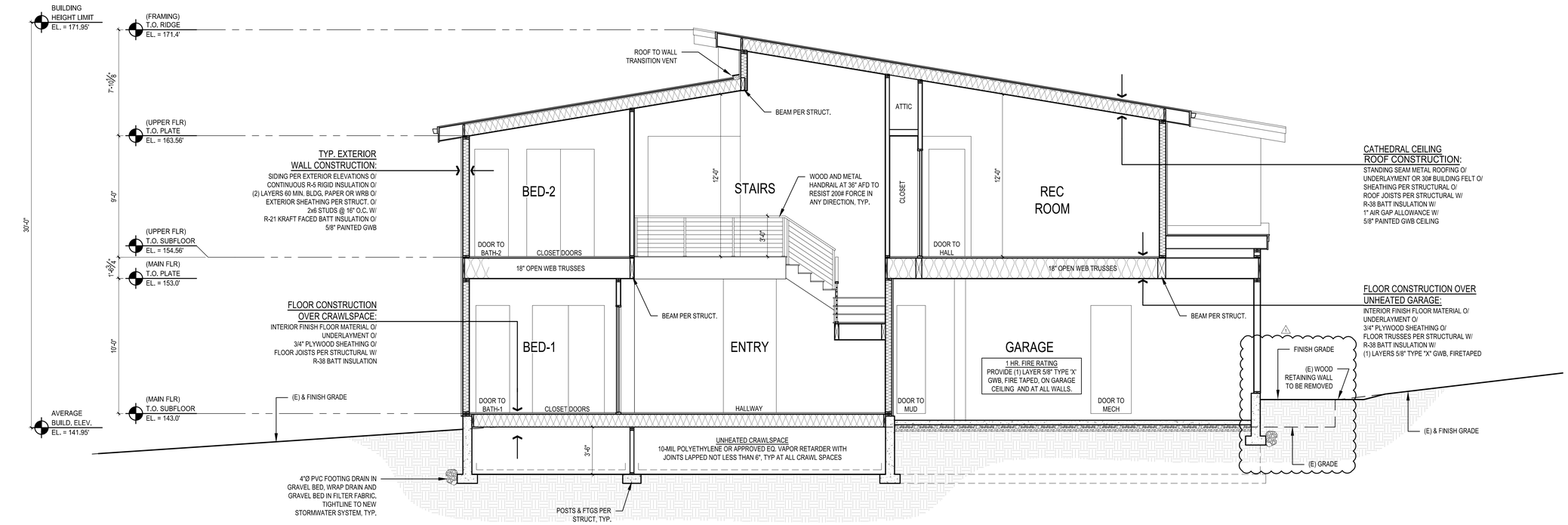
EXTERIOR ELEVATIONS

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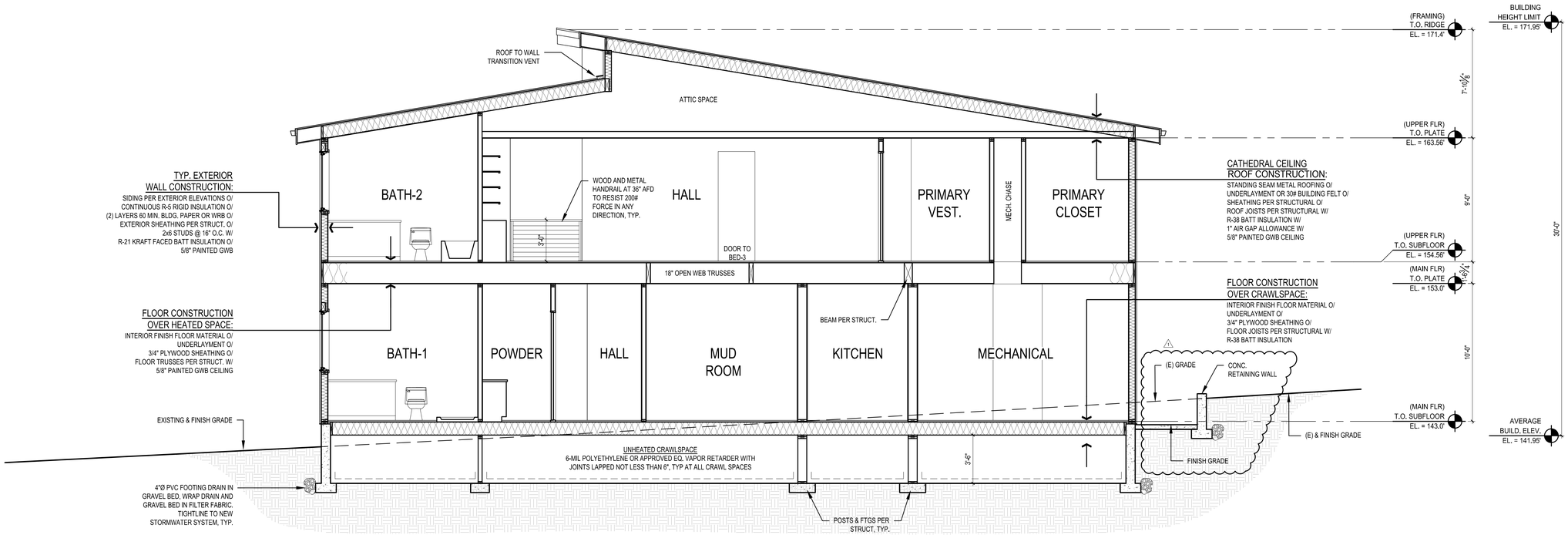
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1 BUILDING SECTION

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



2 BUILDING SECTION

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

SCALE: IF SHEET IS LESS THAN 24" X 36", IT IS A REDUCED PRINT; REDUCE SCALE ACCORDINGLY

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BUILDING SECTIONS

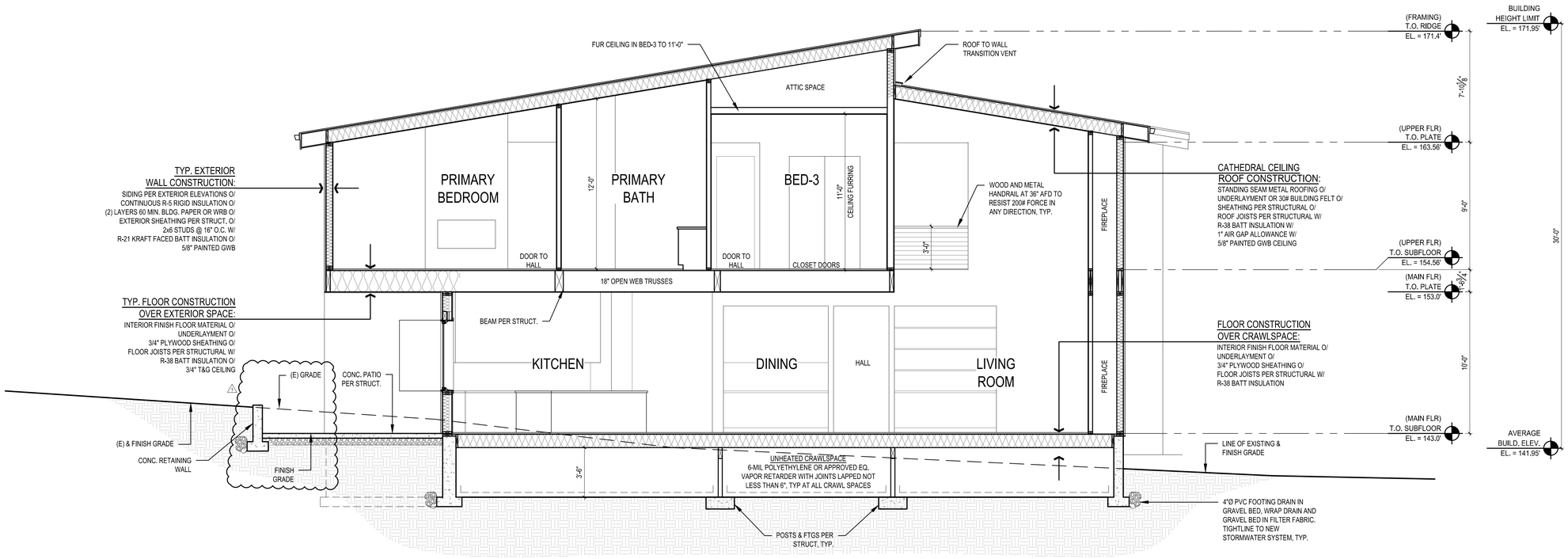
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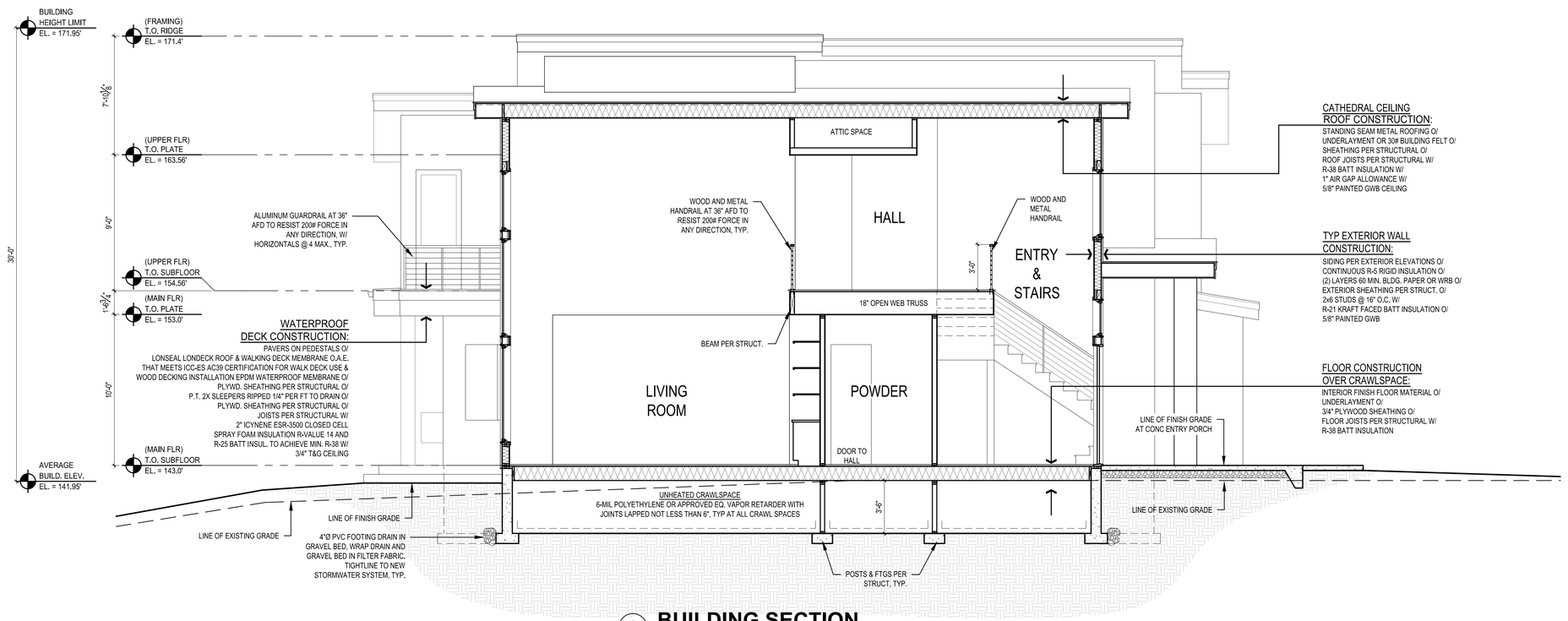
SHEET **A4.0**

PLOT DATE: 3/13/2025



3 BUILDING SECTION

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



4 BUILDING SECTION

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

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MERCER ISLAND, WA 98040

BUILDING SECTIONS

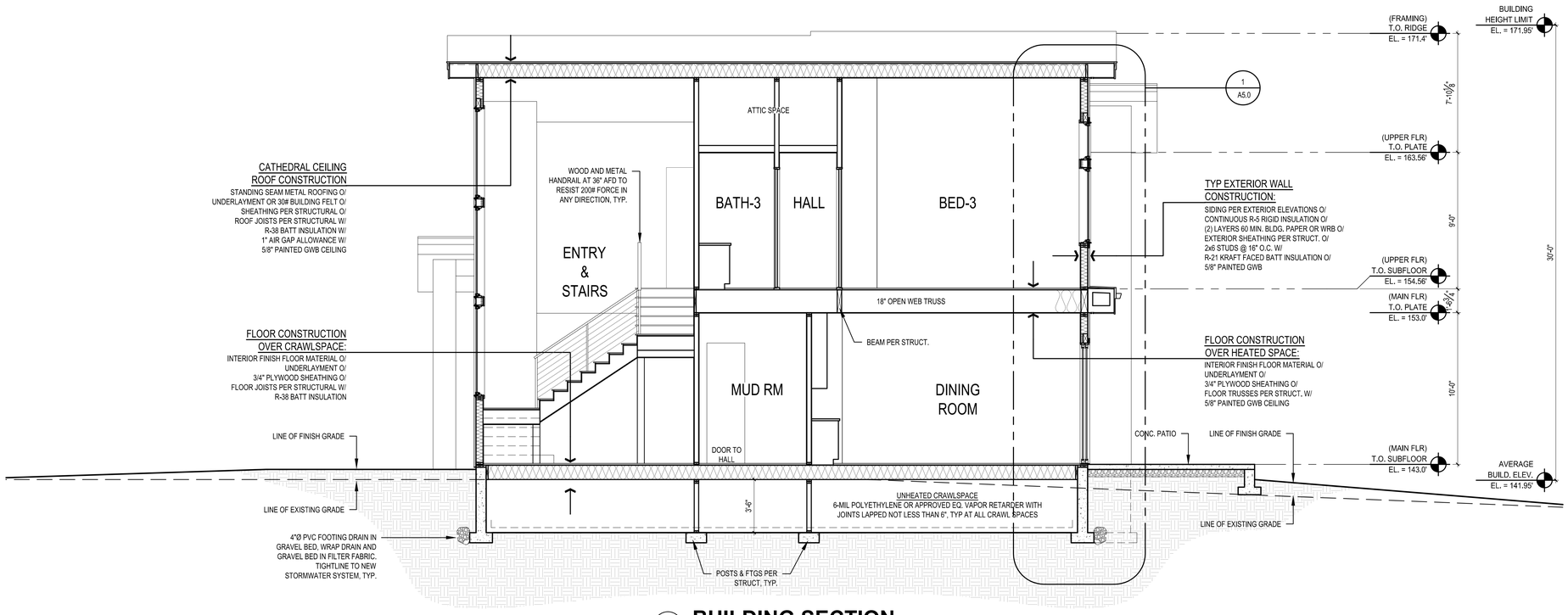
REVISIONS:
2025-3-13 Corrections #1

DRAWN BY: KE

CHECKED BY: BJS

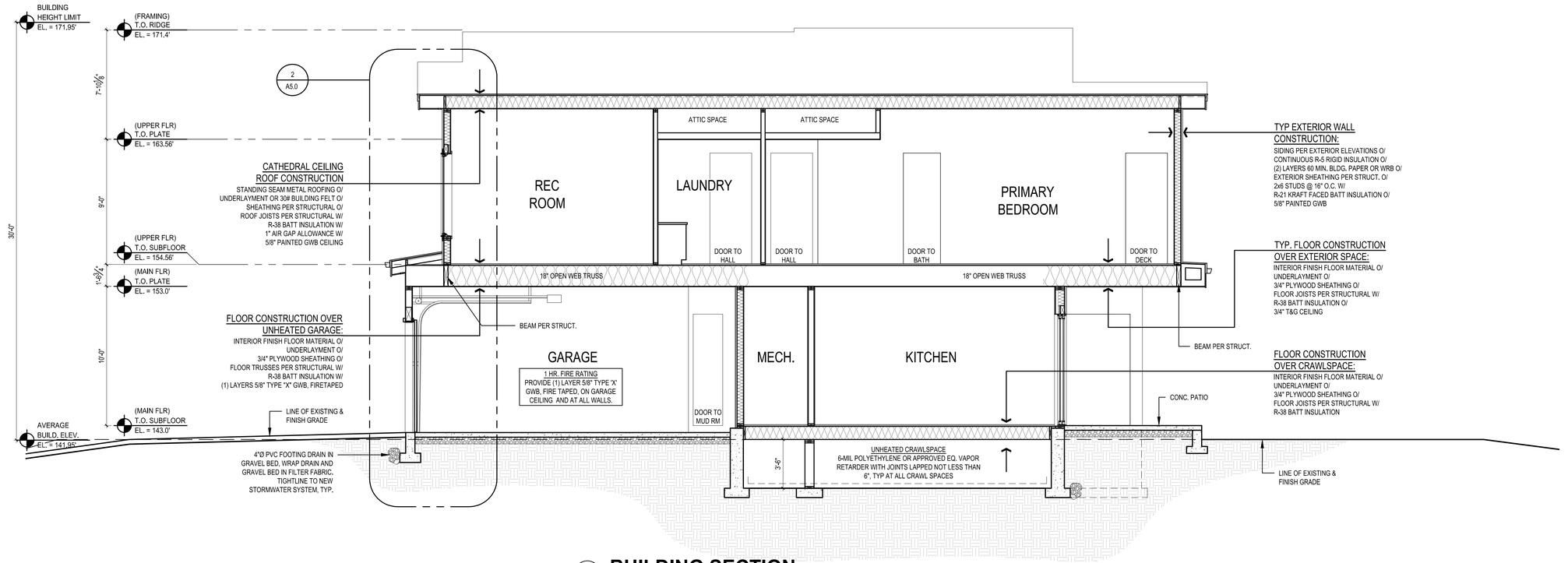
SHEET A4.1

PLOT DATE: 3/13/2025



5 **BUILDING SECTION**

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



6 **BUILDING SECTION**

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

SCALE: IF SHEET IS LESS THAN 24" X 36", IT IS A REDUCED PRINT. REDUCE SCALE ACCORDINGLY

PERMIT SET 03/13/25

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9-103rd Avenue NE Suite 203
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REGISTERED ARCHITECT
BRADLEY J. STURMAN
STATE OF WASHINGTON
5982

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FOREST CREEK ESTATES LOT 1
PERMIT SET
5222 FOREST AVE S.E.
MERCER ISLAND, WA 98040

BUILDING SECTIONS

REVISIONS:
2025-3-13 Corrections #1

DRAWN BY: KE

CHECKED BY: BJS

SHEET **A4.2**

PLOT DATE: 3/13/2025

WINDOW SCHEDULE LOT 1

TAG.	DESCRIPTION	R.O. SIZE		TEMP.	QTY.	AREA (SF)	U-VAL (MIN.)	GLAZING	REMARKS & NOTES
		WIDTH	HEIGHT						
A	CASEMENT	3' - 0"	5' - 0"		6		0.28	LOW E / CLEAR	EGRESS
B	FIXED	3' - 0"	4' - 6"		2		0.28	LOW E / CLEAR	
C	FIXED	4' - 6"	6' - 0"	Y	3		0.28	LOW E / CLEAR	TEMP GLASS
D	CASEMENT	3' - 0"	6' - 0"		2		0.28	LOW E / CLEAR	EGRESS
E	FIXED	5' - 6"	6' - 0"		1		0.28	LOW E / CLEAR	
F	FIXED	6' - 0"	2' - 6"		1		0.28	LOW E / CLEAR	TRANSOM
G	CASEMENT	2' - 6"	4' - 6"		7		0.28	LOW E / CLEAR	EGRESS
H	SLIDER	9' - 0"	5' - 0"	Y	1		0.28	LOW E / CLEAR	TEMP GLASS
I	FIXED	2' - 6"	6' - 6"		2		0.28	LOW E / CLEAR	
J	FIXED	5' - 0"	6' - 6"		1		0.28	LOW E / CLEAR	
K	FIXED	4' - 0"	2' - 6"		1		0.28	LOW E / CLEAR	TRANSOM
L	FIXED	4' - 0"	5' - 0"		1		0.28	LOW E / CLEAR	
M	FIXED	3' - 0"	2' - 6"		2		0.28	LOW E / CLEAR	TRANSOM
N	SLIDER	6' - 0"	5' - 0"		1		0.28	LOW E / CLEAR	
O	FIXED	3' - 0"	4' - 0"		2		0.28	LOW E / CLEAR	
P	FIXED	5' - 0"	4' - 0"		1		0.28	LOW E / CLEAR	
Q	FIXED	3' - 0"	6' - 6"		4		0.28	LOW E / CLEAR	
R	FIXED	5' - 0"	6' - 6"		2		0.28	LOW E / CLEAR	
S	FIXED	4' - 0"	4' - 0"		1		0.28	LOW E / CLEAR	
T	FIXED	4' - 0"	6' - 6"		2		0.28	LOW E / CLEAR	

DOOR SCHEDULE LOT 1

DOOR NO.	LOCATION	SIZE WIDTH	SIZE HEIGHT	DOOR TYPE	TEMP. GLASS	DOOR THK.	U-VAL (MIN.)	REMARKS
MAIN FLOOR								
101	ENTRY	PR 3' - 0"	8' - 0"	B	Y	1-3/4"	0.28	TEMP GLASS
102	OFFICE/BEDROOM-1	PR 2' - 8"	8' - 0"	B		1-3/4"		
103	OFFICE CLOSET	PR 2' - 8"	8' - 0"	B		1-3/4"		
104	BATH-1	2' - 8"	8' - 0"	A		1-3/4"		
105	ENTRY CLOSET	2' - 8"	8' - 0"	A		1-3/4"		
106	POWDER	2' - 8"	8' - 0"	A		1-3/4"		
107	MUD ROOM	2' - 8"	8' - 0"	F		1-3/4"		
108	GARAGE	3' - 0"	8' - 0"	A		1-3/4"		20 MIN FIRE-RATED, SELF-CLOSING
109	MECHANICAL	3' - 0"	8' - 0"	A		1-3/4"		20 MIN FIRE-RATED, SELF-CLOSING
110	GARAGE	18' - 0"	8' - 0"	E		1-3/4"		
111	DINING	12' - 0"	8' - 0"	D	Y	1-3/4"	0.28	TEMP GLASS
112	KITCHEN	9' - 0"	8' - 0"	G	Y	1-3/4"	0.28	TEMP GLASS
UPPER FLOOR								
201	BEDROOM-2	2' - 8"	8' - 0"	A		1-3/4"		
202	BEDROOM-2 CLOSET	PR 2' - 6"	8' - 0"	B		1-3/4"		
203	BATH-2	2' - 6"	8' - 0"	A		1-3/4"		
204	BATH-3	2' - 8"	8' - 0"	A		1-3/4"		
205	BEDROOM-3	2' - 8"	8' - 0"	A		1-3/4"		
206	BEDROOM-3 CLOSET	PR 2' - 8"	8' - 0"	B		1-3/4"		
207	HALL CLOSET	PR 2' - 0"	8' - 0"	B		1-3/4"		
208	REC ROOM	2' - 8"	8' - 0"	A		1-3/4"		
209	REC ROOM CLOSET	PR 2' - 6"	8' - 0"	B		1-3/4"		
210	REC ROOM CLOSET	PR 2' - 6"	8' - 0"	B		1-3/4"		
211	LAUNDRY	3' - 0"	8' - 0"	A		1-3/4"		
212	PRIMARY BEDROOM	3' - 0"	8' - 0"	A		1-3/4"		
213	PRIMARY CLOSET	2' - 8"	8' - 0"	A		1-3/4"		
214	PRIMARY BATH	2' - 8"	8' - 0"	A		1-3/4"		
215	PRIMARY BATH	2' - 4"	8' - 0"	A		1-3/4"		
216	PRIMARY BAEDROOM	3' - 0"	8' - 0"	C	Y	1-3/4"	0.28	TEMP GLASS
217								

WINDOW & DOOR SCHEDULE NOTES:

1.) CONTRACTOR TO VERIFY ALL GLAZING SIZING, AND DOOR DIMENSIONS IN FIELD PRIOR TO ROUGH FRAMING & ORDERING OF GLAZING/WINDOW/DOOR MATERIALS. REVIEW SIZES AND ANY DISCREPANCIES W/ ARCHITECT.

2.) ALL GLAZING TO BE "LOW E", INSULATED GLASS UNLESS NOTED OTHERWISE.

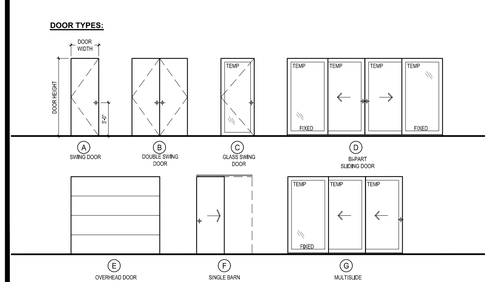
3.) ALL OPERABLE WINDOWS TO HAVE SCREENS.

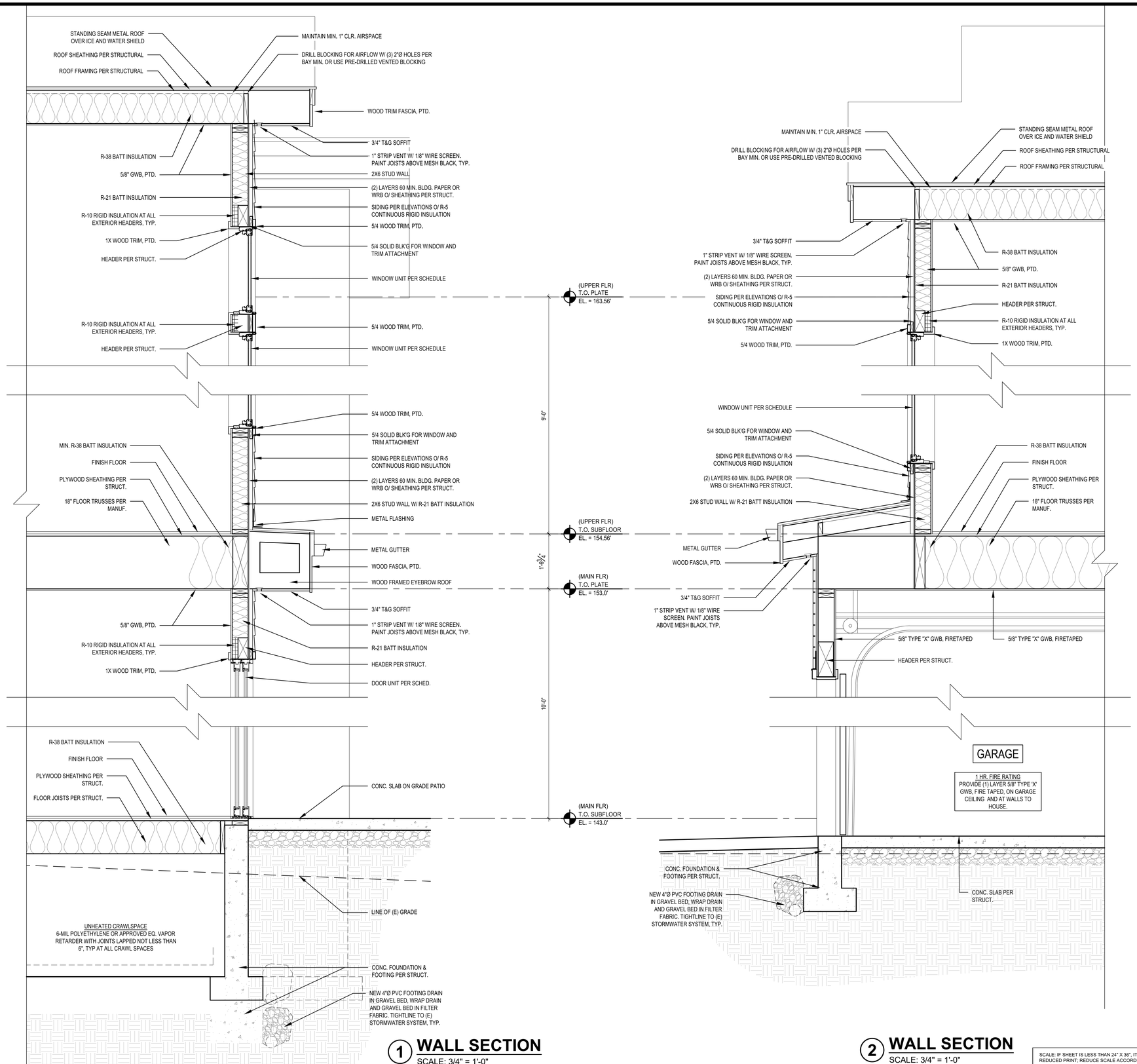
4.) GLAZING INDOORS AND/OR WITHIN 24" OF A DOOR TO BE TEMPERED. SEE EXTERIOR ELEVATION FOR TEMP. GLASS LOCATION & EGRESS WINDOWS.

5.) 2018 WSEC & VIAQ RESIDENTIAL PRESCRIPTIVE OPTION 3 ADOPTED. GLAZING AREA INDICATED UNLIMITED. SEE ENERGY NOTE AT A1.0 SHEET FOR DETAILS.

6.) ALL WINDOWS AND DOORS WITHOUT A BUG ARE EXISTING TO REMAIN.

DOOR TYPES:





SCALE: IF SHEET IS LESS THAN 24" X 36", IT IS A REDUCED PRINT. REDUCE SCALE ACCORDINGLY

PERMIT SET 03/13/25

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WALL SECTIONS DOOR & WINDOW SCHEDULES

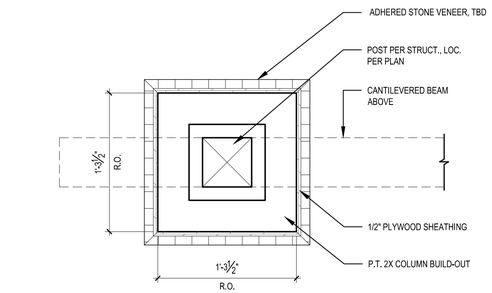
REVISIONS:
2025-3-13 Corrections #1

DRAWN BY: KE

CHECKED BY: BJS

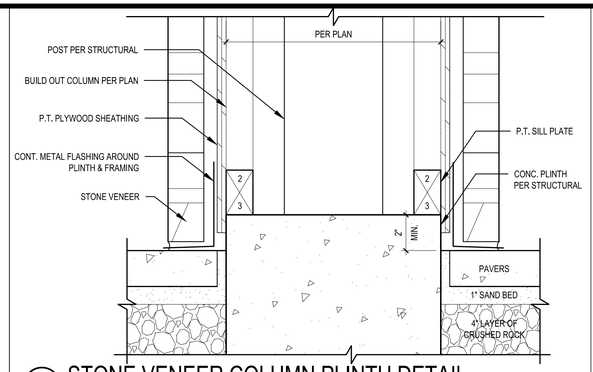
SHEET A5.0

PLOT DATE: 3/13/2025



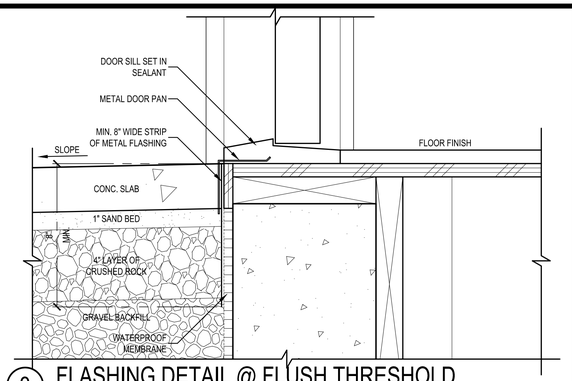
1 BUILT-OUT WOOD COLUMN PLAN DETAIL

SCALE: 1-1/2" = 1'-0"



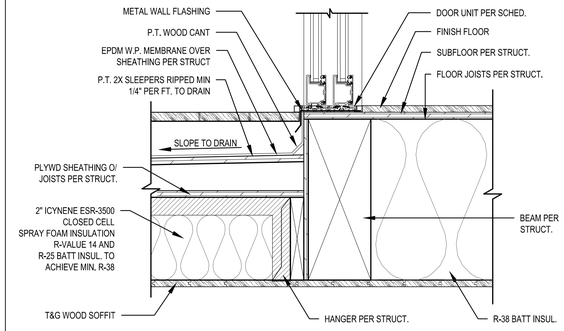
2 STONE VENEER COLUMN PLINTH DETAIL

SCALE: 3" = 1'-0"



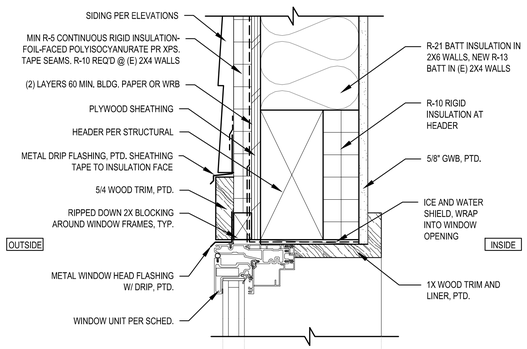
3 FLASHING DETAIL @ FLUSH THRESHOLD

SCALE: 3" = 1'-0"



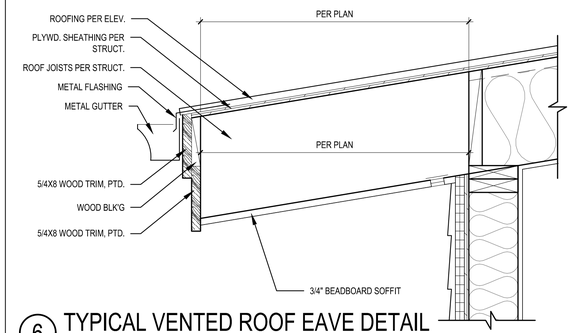
4 THRESHOLD @ DECK SECTION DETAIL

SCALE: 1-1/2" = 1'-0"



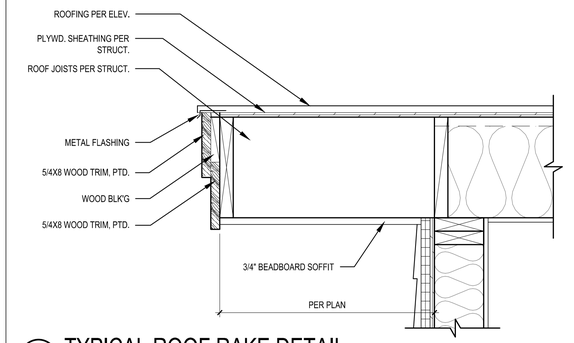
5 TYPICAL WINDOW HEAD DETAIL

SCALE: 3" = 1'-0" SIM. AT WINDOW JAMB



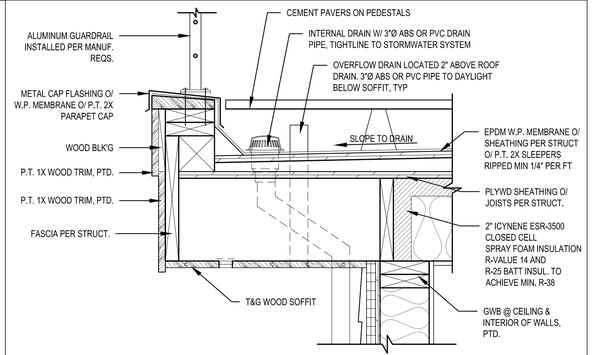
6 TYPICAL VENTED ROOF EAVE DETAIL

SCALE: 1-1/2" = 1'-0"



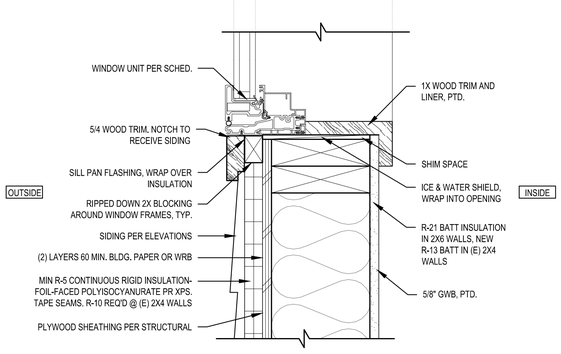
7 TYPICAL ROOF RAKE DETAIL

SCALE: 1-1/2" = 1'-0"



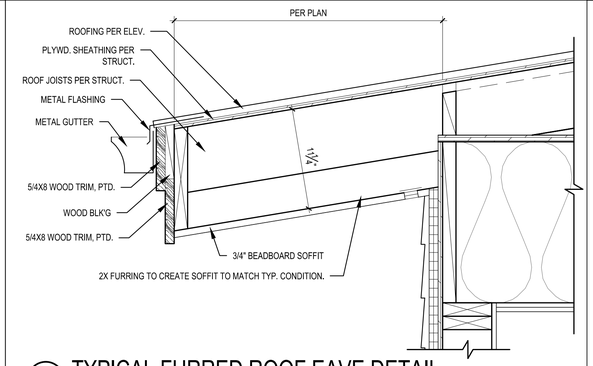
8 GUARDRAIL @ DECK SECTION DETAIL

SCALE: 1-1/2" = 1'-0"



9 TYPICAL WINDOW SILL DETAIL

SCALE: 3" = 1'-0"

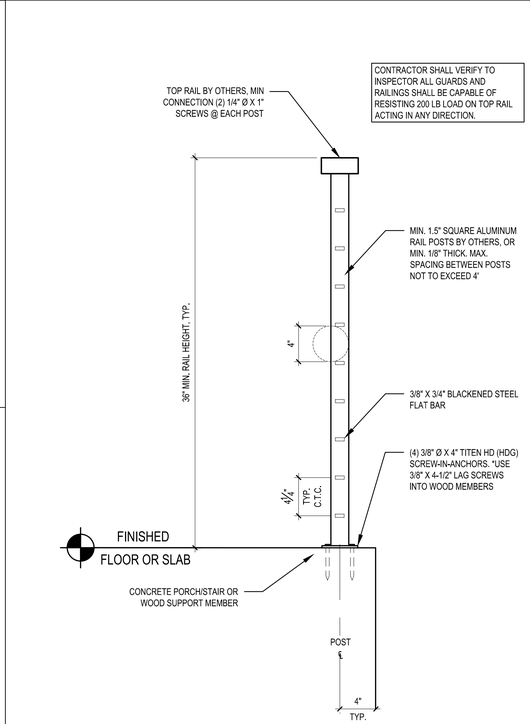


10 TYPICAL FURRED ROOF EAVE DETAIL

SCALE: 1-1/2" = 1'-0"

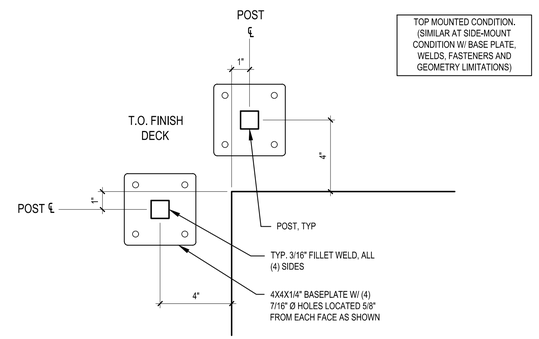
11 NOT USED

SCALE: 1-1/2" = 1'-0"



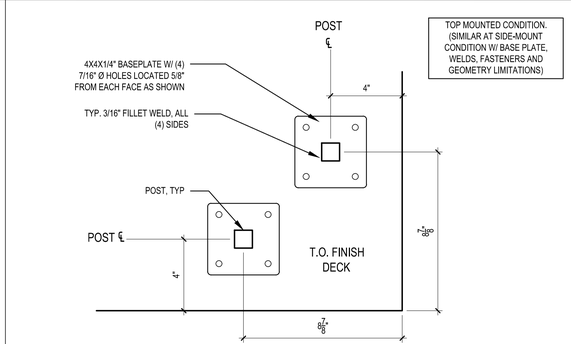
15 RAILING ATTACHMENT -TOP-MOUNT

SCALE: 1-1/2" = 1'-0"



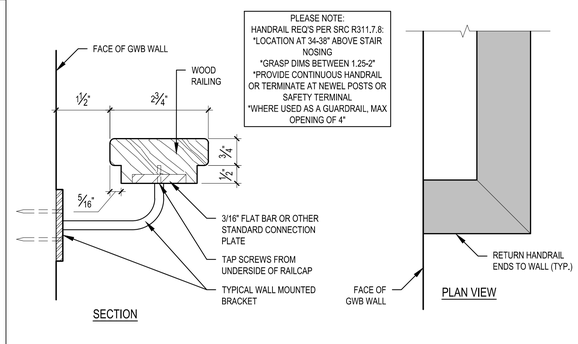
12 GUARDRAIL PLATE ATTACHMENT

SCALE: 3" = 1'-0" SIM. AT SIDE-MOUNTED



13 GUARDRAIL PLATE ATTACHMENT

SCALE: 3" = 1'-0" SIM. AT SIDE-MOUNTED



14 TYPICAL HANDRAIL DETAIL

SCALE: 6" = 1'-0"

SCALE: IF SHEET IS LESS THAN 24" X 36", IT IS A REDUCED PRINT. REDUCE SCALE ACCORDINGLY

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FOREST CREEK ESTATES LOT 1

PERMIT SET

5222 FOREST AVE S.E.
MERCER ISLAND, WA 98040

ARCH DETAILS

REVISIONS:
2025-3-13 Corrections #1

DRAWN BY: KE

CHECKED BY: BJS

SHEET
A6.0

PLOT DATE: 3/13/2025

FOREST CREEK ESTATES LOT 1

S240325-1

PROJECT INFORMATION

CLIENT
SEASCAPE HOMES, LLC
PO BOX 40568
BELLEVUE, WA 98015
PHONE: (206) 972-9950

PROJECT ADDRESS
5222 FOREST AVE SE
MERCER ISLAND 98040

ARCHITECT
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CONTACT: BRAD STURMAN

STRUCTURAL ENGINEER
L120 ENGINEERING & DESIGN
13150 91ST PL NE
KIRKLAND, WA 98034
PHONE: (425) 636-3313
EMAIL: MTHURFJELL@L120ENGINEERING.COM
CONTACT: MANS THURFJELL, PE

CODES

ENGINEERED PER:
2018 (IRC) INTERNATIONAL RESIDENTIAL CODE
2018 (IBC) INTERNATIONAL BUILDING CODE

SHEET INDEX

COVER SHEET...S-0
STRUCTURAL GENERAL NOTES...S-1
FOUNDATION PLAN...S-2
FIRST FLOOR FRAMING PLAN...S-3
FIRST FLOOR WALL FRAMING AND SHEAR WALL PLAN...S-4
SECOND FLOOR FRAMING PLAN...S-5
SECOND FLOOR WALL FRAMING AND SHEAR WALL PLAN...S-6
ROOF FRAMING PLAN...S-7

STRUCTURAL DETAILS...SD-1
STRUCTURAL DETAILS...SD-2

MANS R. THURFJELL
STATE OF WASHINGTON
PROFESSIONAL ENGINEER

LONGITUDE ONE TWENTY° ENGINEERING & DESIGN

REVISIONS

△	DESCRIPTION	DATE	BY
-			

PROJECT NAME
FOREST CREEK ESTATES
LOT 1
5222 FOREST AVE SE
MERCER ISLAND, WA 98040

PROJECT NUMBER
S240325-1

DRAWN BY - MR

CHECKED BY - MRT

SHEET DATE - 05/16/2024

SCALE
24X36 SHEET:1/4"=1'-0"

DESCRIPTION
COVER SHEET

SHEET
S-0

GENERAL STRUCTURAL NOTES

DESIGN CRITERIA

CODE: 2021 IBC/IRC & AMENDMENTS AS ADOPTED BY THE REVIEWING AGENCY/COUNTY.

ROOF .....25 PSF SNOW (GROUND)

FLOORS

RESIDENTIAL.....40 PSF

BALCONY/DECK.....60 PSF

BASIC WIND SPEED .....100 MPH, EXPOSURE B

SEISMIC

MAPPED SPECTRAL ACCELERATION, Ss..... 1.45

MAPPED SPECTRAL ACCELERATION, S1..... 0.503

SOIL SITE CLASS.....D

GENERAL CONDITIONS

1. THE CONTRACTOR SHALL EXAMINE THE STRUCTURAL DRAWINGS AND SHALL NOTIFY THE STRUCTURAL ENGINEER OF ANY DISCREPANCIES HE MAY FIND BEFORE PROCEEDING WITH THE WORK.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND SITE CONDITIONS BEFORE STARTING WORK. THE ARCHITECT/ENGINEER SHALL IMMEDIATELY BE NOTIFIED IN WRITING OF ANY DISCREPANCIES.
3. ALL OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND THE STRUCTURAL ENGINEER BEFORE PROCEEDING WITH ANY WORK SO INVOLVED.
4. IN CASE OF CONFLICT, NOTES AND DETAILS OF THESE STRUCTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER THE "GENERAL NOTES" AND/OR "STANDARD DETAILS".
5. IF A SPECIFIC DETAIL IS NOT SHOWN FOR ANY PART OF THE WORK, THE CONSTRUCTION SHALL BE THE SAME AS FOR SIMILAR WORK.
6. WORKING DIMENSIONS SHALL NOT BE SCALED FROM PLANS, SECTIONS, OR DETAILS ON THESE DRAWINGS.
7. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT AND THE STRUCTURAL ENGINEER OF ANY CONDITION WHICH IN HIS OPINION MIGHT ENDANGER THE STABILITY OF THE STRUCTURE OR CAUSE DISTRESS TO THE STRUCTURE.
8. THE CONTRACTOR SHALL SUPERVISE AND DIRECT HIS WORK AND HE SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. PROVIDE ADEQUATE SHORING AND BRACING OF ALL STRUCTURAL MEMBERS DURING CONSTRUCTION.
9. ALL WORK SHALL CONFORM TO THE MINIMUM STANDARDS OF THE LATEST EDITION OF THE INTERNATIONAL BUILDING CODE, AND ALL OTHER REGULATING AGENCIES EXERCISING AUTHORITY OVER ANY PORTION OF THE WORK.
10. SPECIFIC NOTES AND DETAILS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE THE NOTES, DRAWINGS, AND/OR SPECIFICATIONS DIFFER, THE MORE STRINGENT REQUIREMENT SHALL APPLY.
11. REFER TO THE ARCHITECTURAL DRAWINGS FOR INFORMATION NOT COVERED BY THESE GENERAL NOTES OR THE STRUCTURAL DRAWINGS.
12. NOTIFY ENGINEER OF ALL FIELD CHANGES PRIOR TO INSTALLATION.
13. DISCREPANCIES FOUND BETWEEN STRUCTURAL DRAWINGS AND OTHER DOCUMENTS ARE TO BE NOTED IN WRITING TO THE ENGINEER PRIOR TO CONSTRUCTION.
14. ALL CONSTRUCTION SHALL BE DONE WITH MATERIALS, METHODS, AND WORKMANSHIP ACCEPTED AS GOOD PRACTICE BY THE CONSTRUCTION INDUSTRY IN CONFORMANCE TO THE PROVISIONS OF THE "INTERNATIONAL BUILDING CODE" (IBC), AND STANDARDS REFERENCED THEREIN.

FOUNDATION

1. FOUNDATION DESIGN PARAMETERS PER REPORT PROVIDED BY GEOTECH CONSULTANTS DATED 3/18/2020, WITH LETTER DATED 12/06/2022:
   FOOTING BEARING PRESSURE: 2000 PSF
   LATERAL EARTH PRESSURE:
   ACTIVE: 35 PCF (FREE) 50 PCF (RESTRAINED)
   PASSIVE: 300 PCF
   COEFFICIENT OF BASE FRICTION: 0.45
2. SUBGRADE PREPARATION, DRAINAGE PROVISIONS, AND OTHER RELEVANT SOIL CONSIDERATIONS ARE TO BE IN ACCORDANCE WITH THE JURISDICTIONAL REQUIREMENTS.
3. ALL FOUNDATIONS ARE TO BEAR ON COMPETENT NATIVE SOILS OR STRUCTURAL FILL. STRUCTURAL FILL IS TO BE COMPACTED TO 95% DENSITY PER ASTM D-1557.
4. OVER-EXCAVATION MAY BE REQUIRED TO ACHIEVE COMPETENT SOIL BEARING, AS RECOMMENDED PER GEO REPORT (NOTED ABOVE). 5 TO 10 FEET IS THE ESTIMATE OF POTENTIAL OVER-EXCAVATION PROPOSED BY THE GEOTECH LETTER DATED 9/23/224

1

CONCRETE

1. REFERENCE STANDARDS: ACI-301, ACI-318, IBC.
   MINIMUM CONCRETE STRENGTH (28 DAYS):
   FOOTINGS AND STEM WALLS.....2,500 PSI - 5 SACK MIX
   BASEMENT FOUNDATION RETAINING WALLS.....2,500 PSI - 5.5 SACK MIX
   SLAB-ON-GRADE.....2,500 PSI - 5 SACK MIX
   SLAB-ON-GRADE.....EXPOSED WEATHERING SURFACES.....3,000 PSI - 5.5 SACK MIX
   AIR-ENTRAINMENT 2.5% TO 5.5% FOR EXPOSED CONCRETE.
2. MIXING: COMPLY WITH ACI-301. DO NOT EXCEED THE AMOUNT OF WATER SPECIFIED IN THE APPROVED MIX. PROPORTIONS OF AGGREGATE TO CEMENT SHALL BE SUCH AS TO PRODUCE A DENSE WORKABLE MIX WHICH CAN BE PLACED WITHOUT SEGREGATION OR EXCESS FREE SURFACE WATER
3. PLACING: COMPLY WITH ACI-301. PROVIDE A 3/4 INCH CHAMFER ALL EXPOSED CONCRETE EDGES, UNLESS INDICATED OTHERWISE ON ARCHITECTURAL DRAWINGS.
4. SLUMP: 4" PLUS OR MINUS ONE INCH. DO NOT ADD WATER TO MIX TO INCREASE SLUMP. GREATER SLUMP, ACCELERATED SET, OR HIGH EARLY STRENGTH MAY BE ACHIEVED BY USING APPROVED ADMIXTURES.
5. CURING: COMPLY WITH ACI-301. KEEP CONCRETE MOIST FOR SEVEN DAYS MINIMUM.
6. JOINTING: PROVIDE ADEQUATE JOINTING TO MINIMIZE EFFECTS OF VOLUME CHANGE. JOINTS SHOWN MAY BE ADJUSTED AT CONTRACTOR'S OPTION, WITH PRIOR APPROVAL FROM ENGINEER.
7. WEATHER EXTREMES: COMPLY WITH ACI 305R FOR HOT WEATHER. COMPLY WITH ACI 306R FOR COLD WEATHER.
8. WATER/CEMENT RATIO SHALL NOT EXCEED 0.50 (BY WEIGHT), TYPICAL.

REINFORCING STEEL

1. REFERENCE STANDARDS: ACI "DETAILING MANUAL" (SP-66); CRSI MANUAL OF STANDARD PRACTICE (MSP-1)
2. MATERIALS:
   REINFORCING STEEL: ASTM A615, GRADE 60
3. SPLICES:
   LAP CONTINUOUS REINFORCING BARS 48 BAR DIAMETERS, UNLESS OTHERWISE NOTED. PROVIDE CORNER BARS FOR ALL HORIZONTAL REINFORCEMENT.
4. COVER:
   FOOTINGS .....3 INCHES
   SLABS.....2 INCHES
5. FORMED SURFACES:
   WEATHER FACE ...1-1/2 INCHES, #5 BARS AND SMALLER 2 INCHES, # 6 BARS AND LARGER
   INTERIOR FACE ...3/4 INCH FOR SLABS AND WALLS 1-1/2 INCHES FOR BEAMS AND COLUMNS

STRUCTURAL AND MISC. STEEL

1. REFERENCE STANDARDS: DESIGN, FABRICATION AND ERECTION ARE TO BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES".
2. MATERIALS:
   BOLTS - ASTM A307, UNLESS OTHERWISE NOTED
   WF BEAMS - ASTM A572-50 (Fy = 50,000 PSI)
   HSS ROUND COLUMNS - ASTM A500 Gr. B (Fy = 42,000 PSI)
   HSS RECTANGULAR COLUMNS - ASTM A500 Gr. B (Fy = 46,000 PSI)
   ALL OTHER STEEL - ASTM A36 (Fy = 36,000 PSI)

STRUCTURAL STEEL WELDING

1. CONFORM TO THE AWS CODES D1.1 AND D1.3. ALL WELDING TO BE DONE ONLY BY WABO CERTIFIED WELDERS AND HAVE SPECIAL INSPECTION BY WABO CERTIFIED INSPECTION AGENCY OR BE DONE BY WABO CERTIFIED FABRICATION SHOP. EITHER SPECIAL INSPECTION REPORT OR WABO FABRICATION SHOP CERTIFICATION SHOULD BE AVAILABLE ON SITE FOR THE BUILDING INSPECTOR. WELDS NOT SPECIFIED ARE TO BE 1/4" CONTINUOUS FILLET MINIMUM. USE DRY E70 ELECTRODES.

DIMENSIONAL LUMBER

1. MEET REQUIREMENTS OF PS 20-70 AND NATIONAL GRADING RULES FOR SOFTWOOD DIMENSIONAL LUMBER. BEAR STAMP OF WWPA.
2. MINIMUM DIMENSIONAL LUMBER GRADES TO BE:

WALL STUDS:	2x, HF STUD GRADE, 3x HF #2
WALL PLATES:	2x HF STANDARD GRADE
	2x, 3x PRESSURE TREATED HF STANDARD GRADE AT FOUNDATION
JOISTS:	2x6 HF STUD GRADE
	2x8 AND UP HF #2
BEAMS, HEADERS:	6x DF#2; 4x DF#2, WWPA GRADING.
POSTS:	4x, 6x, DF #2

   LUMBER NOT NOTED TO BE HF #2.
3. PROVIDE STANDARD CUT WASHERS FOR NUTS BEARING AGAINST WOOD, AND 1/4"x3" HOT-DIPPED GALVANIZED SQUARE PLATE WASHERS FOR ALL ANCHOR BOLTS.
4. ALL SILLS OR PLATES RESTING ON CONCRETE OR MASONRY, WHICH IS IN CONTACT WITH OR RESTING ON FOUNDATIONS, SHALL BE PRESSURE TREATED HEM FIR OR BETTER. ALL BEARING WALL PLATES SHALL HAVE 5/8"Ø ANCHOR BOLTS PLACED A MAXIMUM 9" FROM THE END OF A PLATE AND SPACED AT INTERVALS SHOWN ON THE SHEARWALL SCHEDULE (MAXIMUM 4'-0" O.C. SPACING). ALL TREATED PRESSURE TREATED WOOD MEMBERS SHALL COMPLY WITH AWP4 U1 AND AWP4 M4 STANDARDS.
5. CAST-IN-PLACE ANCHOR BOLTS SHALL HAVE A MINIMUM 7" EMBEDMENT. ALTERNATE 5/8"Ø EXPANSION ANCHORS SHALL BE HILTI KWIK BOLT II ANCHORS EMBED 7", OR APPROVED ALTERNATE.
6. BOLTS IN WOOD BEAMS SHALL NOT BE LESS THAN 7 DIAMETERS FROM THE END AND 4 DIAMETERS FROM THE EDGE OF THE MEMBER.
7. NAILS: NAILING IN ACCORDANCE WITH IBC TABLE 2304.10.1. 16D NAILS MAY BE 16D SINKERS (0.148 x 3-1/4") UNLESS NOTED OTHERWISE.
8. PRESURE TREATED WOOD: ALL NAILS INTO PT WOOD SHALL BE HOT DIPPED GALVANIZED PER ASTM A153 OR STAINLESS STEEL. ALL METAL CONNECTORS IN CONTACT WITH PT WOOD SHALL BE HOT DIPPED GALVANIZED AND MEET ASTM A653 CLASS G185 (1.85 oz OF ZINC PER SQ FT MINIMUM) OR TYPE 304 / 316 STAINLESS STEEL. SIMPSON Z-MAX CONNECTORS MEET THIS REQUIREMENT. FASTENERS AND CONNECTORS USED TOGETHER SHALL BE OF THE SAME TYPE (E.G. HOT DIPPED NAILS WITH HOT DIPPED HANGERS)

MANUFACTURED TIMBER

PRODUCT	APPLICATION	WIDTHS
LSL RIMBOARD (1.3E)	RIMBOARD OR STAIR STRINGER	1 ¼"
TIMBERSTRAND LSL (1.3E)	HEADER, BEAM, OR COLUMN < 9" DEPTH	3 ½"
TIMBERSTRAND LSL (1.55E)	RIMBOARD, HEADER, OR < 9" DEPTH BEAM	1 ¾",3 ½"
TIMBERSTRAND LSL (1.3E)	WALL STUD 2X4 & 2X6	1 ½"
(1.5E)	WALL STUD > 2X6	1 ½"
MICROLLAM LVL (2.0E)	HEADER, BEAM	1 ¾"
PARALLAM PSL (2.2E)	HEADER, BEAM	3 ½", 5 ¼", 7"
PARALLAM PSL (1.8E)	COLUMN	3 ½", 5 ¼", 7"

WOOD STRUCTURAL CONNECTIONS

1. ALL FRAMING ANCHORS, POST CAPS, BASES, HANGERS, STRAPS, ETC., SHALL BE AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY OR ENGINEER APPROVED EQUAL.

BRICK VENEER ANCHORAGE

1. D/A 2135 SEISMIC VENEER ANCHORS BY HOHMANN & BARNARD OR APPROVED EQUAL AT WOOD STUD WALL.
2. D/A 5213 SEISMIC VENEER ANCHORS BY HOHMANN & BARNARD OR APPROVED EQUAL AT CONCRETE WALL.
3. PLACE ANCHORS AT 16" O.C. VERTICAL AND 16" HORIZONTAL. PROVIDE #9 GA HORIZONTAL JOINT REINFORCING WIRE . ATTACH TO WOOD STUDS WITH #8 CORROSION RESISTANT SCREWS AND TO CONCRETE WITH 1/4"Ø EXPANSION ANCHORS.
4. AT ALL OPENINGS LARGER THAN 16" IN EITHER DIRECTION, ANCHORS TO BE SPACED WITHIN 12" OF THE OPENING AT ALL SIDES.
5. USE TYPE N MORTAR COMPLYING WITH ASTM C270

GLU-LAMINATED TIMBER

1. GLU-LAMINATED WOOD BEAMS, DOUGLAS FIR COAST REGION, KILN DRIED, AITC SPECIFICATION 24F-V4 FOR SIMPLE SPANS (TYPICAL), AND 24F-V8 FOR CANTILEVER-SPANS (WHERE SPECIFIED). PROVIDE AITC STAMP ON TIMBER AND SUBMIT CERTIFICATE TO ARCHITECT AND ENGINEER. MATERIALS MUST BE OBTAINED FROM AN AITC APPROVED FABRICATOR. ALL GLU-LAM BEAMS SHALL FIT SNUG AND TIGHT IN THEIR CONNECTIONS AND DEVELOP FULL BEARING AS INDICATED. NO SUBSTITUTION OF OTHER SPECIES. GLU-LAM ADHESIVE TO BE "WET- USE" TYPE. PROVIDE 2000 FT RADIUS CAMBER, U.N.O.
2. MANUFACTURER'S CERTIFICATE SHALL BE PRESENTED TO THE BUILDING INSPECTOR PRIOR TO INSTALLATION.

WOOD SHEATHING

1. ROOF SHEATHING: 7/16" MINIMUM THICKNESS APA RATED PRP-108 PERFORMANCE STANDARD, EDGE SEALED PANELS DESIGNED TO SPAN 24 INCHES EITHER PARALLEL OR PERPENDICULAR TO LONG AXIS OF PANEL WITH 35 PSF LIVE LOAD. LAY UP WITH MINIMUM 1/8" CLEAR BETWEEN PANELS TO ALLOW FOR EXPANSION. NAIL 6 INCHES ON CENTER ALONG EDGES, AND 12 INCHES ON CENTER AT INTERMEDIATE SUPPORTS. USE 10D COMMON NAILS, U.N.O. PROVIDE EXP-1 RATING.
2. FLOOR SHEATHING: 3/4" NOMINAL APA RATED PANELS, PRP-108 PERFORMANCE STANDARD, NAILED AND GLUED. CONFORM TO IBC IDENTIFICATION INDEX 40/20 FOR SUPPORTS TO 20 INCHES ON CENTER. ADHESIVES ARE TO CONFORM TO APA SPECIFICATION AFG-01. PROVIDE T&G EDGES AT LONG PANEL EDGES. LAY UP WITH MINIMUM 1/8" CLEAR BETWEEN PANELS TO ALLOW FOR EXPANSION. NAIL 6 INCHES ON CENTER AT END SUPPORTS AND 10 INCHES ON CENTER AT INTERMEDIATE SUPPORTS. USE 10D COMMON NAILS. PROVIDE EXP-1 RATING.
3. WOOD SHEARWALL SHEATHING: PLYWOOD OR OSB APA RATED PRP-108 PERFORMANCE STANDARD PER IBC STD 23-2 OR 23-3 TYPE C-C OR C-D. USE EXTERIOR ADHESIVES. USE 8d COMMON NAILS. PROVIDE EXP-1 RATING. ALL VERTICAL JOINTS OF PANEL SHEATHING SHALL OCCUR OVER STUDS. HORIZONTAL JOINTS SHALL OCCUR OVER BLOCKING EQUAL IN SIZE TO THE STUDDING. REFER TO SHEAR WALL SCHEDULE FOR PANEL THICKNESS.
4. NAILING SPECIFICATIONS: CONFORM TO IBC SECTION 2304.10 "CONNECTIONS AND FASTENERS." UNO ON PLANS, NAILING PER TABLE 2304.10.1, AND FOR ROOF/FLOOR DIAPHRAGMS AND SHEARWALLS SHALL BE PER DRAWINGS. NAILS SHALL BE DRIVEN FLUSH AND SHALL NOT FRACTURE THE SURFACE OF SHEATHING. ALTERNATE NAILS MAY BE USED BUT ARE SUBJECT TO REVIEW AND APPROVAL BY THE STRUCTURAL ENGINEER. SUBSTITUTION OF STAPLES FOR THE NAILING OF RATED SHEATHING IS SUBJECT TO REVIEW BY THE STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION.

SHOP DRAWINGS AND SUBMITTALS

1. SUBMIT 2 SETS OF PRINTS AND 1 SET OF REPRODUCIBLES FOR REVIEW FOR:
   A) REINFORCING STEEL C) GLU-LAMINATED BEAMS
   B) MISCELLANEOUS STEEL D) PRE-MANUFACTURED WOOD TRUSSES
2. SUBMIT 3 COPIES FOR REVIEW PRIOR TO FABRICATION FOR:
   A) CONCRETE DESIGN MIX
   B) CONCRETE INSERTS
   C) EPOXY ADHESIVES

INSPECTIONS

1. REFERENCE STANDARDS: IBC 110.
   INSPECTIONS ARE TO BE PERFORMED BY THE BUILDING OFFICIAL. INSPECTIONS REQUIRED ARE AS FOLLOWS:
2. SOIL: VERIFY SUBGRADE IS DRY DENSE AND DOES NOT HAVE STANDING WATER PRIOR TO POURING FOOTINGS.
3. CONCRETE: INSPECTIONS REQUIRED ONLY FOR DESIGN MIXES SPECIFIED GREATER THAN 2500 PSI.
   TAKE CONCRETE CYLINDERS AS REQUIRED. VERIFY SLUMP AND STRENGTH.
4. REINFORCING: VERIFY ALL REINFORCING IS PLACED IN ACCORDANCE WITH APPROVED PLANS. CHECK FOR REQUIRED COVER, SIZE AND GRADE.
5. WOOD: DIAPHRAGM NAILING, BLOCKING AND HOLD-DOWN CONNECTIONS.

ALTERNATES:

1. ALTERNATE ASSEMBLIES AND MATERIALS WILL BE CONSIDERED FOR REVIEW. ENGINEER MAY REQUEST PAYMENT FOR REVIEW; CONTRACTOR WILL BEAR BURDEN FOR ADDITIONAL PAYMENT AT NO ADDITIONAL COST TO OWNER.

SETTLEMENT SHRINKAGE:

1. DUE TO CROSS GRAIN WOOD SHRINKAGE, THIS BUILDING IS EXPECTED TO SETTLE APPROXIMATELY 3/8 INCH PER STORY. ALL PLUMBING AND MECHANICAL DUCTS SHALL BE DESIGNED WITH FLEXIBLE JOINTS OR OTHERS MEANS TO APPROPRIATELY ACCOMMODATE THIS NORMAL SETTLEMENT. ALL INTERIOR AND EXTERIOR SHEATHING AND FINISHES SHALL BE INSTALLED SUCH THAT NO DAMAGE WILL OCCUR. SHRINKAGE IS EXPECTED IN THE DEPTH OF THE FLOOR PLATES AND NOT IN THE LENGTH OF THE WALL STUDS.

JOBSITE SAFETY:

1. THE ENGINEER AND/OR ARCHITECT HAVE NOT BEEN RETAINED OR COMPENSATED TO PROVIDE DESIGN AND/OR CONSTRUCTION REVIEW SERVICES RELATED TO THE CONTRACTOR'S SAFETY PRECAUTIONS OR TO MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES FOR THE CONTRACTOR TO PERFORM HIS WORK. THE UNDERTAKING OF PERIODIC SITE VISITS BY THE ENGINEER AND/OR ARCHITECT SHALL NOT BE CONSTRUED AS SUPERVISION OF ACTUAL CONSTRUCTION NOR MAKE HIM RESPONSIBLE FOR PROVIDING A SAFE PLACE FOR THE PERFORMANCE OF WORK BY THE CONTRACTOR, SUBCONTRACTORS, SUPPLIERS OR THEIR EMPLOYEES, OR FOR ACCESS, VISITS, USE, WORK, TRAVEL, OR OCCUPANCY BY ANY PERSON.

ABBREVIATIONS

AB	ANCHOR BOLT
ABV	ABOVE
AFF	ABOVE FINISH FLOOR
ALT	ALTERNATE
ALUM	ALUMINUM
APPROX	APPROXIMATE
AYC	ALASKAN YELLOW CEDAR
BB	BOX BEAM
BF	BOTTOM FLUSH
BLDG	BUILDING
BLKG	BLOCKING
BM	BEAM
BOT	BOTTOM
BP	BOTTOM PLATE
BRG	BEARING
BTWN	BETWEEN
BSMT	BASEMENT
B/W	BOTTOM OF WALL
CANT	CANTILEVER
CJ	CONTROL JOINT
CLG.	CEILING
CLJ	CEILING JOIST
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CTR	CENTER
DET	DETAIL
DF	DOUGLAS FIR (SOUTH)
DFL	DOUGLAS FIR LARCH
DIM	DIMENSION
DJ	DOUBLE JOIST
DIA	DIAMETER
DN	DOWN
DS	DOWN SPOUT
EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
ELEV	ELEVATION
EN	EDGE NAILING (PANEL)
EOR	ENGINEER OF RECORD
EQ	EQUAL
ES	EACH SIDE
EW	EACH WAY
FB	FLUSH BEAM
FIN	FINISH
FL	FLOOR
FLSHG	FLASHING
FND	FOUNDATION
FP	FIREPLACE
FT	FOOT
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
GLB	GLULAM BEAM
GR	GRADE
GYP	GYPSUM WALL BOARD
HDG	HOT-DIPPED GALVANIZED
HDR	HEADER
HF	HEM FIR
HGT	HEIGHT
HT	HEIGHT
IN	INCH
JT	JOINT
MAX	MAXIMUM
MIN	MINIMUM
MISC	MISCELLANEOUS
NB	NON-BEARING
NO	NUMBER
OC	ON CENTER
PL	PLATE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
RAF	RAFTER
REF	REFERENCE
REINF	REINFORCEMENT
REQD	REQUIRED
REQS	REQUIREMENTS
SF	SQUARE FOOT
SHTG	SHEATHING
SIM	SIMILAR
SPF	SPRUCE PINE FIR
STD	STANDARD
SYP	SOUTHERN YELLOW PINE
T/	TOP OF
T/BM	TOP OF BEAM
T/CONC	TOP OF CONCRETE
T/PL	TOP OF PLATE
T/SLAB	TOP OF SLAB
T/ST	TOP OF STEEL
T/W	TOP OF WALL
TF	TOP FLUSH
TJ	TRIPLE JOIST
TP	TOP PLATE
TR	THREADED ROD
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UPA	UNDER POST ABOVE
UWA	UNDER WALL ABOVE
VCB (V.C.B.)	VERTICAL CRUSH BLOCKING
VERT	VERTICAL
VIF	VERIFY IN FIELD
W/	WITH
WC	WESTERN CEDAR
WP	WATERPROOF
WWF	WELDED WIRE FABRIC

MANS R. THURTJELL
STATE OF WASHINGTON
PROFESSIONAL ENGINEER

LONGITUDE ONE TWENTY° ENGINEERING & DESIGN

REVISIONS

	DESCRIPTION	DATE	BY
1	BDC RESPONSE	02/18/2025	

PROJECT NAME

FOREST CREEK ESTATES
LOT 1
5222 FOREST AVE SE
MERCER ISLAND, WA 98040

PROJECT NUMBER

S240325-1

DRAWN BY - MR

CHECKED BY - MRT

SHEET DATE - 02/19/2025

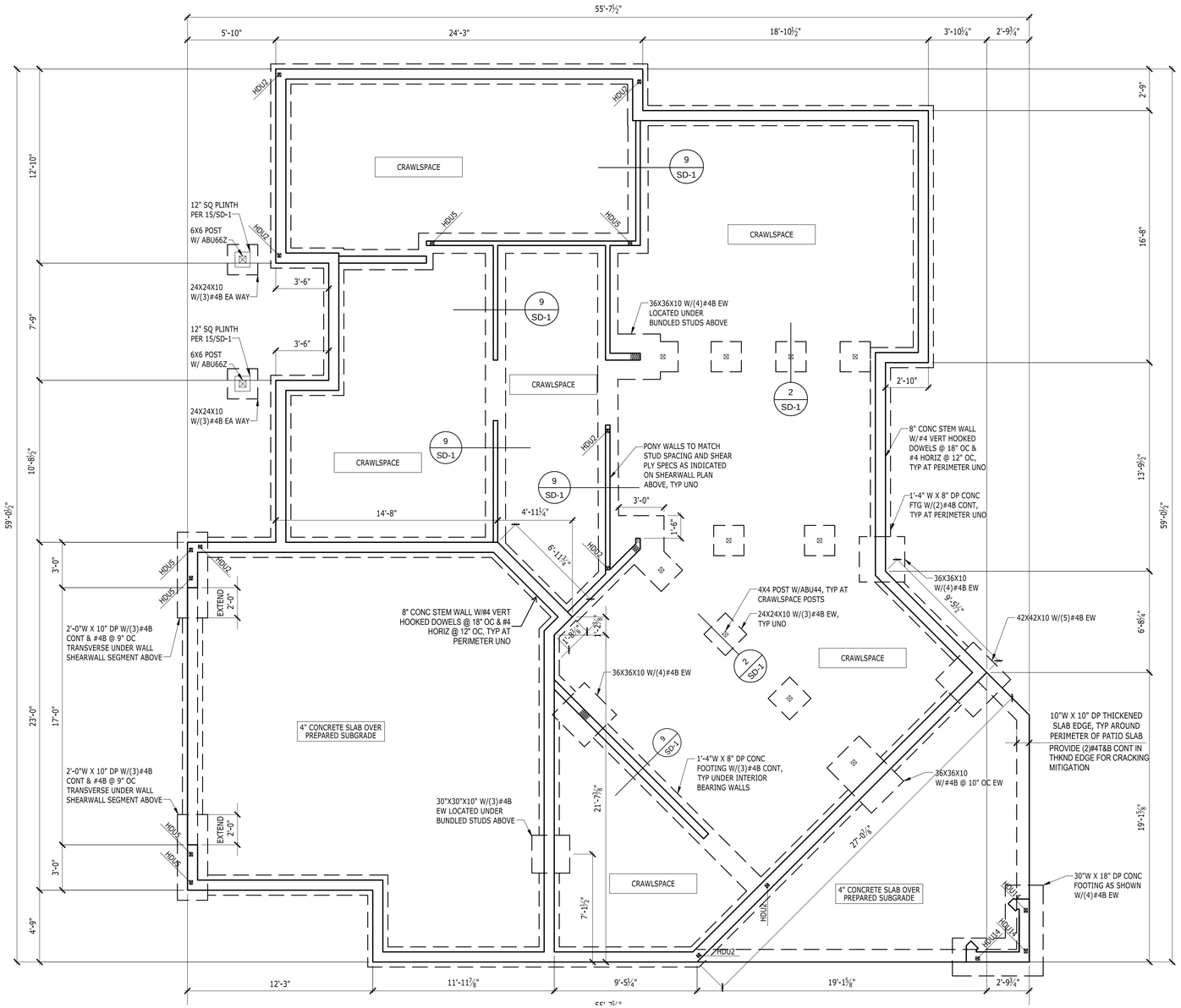
SCALE

24X36 SHEET:1/4"=1'-0"

DESCRIPTION: STRUCTURAL GENERAL NOTES

SHEET: S-1

0140



FOUNDATION PLAN

FOUNDATION NOTES

1. GENERAL STRUCTURAL NOTES AND ABBREVIATIONS PER SHEET S-1.
2. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCH. PROVIDED DIMENSIONS ARE TO FACE OF CONCRETE STEM WALL OR CENTER OF INDIVIDUAL FOOTING. OUTSIDE FACE OF STEM WALL ALIGNS WITH OUTSIDE FACE OF STUD WALL UNO. STHD HOLDOWNS ARE DIMENSIONED TO CENTER OF STRAP. HDU/HD/HTT HOLDOWNS ARE DIMENSIONED TO CENTER OF ANCHOR BOLT.
3. VERIFY ALL T/CONC ELEVATIONS ON ALL CONCRETE INCLUDING PARTIAL HEIGHT RETAINING WALLS. CONCRETE TO EXTEND MIN 8" ABOVE FINISHED GRADE. PROVIDE 1" RECESS AT DOUBLE SIDED SHEARWALLS TO ACCOMODATE 3X SILL PLATE.
4. FOOTINGS ARE TO BEAR ON COMPETENT NATIVE SOIL OR STRUCTURAL FILL CAPABLE OF SUPPORTING THE ASSUMED BEARING PRESSURE PER GENERAL NOTES. REFERENCE GEOTECHNICAL REPORT (IF AVAILABLE) FOR SUBGRADE PREPARATION, FILL REQUIREMENTS, FOOTING DRAINS, AND OTHER REQUIREMENTS. REFERENCE ARCH SET (OR OTHERS IF APPLICABLE) FOR FOOTING DRAINS AROUND PERIMETER OF BUILDING.
5. PRIOR TO POURING CONCRETE CONTRACTOR SHALL LOCATE AND VERIFY LOCATIONS OF ALL FOUNDATION OPENINGS, PENETRATIONS, AND SLOPES.
6. ALL WOOD LOCATED WITHIN 8" OF FINISHED GRADE, EXPOSED TO WEATHER OR IN CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED. ALL FASTENERS IN CONTACT WITH FIRE-RETARDANT OR PRESSURE-TREATED WOOD SHALL BE COVERED IN PROTECTIVE COATING (I.E. HDG OR SIM).
7. SILL ANCHOR BOLTS (J-BOLTS) SHALL BE ASTM F1554 (36KSI) HDG, ASTM A307 (36KSI) HDG OR SIM. ANCHOR BOLTS TO BE 5/8"Ø X 7" MIN EMBEDMENT. SPACING PER SHEARWALL SCHEDULE (72" O.C. MAX). EACH ANCHOR BOLT TO HAVE STANDARD HDG NUT AND WASHER INSTALLED OVER 3"X3"X1/4" HDG PLATE WASHER WITH AND EDGE OF THE PLATE WASHER LOCATED WITHIN 1/2" OF SHEATHED FACE OF WALL. FOR TWO-SIDED SHEARWALLS W/ 2X6 WALL FRAMING USE 4X4X1/4" PLATE WASHERS OR STAGGER ANCHOR BOLTS SO THAT EVERY OTHER PLATE WASHER IS LOCATED WITHIN 1/2" OF EACH FACE OF THE WALL.
8. HOLDOWNS BY SIMPSON STRONG-TIE. INSTALLATION PER MANUFACTURER SPECIFICATIONS. ALTERNATIVE SOLUTIONS SHALL BE SUBMITTED TO EOR FOR APPROVAL PRIOR TO INSTALLATION. HOLDOWN THREADED RODS SHALL BE ASTM F1554 (36KSI) HDG UNO. EMBEDDED END OF THREADED ROD TO HAVE 3"X3"X1/4" HDG PLATE WASHER BETWEEN TWO HAND-TIGHTENED HDG STANDARD NUTS.
9. CJ INDICATES CONTROL JOINT.
10. FIRE-PROOFING AND MOISTURE-PROOFING REQUIREMENTS BY OTHERS.
11. EXTERIOR STAIRS AND STEEL-FRAMED STAIRS BY OTHERS.
12. TYPICAL DETAILS:
    - 1/SD-1 TYP STEMWALL
    - 2/SD-1 TYP INTERIOR FOOTING
    - 3/SD-1 TYP CRAWLSPACE VENT
    - 4/SD-1 TYP FOOTING STEP
    - 5/SD-1 TYP CORNER BARS REQ'T
    - 7/SD-1 TYP CONSTRUCTION JOINT
    - 8/SD-1 TYP BAR BEND AND HOOK DETAIL
    - 11/SD-1 TYP HOLDOWN INSTALLATION
    - 12/SD-1 TYP PONY WALL DETAIL

HOLDOWN SCHEDULE			
MODEL	ANCHOR	EMBEDMENT	MIN END POST
CS16/CS14	-	-	1-2X EA
MST#	-	-	2-2X OR 3X
STHD14/STHD14RJ	-	-	2-2X OR 3X
HDU2	5/8" TR	12"	2-2X OR 3X
HDU5	5/8" TR	12"	2-2X
HDU8	7/8" TR	12"	3-2X
HDU11	1" TR	12"	6X6
HDU14	1" TR	15"	6X6
HD19	1 1/4" TR	15"	6X6

FOUNDATION LEGEND

- - INDICATES STEP AT T/FOUNDATION
- - INDICATES STEP AT B/FOUNDATION
- - TANK WALL (TOP OF WALL NOT TO STEP WITHIN HATCHED REGION)
- STHD14 (EXAMPLE) - HOLDOWN BY SIMPSON (STHD/HDU/HD/HTT, TYP)
- 24 X 24 X 10 (EXAMPLE) - FOOTING CENTERED ON POST (L X W X T)

MARK R. THURTELL
STATE OF WASHINGTON
PROFESSIONAL ENGINEER

LONGITUDE ONE TWENTY°
ENGINEERING & DESIGN

REVISIONS

△	DESCRIPTION	DATE	BY
-			

PROJECT NAME
FOREST CREEK ESTATES
LOT 1
5222 FOREST AVE SE
MERCER ISLAND, WA 98040

PROJECT NUMBER
S240325-1

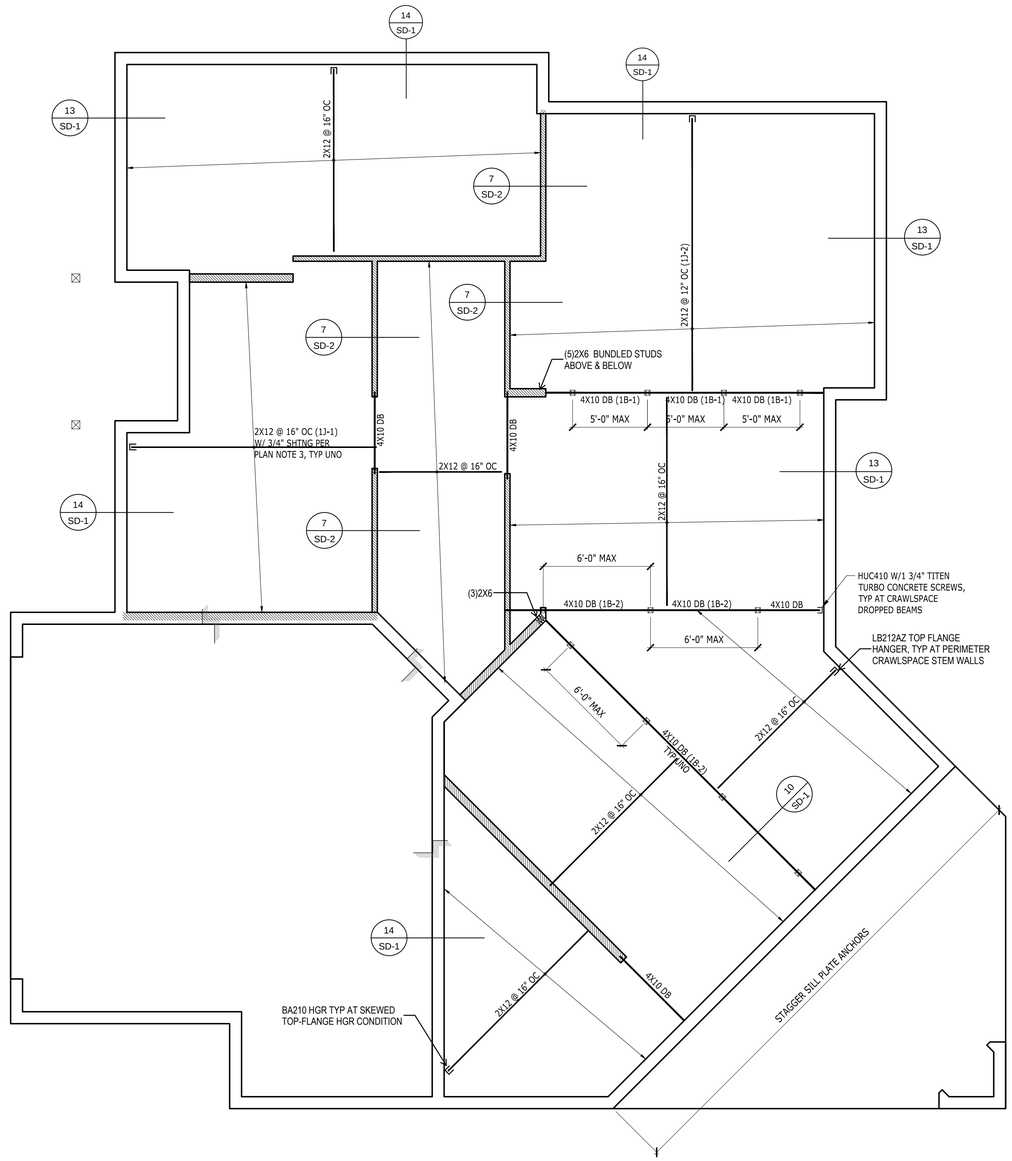
DRAWN BY - MR

CHECKED BY - MRT

SHEET DATE - 05/16/2024

SCALE
24X36 SHEET:1/4"=1'-0"

DESCRIPTION: FOUNDATION PLAN
SHEET: S-2



FIRST FLOOR FRAMING PLAN

FLOOR FRAMING NOTES

1. GENERAL STRUCTURAL NOTES AND ABBREVIATIONS PER SHEET S-1.
2. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCH.
3. FLOOR SHEATHING PER GENERAL NOTES. ALL SHEATHING TO BE GLUED AND NAILED TO FRAMING PER MANUFACTURER RECOMMENDATIONS. USE 8d COMMON NAILS (0.131" X 2 1/2") @ 6" O.C. AT PANEL EDGES AND AT ALL FRAMING DESIGNATED "WITH EDGE NAILING" OR "W/EN", AND 12" O.C. IN THE FIELD, UNO. PANEL EDGE JOINTS TO BE STAGGERED BETWEEN ADJACENT PANELS OF SHEATHING. PROVIDE GAP BETWEEN PANELS TO ALLOW FOR NATURAL EXPANSION/CONTRACTION (1/8" GAP TYP).
4. LOCATE ALL OPENINGS AND PENETRATIONS AND VERIFY NO CONFLICT WITH FLOOR FRAMING. MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS BY OTHERS.
5. ALL WOOD LOCATED WITHIN 8" OF FINISHED GRADE, EXPOSED TO WEATHER OR IN CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED. ALL FASTENERS IN CONTACT WITH FIRE-RETARDANT OR PRESSURE-TREATED WOOD SHALL BE COVERED IN PROTECTIVE COATING (I.E. HDG OR SIM).
6. ALL BEAMS SHALL BE SUPPORTED BY MIN TWO STUDS BELOW EACH END, UNLESS NOTED OTHERWISE ON PLAN. ALL BEAMS SHALL BE FRAMED FLUSH WITH JOISTS UNO. "DROPPED BEAM" OR "DB" INDICATES T/BEAM EQUAL B/JOISTS. "TOP FLUSH" OR "TF" INDICATES T/BEAM EQUAL T/JOISTS AND B/BEAM EXTENDING BELOW B/JOISTS. "BOTTOM FLUSH" OR "BF" INDICATES B/BEAM EQUAL B/JOISTS AND T/BEAM EXTENDING ABOVE T/JOISTS.
7. ALL NON-BEARING WALLS TO BE FRAMED MIN 0.25" UNDER FLOOR SYSTEM.
8. STUD QUANTITIES, POST SIZE, HOLDOWN, AND SHEARWALL REQUIREMENTS PER WALL FRAMING AND SHEARWALL PLAN BELOW.
9. ALL POSTS ABOVE THE FLOOR FRAMING SHALL BE BLOCKED WITHIN THE FLOOR DEPTH ("VERTICAL GRAIN BLKG", "VERTICAL CRUSH BLKG", OR "VCB"). BLOCKING WIDTH SHALL MATCH WIDTH OF POST OR BUNDLED STUDS ABOVE AND EXTEND FULL FLOOR DEPTH.
10. HORIZONTAL STRAPS INDICATED ON FRAMING PLANS SHALL BE CENTERED OVER THE TOP PLATE, BEAM, OR BLOCKING. STRAP LENGTH PER PLAN.
11. ALL TIES AND HANGERS TO BE MANUFACTURED BY SIMPSON STRONG-TIE. INSTALLATION PER MANUFACTURER'S RECOMMENDATIONS. ALTERNATIVE SOLUTIONS SHALL BE SUBMITTED TO EOR FOR APPROVAL PRIOR TO INSTALLATION. REFER TO TYPICAL HANGER SCHEDULE FOR HANGER SIZE UNO ON PLAN OR DETAILS.
12. ENGINEERED FLOOR JOISTS AND FLOOR TRUSSES TO BE DESIGNED BY OTHERS. REFER TO STRUCTURAL GENERAL NOTES FOR SUBMITTAL INFORMATION, AND DESIGN CRITERIA.
13. FIRE-PROOFING AND MOISTURE-PROOFING REQUIREMENTS BY OTHERS.
14. TYPICAL DETAILS:
    - 9/SD-1 PONY WALL AT CRAWLSPACE
    - 10/SD-1 DROPPED BEAM AND POST AT CRAWLSPACE
    - 12/SD-1 OVERLAP STRAP AT PONY WALL

FRAMING LEGEND

- BLOCKED FLOOR DIAPHRAGM
- W10X15 - STEEL BEAM (EXAMPLE)
- GT - GIRDER TRUSS
- FLOOR BEAM
- INTERIOR BEARING WALL
- STRAP
- LOW ROOF
- 3 1/8" X 9" GLB (FH-5) - BEAM/HEADER CALL OUT (EXAMPLE)
  REFERENCE TO BEAM OR TRUSS CALCULATION IN CALCULATION PACKAGE
  BEAM OR TRUSS MEMBER
- HANGER AS REQD

JOIST SPAN DIRECTION
FLOOR/ROOF TRUSS
EXTENTS OF SIMILAR JOISTS OR TRUSSES

TYPICAL JOIST HANGER SCHEDULE			
TJI210			
11 7/8"	2-PLY 11 7/8"	14"	2-PLY 14"
IUS2.06/11.88	MIU4.28/11	IUS2.06/14	MIU4.28/14
2X10			
1-PLY		2-PLY	
LUS210		LUS210-2	

TYPICAL BEAM HANGER SCHEDULE				
LVL / LSL / PSL				
	1 3/4"	3 1/2"	5 1/4"	7"
11 7/8"	HUS1.81/10	HHUS410	HGUS5.50/12	HGUS7.25/12
14"	HUS1.81/10	HHUS410	HGUS5.50/14	HGUS7.25/14

MARK R. THURTELL
STATE OF WASHINGTON
PROFESSIONAL ENGINEER
LONGITUDE ONE TWENTY°
ENGINEERING & DESIGN

REVISIONS

△	DESCRIPTION	DATE	BY
-			

PROJECT NAME
FOREST CREEK ESTATES
LOT 1
5222 FOREST AVE SE
MERCER ISLAND, WA 98040

PROJECT NUMBER
S240325-1

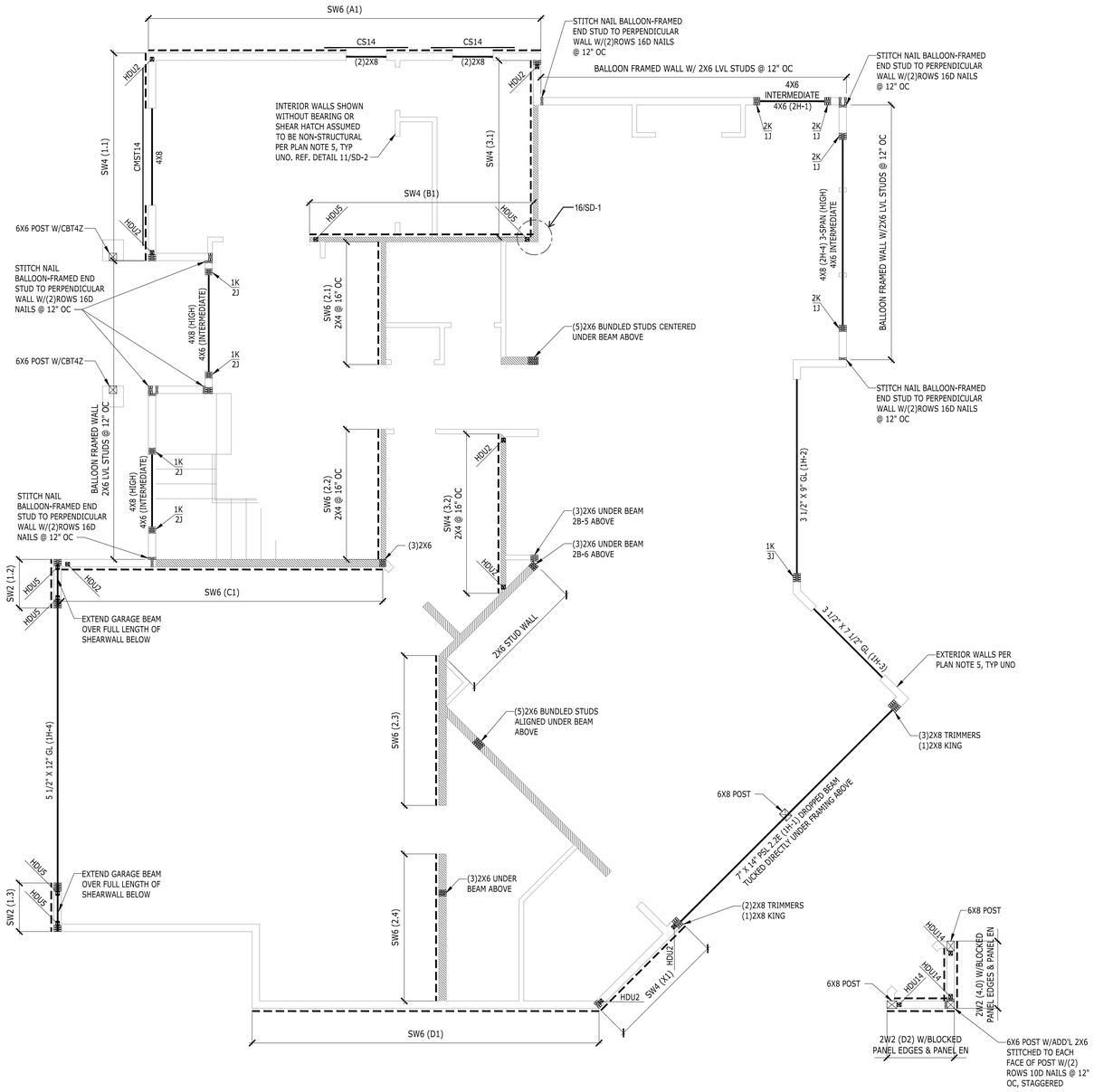
DRAWN BY - MR

CHECKED BY - MRT

SHEET DATE - 05/16/2024

SCALE
24X36 SHEET:1/4"=1'-0"

DESCRIPTION
FIRST FLOOR FRAMING PLAN
SHEET
S-3



FIRST FLOOR WALL FRAMING AND SHEAR WALL PLAN

SHEAR WALL SCHEDULE

WALL	SHEATHING	PANEL EDGE NAILING (COMMON (GALV) NAILS)	PANEL EDGE STUDS	ANCHOR BOLTS 5/8"Ø EMBED 7"	RIM CONNECTION		
					AT MUD SILL/ PLATE	AT ROOF EAVE TOP PLATE	AT SILL PLATE (SINKER NAIL .148Ø x 3 1/4")
SW6	7/16" APA PLY ONE SIDE	8d AT 6" O.C.	2x	48" O.C. IN 2x PLATE	LTP4 AT 24" O.C.	RBC AT 16" O.C.	16d AT 6" O.C.
SW4	7/16" APA PLY ONE SIDE	8d AT 4" O.C.	2x	32" O.C. IN 2x PLATE	LTP4 AT 16" O.C.	RBC AT 12" O.C.	16d AT 4" O.C.
SW3	7/16" APA PLY ONE SIDE	8d AT 3" O.C.	3x	16" O.C. IN 2x PLATE	LTP4 AT 16" O.C.	RBC AT 8" O.C.	16d AT 3" O.C.
SW2	7/16" APA PLY ONE SIDE	8d AT 2" O.C.	3x	12" O.C. IN 2x PLATE	LTP4 AT 12" O.C.	RBC AT 8" O.C.	16d AT 2" O.C.
2W4	7/16" APA PLY TWO SIDES	8d AT 4" O.C. EA SIDE	3x	24" O.C. IN 3x PLATE	LTP4+A35 @ 16" O.C. EA SIDE	N.A. AT ROOF EAVE	(2) ROWS 16d AT 4" O.C.
2W3	7/16" APA PLY TWO SIDES	8d AT 3" O.C. EA SIDE	3x	16" O.C. IN 3x PLATE	LTP4+A35 @ 16" O.C. EA SIDE	N.A. AT ROOF EAVE	(2) ROWS 16d AT 3" O.C.
2W2	7/16" APA PLY TWO SIDES	8d AT 2" O.C. EA SIDE	3x	16" O.C. IN 3x PLATE	LTP4+A35 @ 12" O.C. EA SIDE	N.A. AT ROOF EAVE	(2) ROWS 16d AT 2" O.C.

NOTES: 1) FOR NON-SHEAR WALL, PROVIDE ANCHOR BOLTS @ 72" O.C.

WALL FRAMING AND SHEAR WALL NOTES

1. GENERAL STRUCTURAL NOTES AND ABBREVIATIONS PER SHEET S-1.
2. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCH.
3. LUMBER GRADE PER GENERAL STRUCTURAL NOTES.
4. ALL BUNDLED STUDS SPECIFIED PER PLAN SHALL BE CONNECTED TOGETHER WITH 16d @ 6"O.C.
5. EXTERIOR WALL STUDS SHALL BE 2X6 @ 16"O.C. (≤10'), 2X6 @ 12"O.C. (>10') UNO. INTERIOR WALL STUDS SHALL BE 2X4 @ 16"O.C. UNO. REFER TO ARCH SET FOR WALL THICKNESS REQUIREMENTS AT PLUMBING STACKS. ALL INTERIOR NON-BEARING WALLS TO BE FRAMED MIN 0.25" UNDER FLOOR SYSTEM.
6. PROVIDE ONE KING STUD AND ONE JACK STUD MINIMUM AT EVERY HEADER UNO. JACK STUDS SHOULD BE CONTINUOUS TO THE FOUNDATION AND SHALL HAVE VERTICAL CRUSH BLOCKING WITHIN THE FLOOR FRAMING DEPTH MATCHING THE WIDTH OF JACK STUDS.
7. SHEARWALL SHEATHING AND NAILING REQUIREMENTS PER SHEARWALL SCHEDULE. ALL EXTERIOR WALLS SHALL BE TYPE SW6 UNO.
8. ALL SHEATHING PANEL EDGES TO OCCUR OVER STUDS, PLATES, RIMS OR HORIZONTAL BLOCKING. PANEL EDGE NAILING PER SHEARWALL SCHEDULE, FIELD NAILING AT 12" O.C. UNO.
9. PROVIDE MIN TWO 2X STUDS AT EACH END OF SHEARWALL UNO. PROVIDE PANEL EDGE NAILING INTO EACH STUD AT END OF WALL.
10. SHEARWALL PANEL EDGE STUDS INDICATE THE MINIMUM STUD WIDTH AT ABUTTING PANEL EDGES. TWO 2X STUDS ARE AN ACCEPTABLE ALTERNATE FOR 3X STUDS. TWO 2X STUDS ARE TO BE NAILED TOGETHER WITH TWO ROWS 10d NAILS AT 6" O.C (4" O.C. @ SW2 AND 2W2). AT DOUBLE SIDED SHEARWALLS VERTICAL PANEL EDGES TO BE STAGGERED ON OPPOSITE SIDES OF THE WALL EXCEPT END OF SHEARWALL.
11. LTP4 INSTALLED OVER PLYWOOD SHALL USE 8d COMMON NAILS (.131Ø X 2.5") LTP4 INSTALLED DIRECTLY AGAINST FRAMING MAY USE 8d SHORT (.131X 1.5") RBC INSTALLED DIRECTLY AGAINST FRAMING USE 10d SHORT (.148X 1.5").
12. WINDOW STRAP INDICATES THAT A WINDOW IS INCORPORATED WITHIN THE SHEAR WALL. REFER TO FORCE-TRANSFER AROUND OPENING DETAIL FOR FRAMING REQUIREMENTS.
13. STHD HOLDOWNS ARE DIMENSIONED TO CENTER OF STRAP. HDU/HD HOLDOWNS ARE DIMENSIONED TO CENTER OF ANCHOR BOLT.
14. SILL ANCHOR BOLTS (J-BOLTS) SHALL BE ASTM F1554 (36KSI) HDG, ASTM A307 (36KSI) HDG OR SIM. ANCHOR BOLTS TO BE 5/8"Ø X 7" MIN EMBEDMENT. SPACING PER SHEARWALL SCHEDULE (72" O.C. MAX). EACH ANCHOR BOLT TO HAVE STANDARD HDG NUT AND WASHER INSTALLED OVER 3"X3"X1/4" HDG PLATE WASHER WITH AND EDGE OF THE PLATE WASHER LOCATED WITHIN 1/2" OF SHEATHED FACE OF WALL. FOR TWO-SIDED SHEARWALLS W/ 2X6 WALL FRAMING USE 4X4X1/4" PLATE WASHERS OR STAGGER ANCHOR BOLTS SO THAT EVERY OTHER PLATE WASHER IS LOCATED WITHIN 1/2" OF EACH FACE OF THE WALL.
15. ALL HANGERS TO BE MANUFACTURED BY SIMPSON STRONG-TIE. INSTALLATION PER MANUFACTURER'S RECOMMENDATIONS. ALTERNATIVE SOLUTIONS SHALL BE SUBMITTED TO EOR FOR APPROVAL PRIOR TO INSTALLATION. REFER TO TYPICAL HANGER SCHEDULE FOR HANGER SIZE UNO ON PLAN OR DETAILS.
16. FIRE-PROOFING AND MOISTURE-PROOFING REQUIREMENTS BY OTHERS.
17. TYPICAL DETAILS:

- 11/SD-1 TYP HOLDOWN INSTALLATION
- 12/SD-1 TYP PONY WALL DETAIL
- 16/SD-1 HOLDOWN AT CORNER WALLS
- 17/SD-1 HDU HOLDOWN FLOOR-TO-FLOOR
- 11/SD-2 FRAMING OVER NON-BEARING WALL
- 16/SD-2 WALL TOP PLATES SPLICE

- 1/SD-2 TYP NOTCHES AND HOLES IN WOOD STUDS
- 2/SD-2 FORCE-TRANSFER AROUND WINDOWS DETAIL
- 3/SD-2 TYP HEADER FRAMING

FRAMING AND SHEATHING LEGEND

STHD14 (EXAMPLE) - HOLDOWN BY SIMPSON (STHD/MST/HDU/HD, TYP)

- INTERIOR BEARING WALL

#K / #J - INDICATES THE NUMBER OF KING AND JACK STUDS

- INDICATES SHEARWALL LOCATION (SW# - SHEAR WALL MARK)

CS16 - HORIZONTAL STRAP (EXAMPLE)

- HEADER

SW6 (A.1) - SHEAR WALL CALLOUT
- REFERENCE TO WALL DESIGNATION IN THE CALCULATION PACKAGE
- REFERENCE TO SHEAR WALL TYPE PER SHEAR WALL SCHEDULE

3 1/8" X 9" GLB (FH-5) - EXAMPLE
- REFERENCE TO BEAM OR TRUSS CALCULATION IN CALCULATION PACKAGE
- BEAM OR TRUSS MEMBER

MARK R. THURTELL
STATE OF WASHINGTON
PROFESSIONAL ENGINEER

LONGITUDE ONE TWENTY°
ENGINEERING & DESIGN

REVISIONS

△	DESCRIPTION	DATE	BY
-			

PROJECT NAME
FOREST CREEK ESTATES
LOT 1
5222 FOREST AVE SE
MERCER ISLAND, WA 98040

PROJECT NUMBER
S240325-1

DRAWN BY - MR

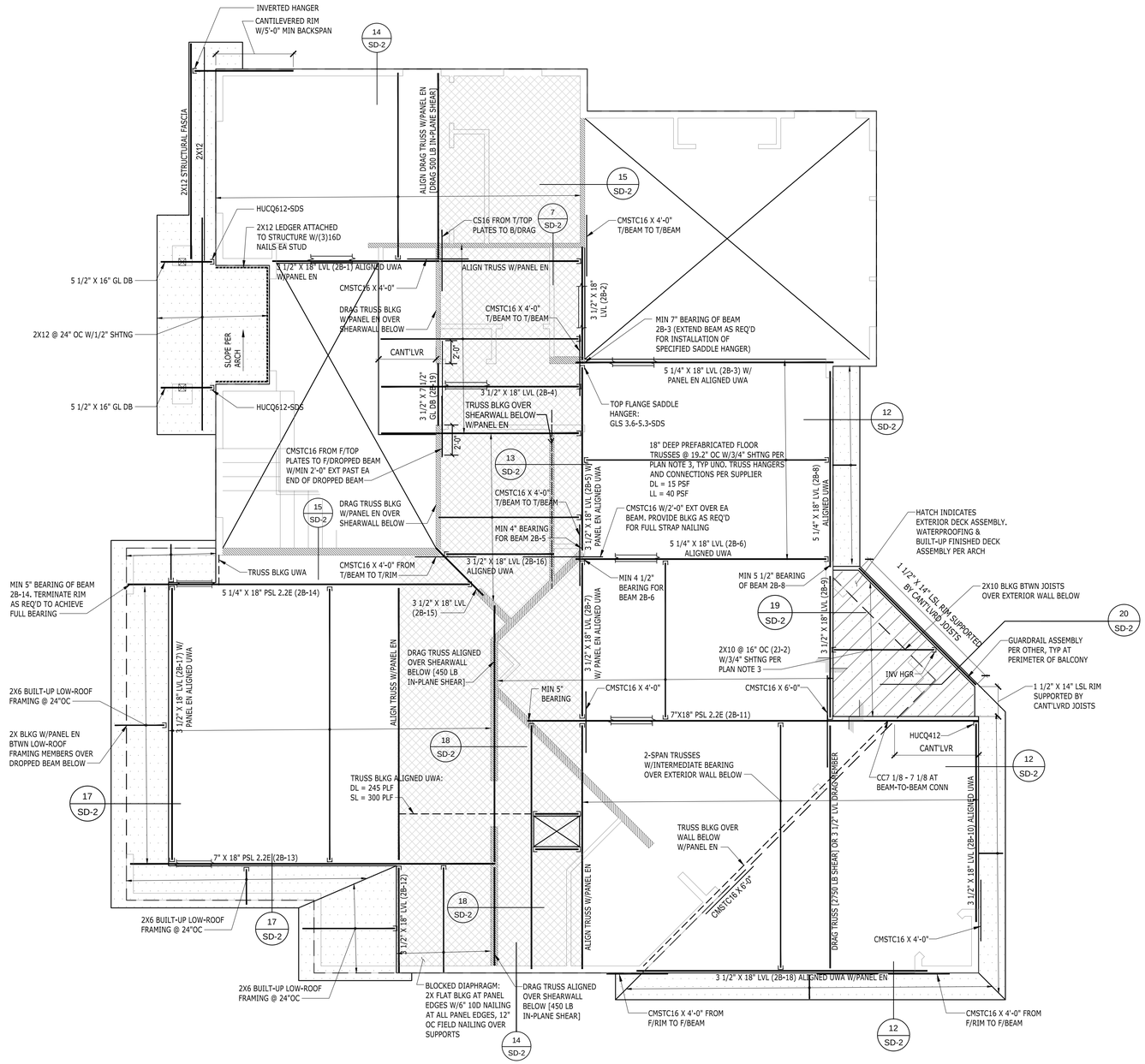
CHECKED BY - MRT

SHEET DATE - 05/16/2024

SCALE
24X36 SHEET:1/4"=1'-0"

DESCRIPTION
FIRST FLOOR WALL FRAMING AND SHEAR WALL PLAN

SHEET
S-4



SECOND FLOOR FRAMING PLAN

FLOOR FRAMING NOTES

1. GENERAL STRUCTURAL NOTES AND ABBREVIATIONS PER SHEET S-1.
2. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCH.
3. FLOOR SHEATHING PER GENERAL NOTES. ALL SHEATHING TO BE GLUED AND NAILED TO FRAMING PER MANUFACTURER RECOMMENDATIONS. USE 8d COMMON NAILS (0.131" X 2 1/2") @ 6" O.C. AT PANEL EDGES AND AT ALL FRAMING DESIGNATED "WITH EDGE NAILING" OR "W/EN", AND 12" O.C. IN THE FIELD, UNO. PANEL EDGE JOINTS TO BE STAGGERED BETWEEN ADJACENT PANELS OF SHEATHING. PROVIDE GAP BETWEEN PANELS TO ALLOW FOR NATURAL EXPANSION/CONTRACTION (1/8" GAP TYP).
4. LOCATE ALL OPENINGS AND PENETRATIONS AND VERIFY NO CONFLICT WITH FLOOR FRAMING. MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS BY OTHERS.
5. ALL WOOD LOCATED WITHIN 8" OF FINISHED GRADE, EXPOSED TO WEATHER OR IN CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED. ALL FASTENERS IN CONTACT WITH FIRE-RETARDANT OR PRESSURE-TREATED WOOD SHALL BE COVERED IN PROTECTIVE COATING (I.E. HDG OR SIM).
6. ALL BEAMS SHALL BE SUPPORTED BY MIN TWO STUDS BELOW EACH END, UNLESS NOTED OTHERWISE ON PLAN. ALL BEAMS SHALL BE FRAMED FLUSH WITH JOISTS UNO. "DROPPED BEAM" OR "DB" INDICATES T/BEAM EQUAL B/JOISTS. "TOP FLUSH" OR "TF" INDICATES T/BEAM EQUAL T/JOISTS AND B/BEAM EXTENDING BELOW B/JOISTS. "BOTTOM FLUSH" OR "BF" INDICATES B/BEAM EQUAL B/JOISTS AND T/BEAM EXTENDING ABOVE T/JOISTS.
7. ALL NON-BEARING WALLS TO BE FRAMED MIN 0.25" UNDER FLOOR SYSTEM.
8. STUD QUANTITIES, POST SIZE, HOLDOWN, AND SHEARWALL REQUIREMENTS PER WALL FRAMING AND SHEARWALL PLAN BELOW.
9. ALL POSTS ABOVE THE FLOOR FRAMING SHALL BE BLOCKED WITHIN THE FLOOR DEPTH ("VERTICAL GRAIN BLKG", "VERTICAL CRUSH BLKG", OR "VCB"). BLOCKING WIDTH SHALL MATCH WIDTH OF POST OR BUNDLED STUDS ABOVE AND EXTEND FULL FLOOR DEPTH.
10. HORIZONTAL STRAPS INDICATED ON FRAMING PLANS SHALL BE CENTERED OVER THE TOP PLATE, BEAM, OR BLOCKING. STRAP LENGTH PER PLAN.
11. ALL TIES AND HANGERS TO BE MANUFACTURED BY SIMPSON STRONG-TIE. INSTALLATION PER MANUFACTURER'S RECOMMENDATIONS. ALTERNATIVE SOLUTIONS SHALL BE SUBMITTED TO EOR FOR APPROVAL PRIOR TO INSTALLATION. REFER TO TYPICAL HANGER SCHEDULE FOR HANGER SIZE UNO ON PLAN OR DETAILS.
12. ENGINEERED FLOOR JOISTS AND FLOOR TRUSSES TO BE DESIGNED BY OTHERS. REFER TO STRUCTURAL GENERAL NOTES FOR SUBMITTAL INFORMATION, AND DESIGN CRITERIA.
13. FIRE-PROOFING AND MOISTURE-PROOFING REQUIREMENTS BY OTHERS.
14. TYPICAL DETAILS:
    - 7/SD-2 FLOOR FRAMING AT INTERIOR BEARING WALL

FRAMING LEGEND

- BLOCKED FLOOR DIAPHRAGM
- W10X15 - STEEL BEAM (EXAMPLE)
- GT - GIRDER TRUSS
- FLOOR BEAM
- INTERIOR BEARING WALL
- STRAP
- LOW ROOF
- 3 1/8" X 9" GLB (FH-5) - BEAM/HEADER CALL OUT (EXAMPLE)
  - REFERENCE TO BEAM OR TRUSS CALCULATION IN CALCULATION PACKAGE
  - BEAM OR TRUSS MEMBER
- HANGER AS REQD
- JOIST SPAN DIRECTION
- FLOOR/ROOF TRUSS
- EXTENTS OF SIMILAR JOISTS OR TRUSSES

TYPICAL JOIST HANGER SCHEDULE			
TJI210			
11 7/8"	2-PLY 11 7/8"	14"	2-PLY 14"
IUS2.06/11.88	MIU4.28/11	IUS2.06/14	MIU4.28/14
2X10			
1-PLY		2-PLY	
LUS210		LUS210-2	

TYPICAL BEAM HANGER SCHEDULE				
LVL / LSL / PSL				
	1 3/4"	3 1/2"	5 1/4"	7"
11 7/8"	HUS1.81/10	HHUS410	HGUS5.50/12	HGUS7.25/12
14"	HUS1.81/10	HHUS410	HGUS5.50/14	HGUS7.25/14

MANSR. THURTELL
STATE OF WASHINGTON
PROFESSIONAL ENGINEER
LONGITUDE ONE TWENTY°
ENGINEERING & DESIGN

REVISIONS

△	DESCRIPTION	DATE	BY
-			

PROJECT NAME
FOREST CREEK ESTATES
LOT 1
5222 FOREST AVE SE
MERCER ISLAND, WA 98040

PROJECT NUMBER
S240325-1

DRAWN BY - MR

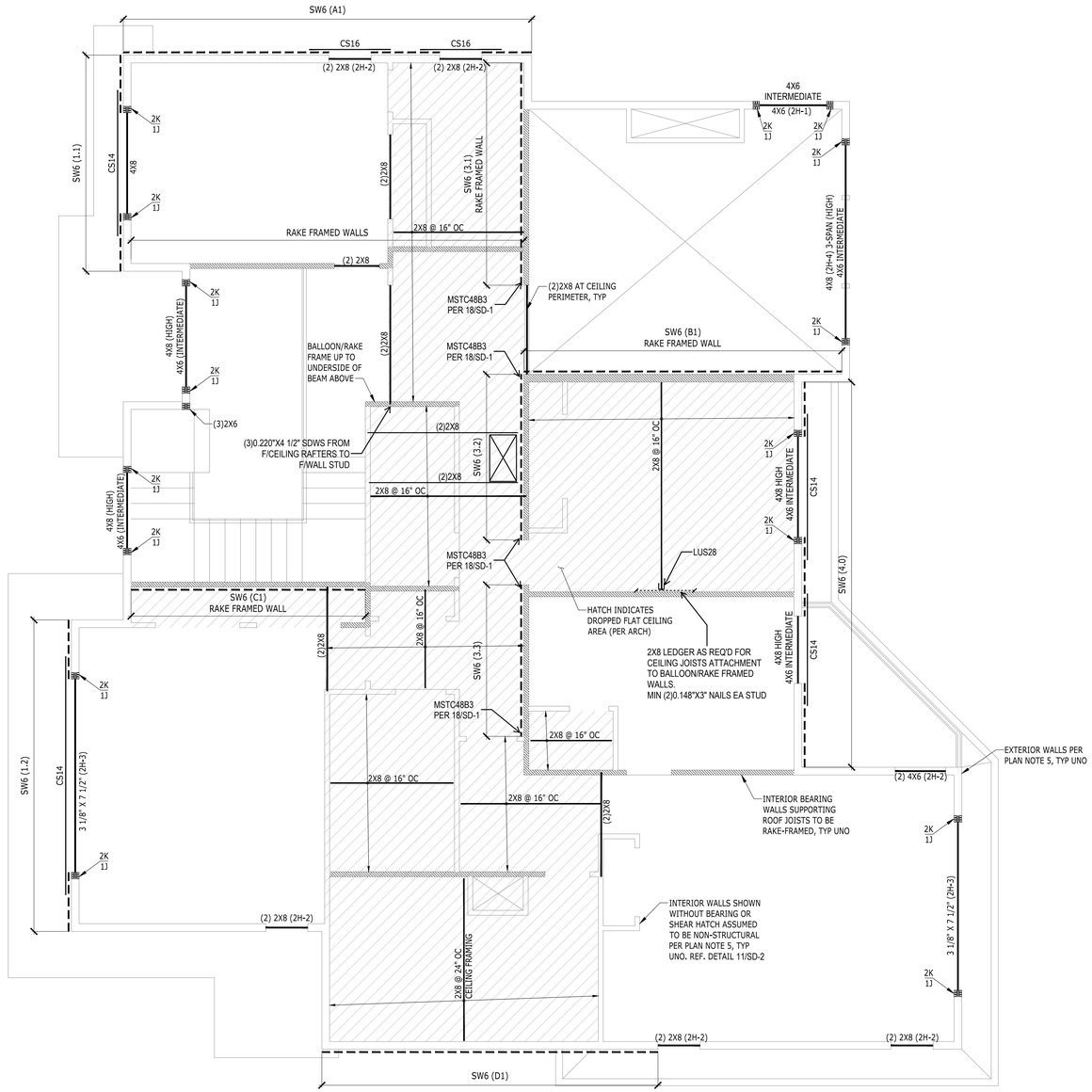
CHECKED BY - MRT

SHEET DATE - 05/16/2024

SCALE
24X36 SHEET:1/4"=1'-0"

DESCRIPTION: SECOND FLOOR FRAMING PLAN

SHEET: S-5



SECOND FLOOR WALL FRAMING AND SHEAR WALL PLAN

SHEAR WALL SCHEDULE

WALL	SHEATHING	PANEL EDGE NAILING (COMMON (GALV) NAILS)	PANEL EDGE STUDS	ANCHOR BOLTS 5/8"Ø EMBED 7"	RIM CONNECTION		
					AT MUD SILL/ PLATE	AT ROOF EAVE TOP PLATE	AT SILL PLATE (SINKER NAIL .148Ø x 3 1/4")
SW6	7/16" APA PLY ONE SIDE	8d AT 6" O.C.	2x	48" O.C. IN 2x PLATE	LTP4 AT 24" O.C.	RBC AT 16" O.C.	16d AT 6" O.C.
SW4	7/16" APA PLY ONE SIDE	8d AT 4" O.C.	2x	32" O.C. IN 2x PLATE	LTP4 AT 16" O.C.	RBC AT 12" O.C.	16d AT 4" O.C.
SW3	7/16" APA PLY ONE SIDE	8d AT 3" O.C.	3x	16" O.C. IN 2x PLATE	LTP4 AT 16" O.C.	RBC AT 8" O.C.	16d AT 3" O.C.
SW2	7/16" APA PLY ONE SIDE	8d AT 2" O.C.	3x	12" O.C. IN 2x PLATE	LTP4 AT 12" O.C.	RBC AT 8" O.C.	16d AT 2" O.C.
2W4	7/16" APA PLY TWO SIDES	8d AT 4" O.C. EA SIDE	3x	24" O.C. IN 3x PLATE	LTP4+A35 @ 16" O.C. EA SIDE	N.A. AT ROOF EAVE	(2) ROWS 16d AT 4" O.C.
2W3	7/16" APA PLY TWO SIDES	8d AT 3" O.C. EA SIDE	3x	16" O.C. IN 3x PLATE	LTP4+A35 @ 16" O.C. EA SIDE	N.A. AT ROOF EAVE	(2) ROWS 16d AT 3" O.C.
2W2	7/16" APA PLY TWO SIDES	8d AT 2" O.C. EA SIDE	3x	16" O.C. IN 3x PLATE	LTP4+A35 @ 12" O.C. EA SIDE	N.A. AT ROOF EAVE	(2) ROWS 16d AT 2" O.C.

NOTES: 1) FOR NON-SHEAR WALL, PROVIDE ANCHOR BOLTS @ 72" O.C.

WALL FRAMING AND SHEAR WALL NOTES

1. GENERAL STRUCTURAL NOTES AND ABBREVIATIONS PER SHEET S-1.
2. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCH.
3. LUMBER GRADE PER GENERAL STRUCTURAL NOTES.
4. ALL BUNDLED STUDS SPECIFIED PER PLAN SHALL BE CONNECTED TOGETHER WITH 16d @ 6"O.C.
5. EXTERIOR WALL STUDS SHALL BE 2X6 @ 16"O.C. (≤10'), 2X6 @ 12"O.C. (>10') UNO. INTERIOR WALL STUDS SHALL BE 2X4 @ 16"O.C. UNO. REFER TO ARCH SET FOR WALL THICKNESS REQUIREMENTS AT PLUMBING STACKS. ALL INTERIOR NON-BEARING WALLS TO BE FRAMED MIN 0.25" UNDER FLOOR SYSTEM.
6. PROVIDE ONE KING STUD AND ONE JACK STUD MINIMUM AT EVERY HEADER UNO. JACK STUDS SHOULD BE CONTINUOUS TO THE FOUNDATION AND SHALL HAVE VERTICAL CRUSH BLOCKING WITHIN THE FLOOR FRAMING DEPTH MATCHING THE WIDTH OF JACK STUDS.
7. SHEARWALL SHEATHING AND NAILING REQUIREMENTS PER SHEARWALL SCHEDULE. ALL EXTERIOR WALLS SHALL BE TYPE SW6 UNO.
8. ALL SHEATHING PANEL EDGES TO OCCUR OVER STUDS, PLATES, RIMS OR HORIZONTAL BLOCKING. PANEL EDGE NAILING PER SHEARWALL SCHEDULE, FIELD NAILING AT 12" O.C. UNO.
9. PROVIDE MIN TWO 2X STUDS AT EACH END OF SHEARWALL UNO. PROVIDE PANEL EDGE NAILING INTO EACH STUD AT END OF WALL.
10. SHEARWALL PANEL EDGE STUDS INDICATE THE MINIMUM STUD WIDTH AT ABUTTING PANEL EDGES. TWO 2X STUDS ARE AN ACCEPTABLE ALTERNATE FOR 3X STUDS. TWO 2X STUDS ARE TO BE NAILED TOGETHER WITH TWO ROWS 10d NAILS AT 6" O.C (4" O.C. @ SW2 AND 2W2). AT DOUBLE SIDED SHEARWALLS VERTICAL PANEL EDGES TO BE STAGGERED ON OPPOSITE SIDES OF THE WALL EXCEPT END OF SHEARWALL.
11. LTP4 INSTALLED OVER PLYWOOD SHALL USE 8d COMMON NAILS (.131Ø X 2.5") LTP4 INSTALLED DIRECTLY AGAINST FRAMING MAY USE 8d SHORT (.131X 1.5") RBC INSTALLED DIRECTLY AGAINST FRAMING USE 10d SHORT (.148X 1.5").
12. WINDOW STRAP INDICATES THAT A WINDOW IS INCORPORATED WITHIN THE SHEAR WALL. REFER TO FORCE-TRANSFER AROUND OPENING DETAIL FOR FRAMING REQUIREMENTS.
13. STHD HOLDOWNS ARE DIMENSIONED TO CENTER OF STRAP. HDU/HD HOLDOWNS ARE DIMENSIONED TO CENTER OF ANCHOR BOLT.
14. SILL ANCHOR BOLTS (J-BOLTS) SHALL BE ASTM F1554 (36KSI) HDG, ASTM A307 (36KSI) HDG OR SIM. ANCHOR BOLTS TO BE 5/8"Ø X 7" MIN EMBEDMENT. SPACING PER SHEARWALL SCHEDULE (72" O.C. MAX). EACH ANCHOR BOLT TO HAVE STANDARD HDG NUT AND WASHER INSTALLED OVER 3"X3"X1/4" HDG PLATE WASHER WITH AND EDGE OF THE PLATE WASHER LOCATED WITHIN 1/2" OF SHEATHED FACE OF WALL. FOR TWO-SIDED SHEARWALLS W/ 2X6 WALL FRAMING USE 4X4X1/4" PLATE WASHERS OR STAGGER ANCHOR BOLTS SO THAT EVERY OTHER PLATE WASHER IS LOCATED WITHIN 1/2" OF EACH FACE OF THE WALL.
15. ALL HANGERS TO BE MANUFACTURED BY SIMPSON STRONG-TIE. INSTALLATION PER MANUFACTURER'S RECOMMENDATIONS. ALTERNATIVE SOLUTIONS SHALL BE SUBMITTED TO EOR FOR APPROVAL PRIOR TO INSTALLATION. REFER TO TYPICAL HANGER SCHEDULE FOR HANGER SIZE UNO ON PLAN OR DETAILS.
16. FIRE-PROOFING AND MOISTURE-PROOFING REQUIREMENTS BY OTHERS.
17. TYPICAL DETAILS:

- 11/SD-1 TYP HOLDOWN INSTALLATION
- 12/SD-1 TYP PONY WALL DETAIL
- 16/SD-1 HOLDOWN AT CORNER WALLS
- 17/SD-1 HDU HOLDOWN FLOOR-TO-FLOOR
- 11/SD-2 FRAMING OVER NON-BEARING WALL
- 16/SD-2 WALL TOP PLATES SPLICE

- 1/SD-2 TYP NOTCHES AND HOLES IN WOOD STUDS
- 2/SD-2 FORCE-TRANSFER AROUND WINDOWS DETAIL
- 3/SD-2 TYP HEADER FRAMING

FRAMING AND SHEATHING LEGEND

- STHD14 (EXAMPLE) - HOLDOWN BY SIMPSON (STHD/MST/HDU/HD, TYP)
- - INTERIOR BEARING WALL
- #K / #J - INDICATES THE NUMBER OF KING AND JACK STUDS
- - INDICATES SHEARWALL LOCATION (SW# - SHEAR WALL MARK)
- CS16 - HORIZONTAL STRAP (EXAMPLE)
- - HEADER
- SW6 (A.1) - SHEAR WALL CALLOUT
  - REFERENCE TO WALL DESIGNATION IN THE CALCULATION PACKAGE
  - REFERENCE TO SHEAR WALL TYPE PER SHEAR WALL SCHEDULE
- 3 1/8" X 9" GLB (FH-5) - EXAMPLE
  - REFERENCE TO BEAM OR TRUSS CALCULATION IN CALCULATION PACKAGE
  - BEAM OR TRUSS MEMBER

MARK R. THURTELL
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-			

PROJECT NAME
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LOT 1
5222 FOREST AVE SE
MERCER ISLAND, WA 98040

PROJECT NUMBER
S240325-1

DRAWN BY - MR

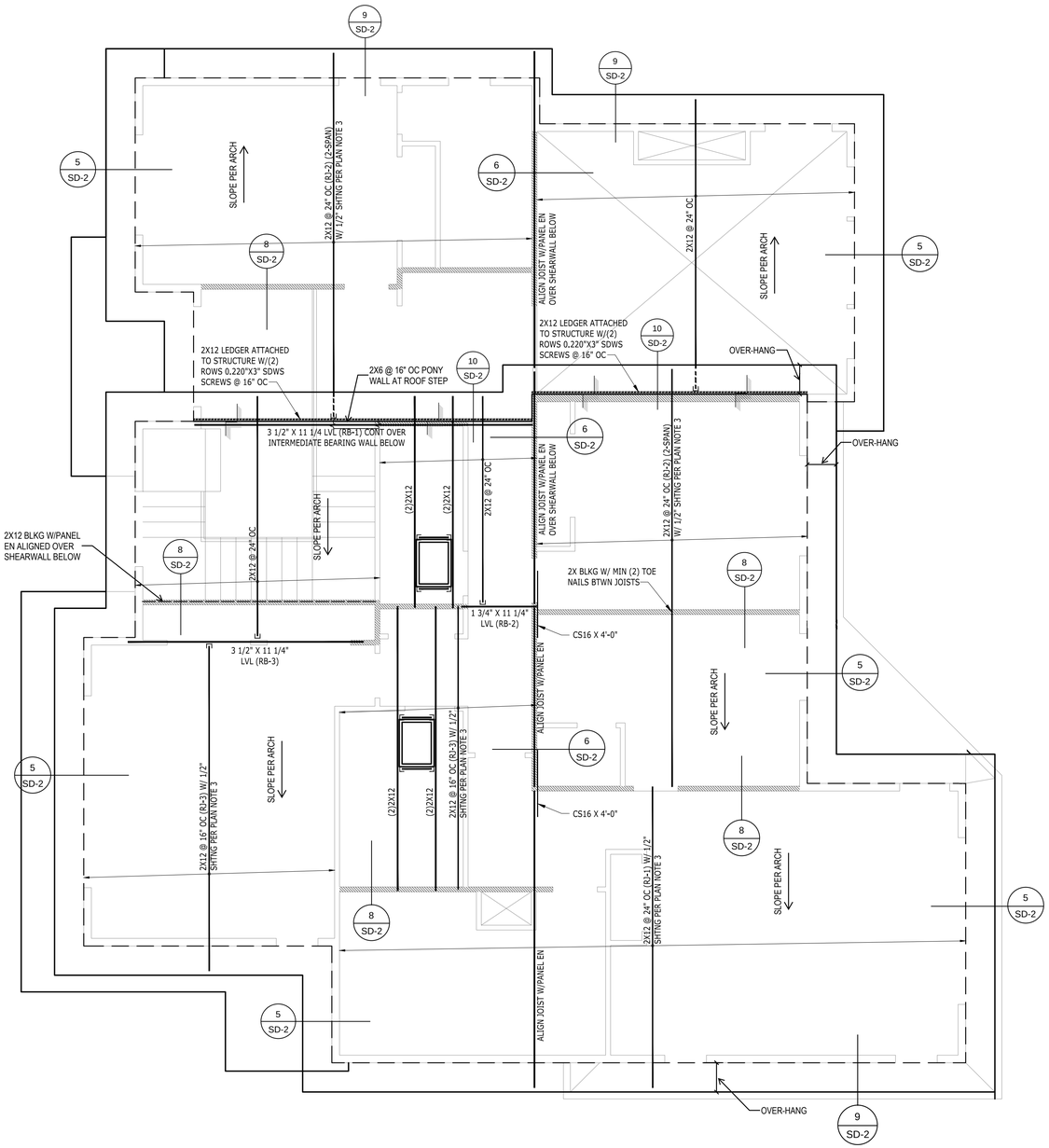
CHECKED BY - MRT

SHEET DATE - 05/16/2024

SCALE
24X36 SHEET:1/4"=1'-0"

DESCRIPTION
SECOND FLOOR WALL FRAMING AND SHEAR WALL PLAN

SHEET
S-6



ROOF FRAMING PLAN

ROOF FRAMING NOTES

1. GENERAL STRUCTURAL NOTES AND ABBREVIATIONS PER SHEET S-1.
2. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCH.
3. ROOF SHEATHING PER GENERAL NOTES. ALL SHEATHING TO BE GLUED AND NAILED TO FRAMING PER MANUFACTURER RECOMMENDATIONS. USE 8d COMMON NAILS (0.131" X 2 1/2") @ 6" O.C. AT PANEL EDGES AND AT ALL FRAMING DESIGNATED "WITH EDGE NAILING" OR "W/EN", AND 12" O.C. IN THE FIELD, UNO. PANEL EDGE JOINTS TO BE STAGGERED BETWEEN ADJACENT PANELS OF SHEATHING. PROVIDE GAP BETWEEN PANELS TO ALLOW FOR NATURAL EXPANSION/CONTRACTION (1/8" GAP TYP).
4. ALL ROOF TRUSSES SHALL BE SPACED NO FURTHER APART THAN 24" O.C. AND SHALL BE CONNECTED TO TOP PLATE WITH H2.5 TIE UNO.
5. ALL GIRDER TRUSSES SHALL BE CONNECTED TO TOP PLATE WITH TWO H6 TIES UNO.
6. LOCATE ALL OPENINGS AND PENETRATIONS AND VERIFY NO CONFLICT WITH ROOF FRAMING. MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS BY OTHERS.
7. ALL BEAMS AND GIRDER TRUSSES SHALL BE SUPPORTED BY MIN TWO STUDS BELOW EACH END, UNLESS NOTED OTHERWISE ON PLAN. ALL BEAMS SHALL BE FRAMED FLUSH WITH JOISTS UNO. "DROPPED BEAM" OR "DB" INDICATES T/BEAM EQUAL B/JOISTS. "TOP FLUSH" OR "TF" INDICATES T/BEAM EQUAL T/JOISTS AND B/BEAM EXTENDING BELOW B/JOISTS. "BOTTOM FLUSH" OR "BF" INDICATES B/BEAM EQUAL B/JOISTS AND T/BEAM EXTENDING ABOVE T/JOISTS.
8. ALL NON-BEARING WALLS TO BE FRAMED MIN 0.25" UNDER FLOOR SYSTEM.
9. STUD QUANTITIES, POST SIZE, HOLDOWN, AND SHEARWALL REQUIREMENTS PER WALL FRAMING AND SHEARWALL PLAN BELOW.
10. HORIZONTAL STRAPS INDICATED ON FRAMING PLANS SHALL BE CENTERED OVER THE TOP PLATE, BEAM, OR BLOCKING. STRAP LENGTH PER PLAN UNO.
11. ALL HANGERS TO BE MANUFACTURED BY SIMPSON STRONG-TIE. INSTALLATION PER MANUFACTURER'S RECOMMENDATIONS. ALTERNATIVE SOLUTIONS SHALL BE SUBMITTED TO EOR FOR APPROVAL PRIOR TO INSTALLATION. REFER TO TYPICAL HANGER SCHEDULE FOR HANGER SIZE UNO ON PLAN OR DETAILS. HANGERS FOR ROOF TRUSSES BY OTHERS.
12. ENGINEERED ROOF JOISTS AND ROOF TRUSSES TO BE DESIGNED BY OTHERS. REFER TO STRUCTURAL GENERAL NOTES FOR SUBMITTAL INFORMATION, AND DESIGN CRITERIA.
    - 12.1. STANDARD DEAD AND LIVE LOADS SHALL BE USED FOR TRUSS DESIGN. REFERENCE STRUCTURAL GENERAL NOTES FOR MORE INFORMATION.
    - 12.2. CHANGES TO LAYOUT MUST BE SUBMITTED TO THE ARCHITECT AND EOR FOR REVIEW AND APPROVAL.
    - 12.3. TRUSS SUBMITTAL PACKAGE TO BE PROVIDED TO EOR FOR REVIEW. REFERENCE STRUCTURAL GENERAL NOTES FOR SUBMITTAL REQUIREMENTS.
    - 12.4. (XXX LBS SHEAR/DRAG) INDICATES SHEAR TRANSFER LOAD. SHEAR TRUSS SHALL BE DESIGNED TO BE ABLE TO TRANSFER SPECIFIED LATERAL LOAD APPLIED AT THE TOP CHORD TO THE BOTTOM CHORD AND INTO SHEARWALL BELOW.
    - 12.5. ROOF TRUSSES SHOULD BE DESIGNED FOR ADDITIONAL LOADS WHERE APPLICABLE AS SPECIFIED BY THE ARCHITECT (I.E. MECHANICAL UNITS, ROOF DECKS AND PATIOS, GREEN ROOFS, SOLAR UNITS AND ETC).
    - 12.6. TRUSS DESIGN FOR BEARING AT TOP PLATES TO BE DESIGNED FOR COMPRESSION PERPENDICULAR TO GRAIN.
13. FIRE-PROOFING AND MOISTURE-PROOFING REQUIREMENTS BY OTHERS.
14. ROOF COVERINGS AND ROOFING MATERIAL BY OTHERS.
15. ROOF DRAINAGE BY OTHERS.
16. ATTIC VENTILATION BY OTHERS.
17. FOR TYPICAL INSTALLATION DETAILS REFERENCE TO:

FRAMING LEGEND

- GIRDER OR GABLE END TRUSS
- INTERIOR BEARING WALL
- ROOF OVERFRAMING
- 3 1/8" X 9" GLB (FH-5) - EXAMPLE
  - REFERENCE TO BEAM OR TRUSS CALCULATION IN CALCULATION PACKAGE
  - BEAM OR TRUSS MEMBER
- HANGER AS REQD
- FLOOR/ROOF TRUSS OR JOIST SPAN DIRECTION
- EXTENTS OF SIMILAR JOISTS OR TRUSSES

MARK R. THURTELL
STATE OF WASHINGTON
PROFESSIONAL ENGINEER
LONGITUDE ONE TWENTY°
ENGINEERING & DESIGN

REVISIONS

△	DESCRIPTION	DATE	BY
-			

PROJECT NAME
FOREST CREEK ESTATES
LOT 1
5222 FOREST AVE SE
MERCER ISLAND, WA 98040

PROJECT NUMBER
S240325-1

DRAWN BY - MR

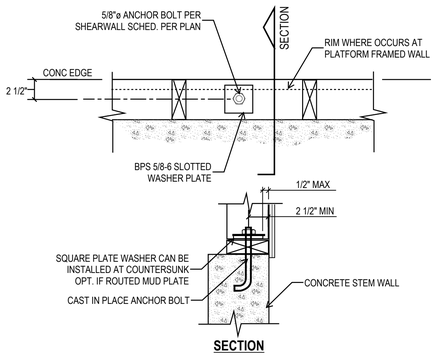
CHECKED BY - MRT

SHEET DATE - 05/16/2024

SCALE
24X36 SHEET:1/4"=1'-0"

DESCRIPTION: ROOF FRAMING PLAN

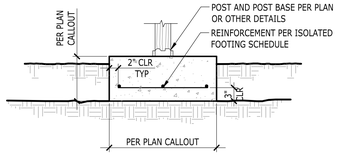
SHEET: S-7



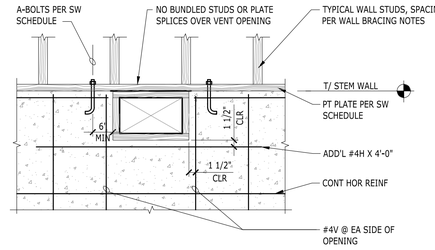
1 SILL PLATE ANCHORS

ISOLATED FOOTING SCHEDULE

FOOTING SIZE PER PLAN	REINFORCEMENT
24" X 24" X 10"	(3)#4, EA WAY, BTM
30" X 30" X 10"	(4)#4, EA WAY, BTM
36" X 36" X 12"	(5)#4, EA WAY, BTM
42" X 42" X 12"	(5)#4, EA WAY, BTM
48" X 48" X 12"	(6)#4, EA WAY, BTM

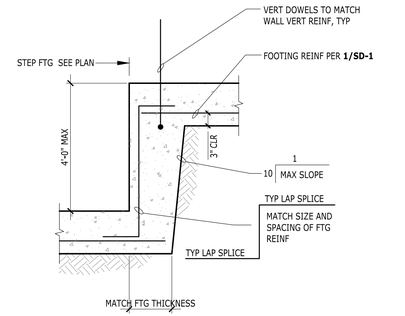


2 ISOLATED INTERIOR FOOTING



NOTES
1. CRAWLSPACE VENTILATION PER ARCHITECTURAL SHEETS
2. DO NOT LOCATE VENT WITHIN TANK WALL WITHOUT REVIEW BY EOR
3. CONTRACTOR TO LOCATE/VENTS TO AVOID BUNDLED STUDS/POSTS/POINT LOADS FROM ABOVE PER PLAN OR CONFLICT W/HOLDOWNS PER PLAN.

3 CRAWL SPACE VENTILATION

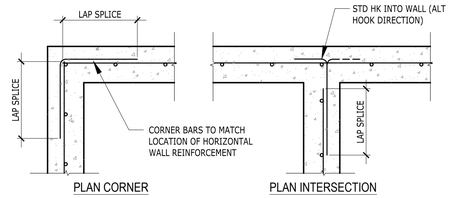


4 STEP AT WALL FOOTING

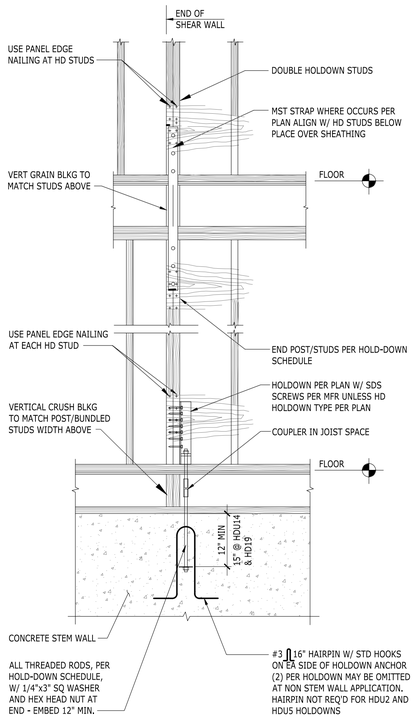
LAP SPLICE AND STANDARD HOOK LENGTH FOR CORNER BARS

BAR SIZE PER WALL	LAP SPLICE LENGTH	STD HOOK LENGTH
#4	2'-6"	0'-8"
#5	3'-0"	0'-10"
#6	3'-8"	1'-0"
#8	5'-0"	1'-3"

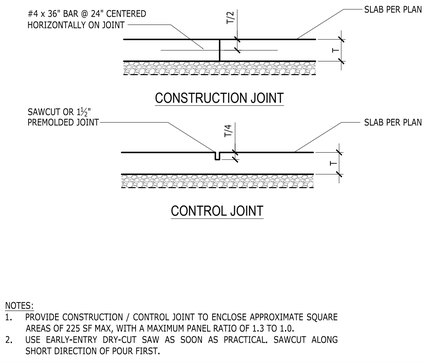
IF INTERSECTING WALLS HAVE DIFFERENT SIZE OF HORIZONTAL REINFORCEMENT, CORNER BARS MATCHING LARGER REINFORCEMENT SIZE AND SPACING TO BE USED



5 CORNER BARS AT CONCRETE WALLS

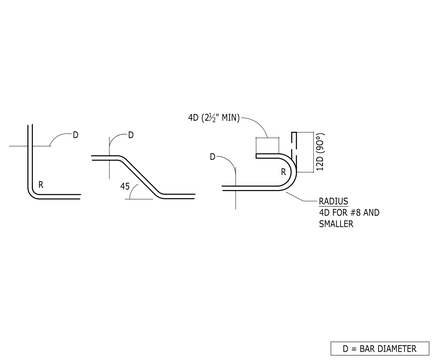


11 HOLDOWN DETAIL



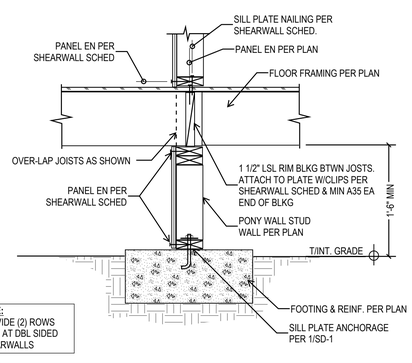
NOTES:
1. PROVIDE CONSTRUCTION / CONTROL JOINT TO ENCLOSE APPROXIMATE SQUARE AREAS OF 225 SF MAX, WITH A MAXIMUM PANEL RATIO OF 1.3 TO 1.0.
2. USE EARLY-ENTRY DRY-CUT SAW AS SOON AS PRACTICAL. SAWCUT ALONG SHORT DIRECTION OF POUR FIRST.

7 CONSTRUCTION/CONTROL JOINT DETAILS



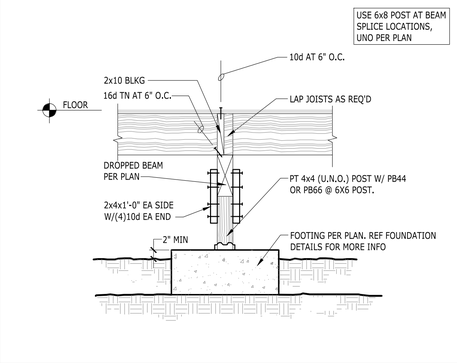
D = BAR DIAMETER

8 BAR BEND AND HOOK DETAILS

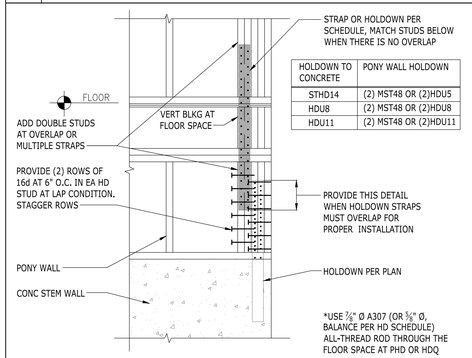


NOTE: PROVIDE (2) ROWS BLKG AT DBL SIDED SHEARWALLS

9 PONY WALL AT CRAWLSPACE

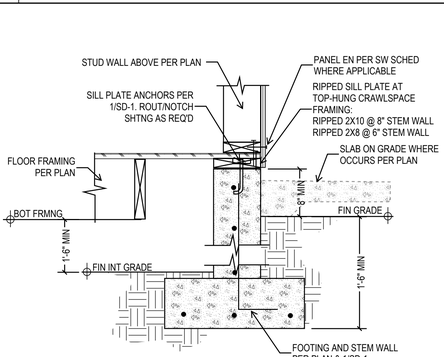


10 DROPPED BEAM AND POST AT CRAWL SPACE

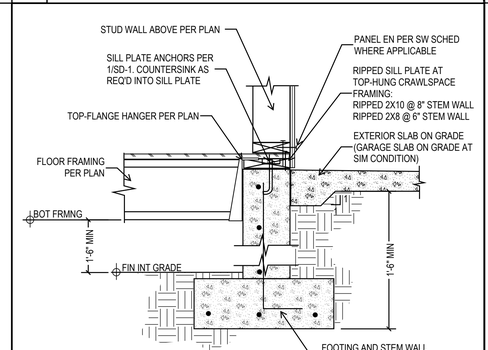


HOLDOWN TO CONCRETE	PONY WALL HOLDOWN
STHD14	(2) MST48 OR (2)HDU5
HDU8	(2) MST48 OR (2)HDU8
HDU11	(2) MST48 OR (2)HDU11

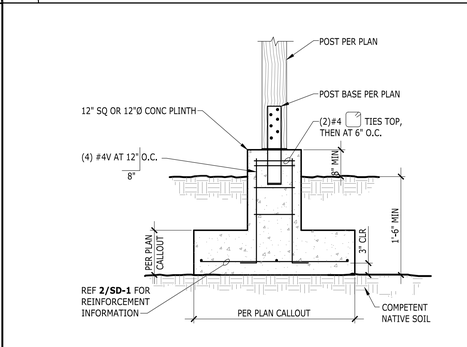
12 OVERLAP STRAP AT PONY WALL



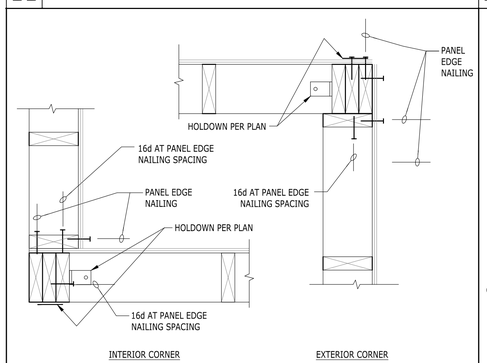
13 PERIMETER FOOTING WITH CRAWLSPACE



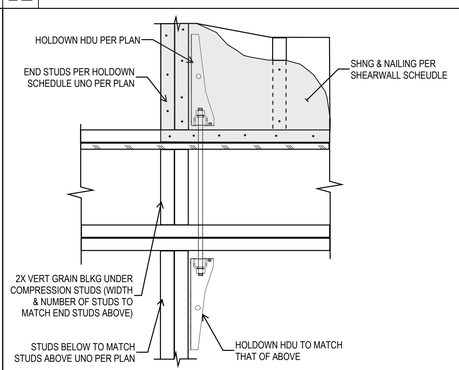
14 PERIMETER FOOTING WITH CRAWLSPACE



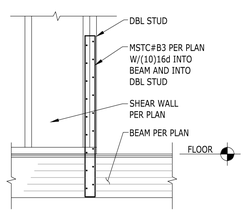
15 ISOLATED EXTERIOR FOOTING



16 CORNER FRAMING



17 HOLDOWN HDU FLOOR-TO-FLOOR



18 MSTC HOLDOWN AT BEAM

MARK R. THURTELL
STATE OF WASHINGTON
PROFESSIONAL ENGINEER
LONGITUDE ONE TWENTY°
ENGINEERING & DESIGN

REVISIONS

△	DESCRIPTION	DATE	BY
-			

PROJECT NAME
FOREST CREEK ESTATES
LOT 1
5222 FOREST AVE SE
MERCER ISLAND, WA 98040

PROJECT NUMBER
S240325-1

DRAWN BY - MR

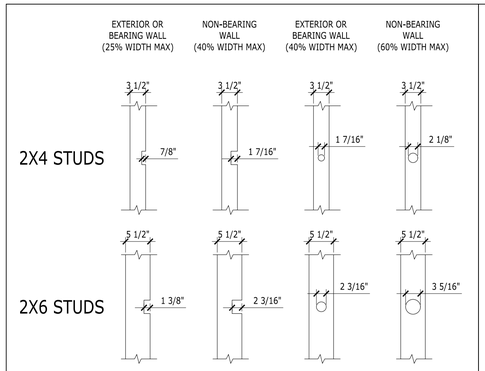
CHECKED BY - MRT

SHEET DATE - 05/16/2024

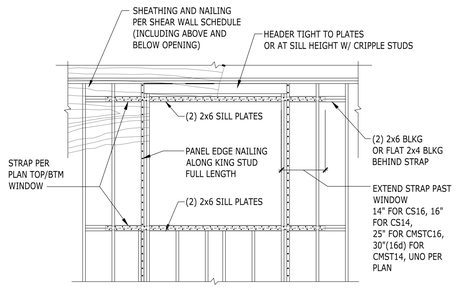
SCALE
24X36 SHEET:1/4"=1'-0"

DESCRIPTION: STRUCTURAL DETAILS

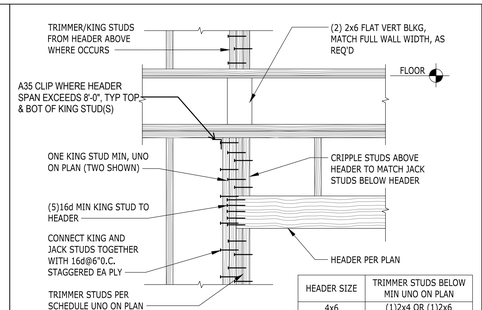
SHEET: SD-1



1 ALLOWABLE STUD NOTCHING AND BORING



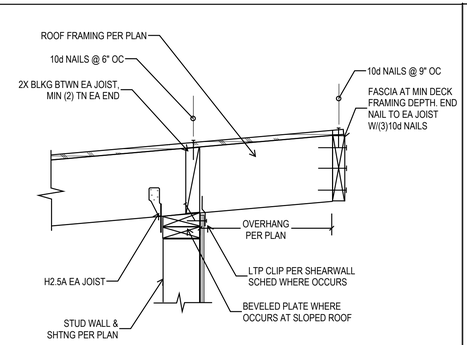
2 STRAPS AROUND WINDOWS



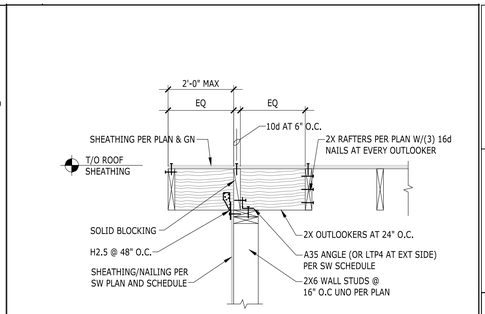
NOTES:
1). PROVIDE MIN (3)16d SDWS SCREW INTO EA PLY OF HEADER AT MULTI-PLY 2X HEADERS PER PLAN
2). WHERE HEADER SPAN EXCEEDS 8'-0", REPLACE THE 16d NAILS FROM KING STUD(S) WITH 0.220"X4 1/2" SDWS SCREWS

HEADER SIZE	TRIMMER STUDS BELOW MIN UNO ON PLAN
4x6	(1)2x4 OR (1)2x6
4x8	(2)2x4 OR (1)2x6
4x10	(3)2x4 OR (2)2x6
3 1/8 GLB	(3)2x4 OR (2)2x6
5 1/8 GLB	(3)2x6

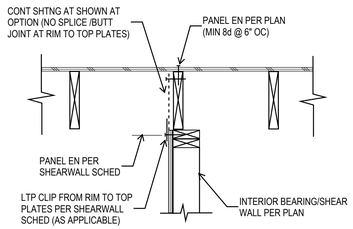
3 TYPICAL HEADER FRAMING



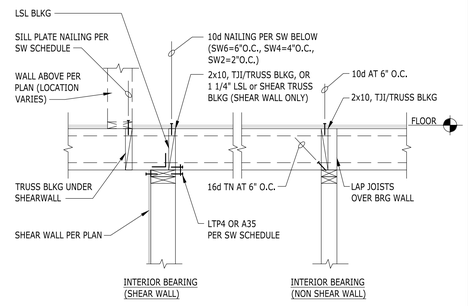
4 SLOPED ROOF FRAMING OVER EXT. WALL



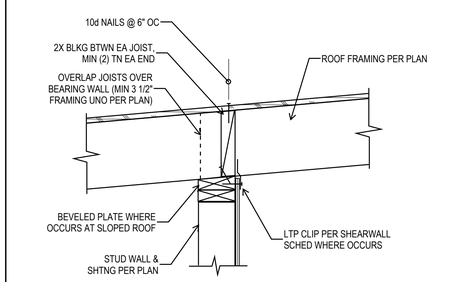
5 GABLE END FRAMING



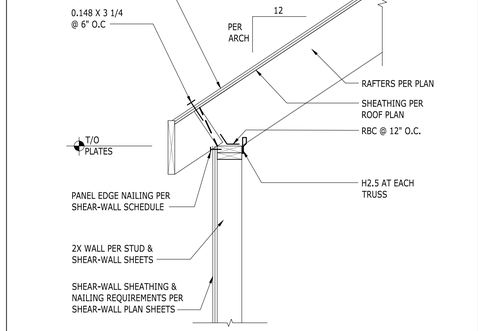
6 PARALLEL ROOF FRMNG OVER SHEARWALL



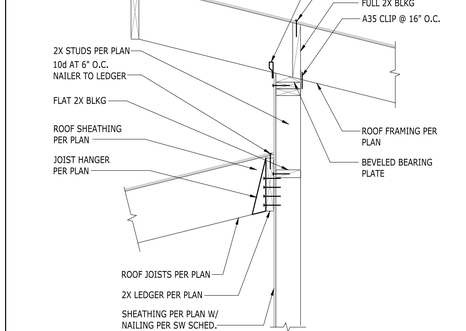
7 FLOOR FRAMING AT INTERIOR BEARING WALL



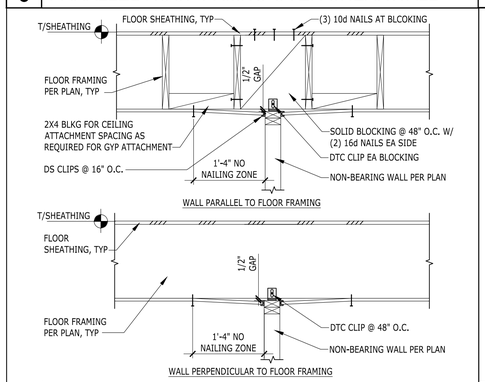
8 JOIST OVER INTERIOR BEARING WALL



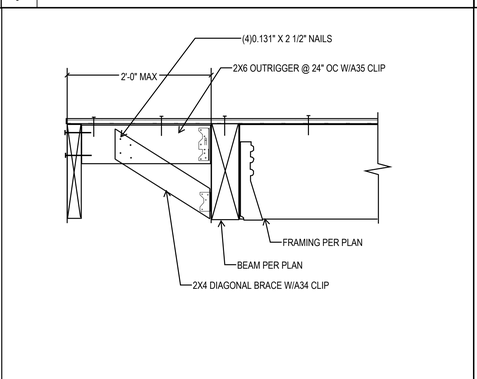
9 HIP ROOF FRAMING



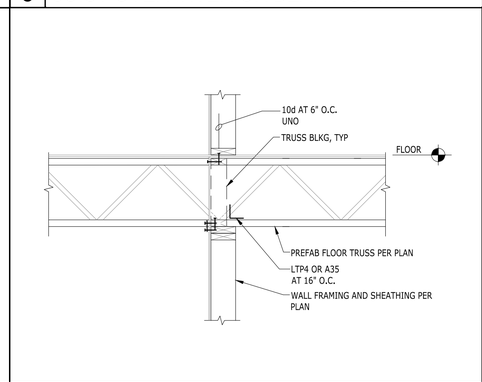
10 LOW ROOF FRAMING (PERP)



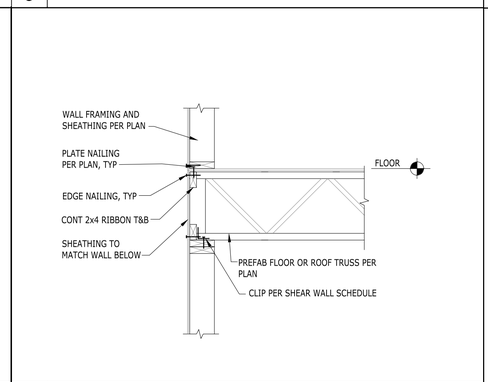
11 CEILING FRAMING AT NON-BEARING WALL



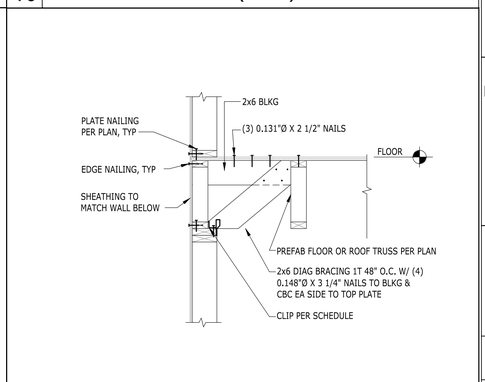
12 LOW ROOF BROW EXTENSION



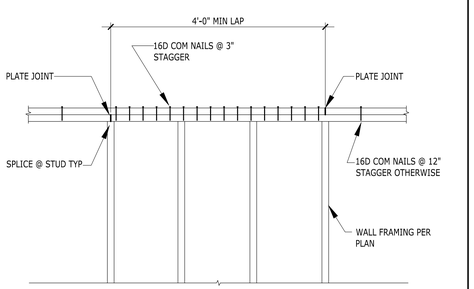
13 INTERIOR SHEAR WALL CONNECTION



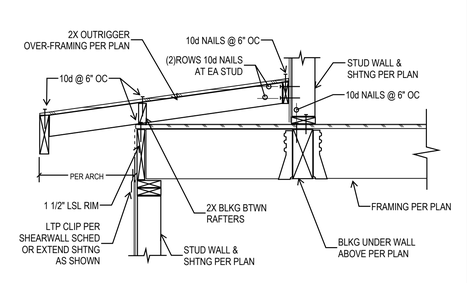
14 SHEAR TRANSFER AT EXTERIOR WALL



15 SHEAR TRANSFER AT EXTERIOR WALL

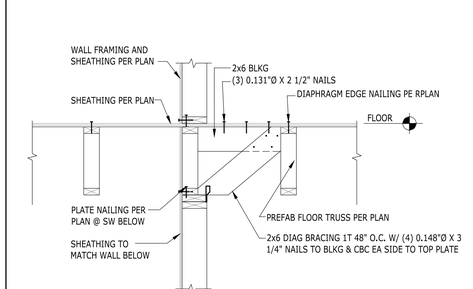


16 ELEVATION TOP PLATE SPLICE

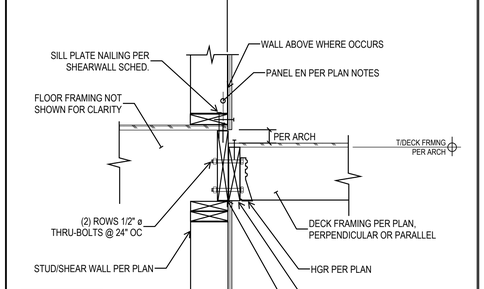


NOTE:
WATER PROOFING SPECS PER OTHER

17 FLAT LOW ROOF PROJECTION

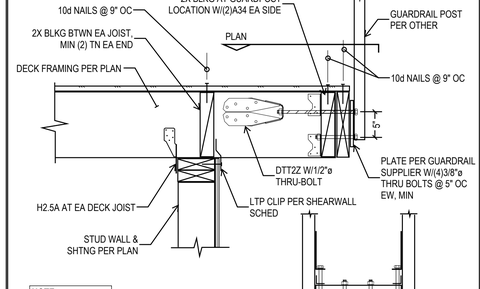


18 INTERIOR SHEAR WALL CONNECTION



NOTE:
WATER PROOFING SPECS PER OTHER

19 DECK FRAMING AT PLATFORM STUD WALL



NOTE:
WATER PROOFING SPECS PER OTHER

20 DECK FRAMING AT GUARDRAIL POST

MARK R. THURTELL
STATE OF WASHINGTON
PROFESSIONAL ENGINEER

LONGITUDE ONE TWENTY° ENGINEERING & DESIGN

REVISIONS

△	DESCRIPTION	DATE	BY
-			

PROJECT NAME
FOREST CREEK ESTATES
LOT 1
5222 FOREST AVE SE
MERCER ISLAND, WA 98040

PROJECT NUMBER
S240325-1

DRAWN BY - MR

CHECKED BY - MRT

SHEET DATE - 05/16/2024

SCALE
24X36 SHEET:1/4"=1'-0"

DESCRIPTION
STRUCTURAL DETAILS
SHEET
SD-2

STREAM 2
TYPE NP
60' STANDARD
BUFFER
45' REDUCED
BUFFER

STREAM 1
TYPE NP
60' STANDARD BUFFER

HOUSE
FF EL=139.37

DECK

GARAGE

LOT 1

LOT 2

15' PRIVATE DRAINAGE EASEMENT

FOREST AVE.

GRAVEL DRIVEWAY

WOOD WALL

SPLIT RAIL FENCE DILAPIDATED TO S

SPLIT RAIL FENCE

COLLAPSED WELL HOUSE

W END BOARD FENCE AT S PROPERTY LINE

W END SPLIT RAIL FENCE AT E END BOARD FENCE

10' SANITARY SEWER ESMT. REC. NO. 5820490

W 3-9, OHW 3-8, OHW 3-7, OHW 3-6, OHW 3-5, OHW 3-4, OHW 3-3, OHW 3-2, OHW 3-1, OHW 2-1, OHW 2-2

WF 1-1, WF 1-2, WF 1-3, WF 1-4, WF 1-5, WF 1-6, WF 1-7, WF 1-8, WF 1-9, WF 1-10, WF 1-11

WF 2-1, WF 2-2, WF 2-3, WF 2-4, WF 2-5, WF 2-6, WF 2-7, WF 2-8, WF 2-9, WF 2-10, WF 2-11, WF 2-12, WF 2-13, WF 2-14, WF 2-15, WF 2-16, WF 2-17, WF 2-18, WF 2-19, WF 2-20, WF 2-21, WF 2-22, WF 2-23, WF 2-30, WF 2-31, WF 2-32, WF 2-33

PLAN LEGEND

- PROPERTY LINE
- OHW TYPE NP STREAMS
- 60' STANDARD BUFFER
- 45' REDUCED BUFFER FOR STREAM 2
- 10' STRUCTURE SETBACK
- 10' STRUCTURE SETBACK FOR REDUCED BUFFER

GRAPHIC SCALE (IN FEET)

0 10 20 30 40 60

SCALE: 1:20

N

NOTES

1. BASE INFORMATION PROVIDED BY MEAD GILMAN LAND SURVEYORS P.O.BOX 289, WOODINVILLE, WA 98072, 425.486.1252

PROJECT 6656
DRAWN SO
SCALE AS NOTED
DATE 8-23-24
REVISED 01-27-25
1/5

FIGURE 1: EXISTING CONDITIONS
SEASCAPE HOMES
FOREST AVE - BUFFER MITIGATION PLAN
MERCER ISLAND, WASHINGTON
PARCEL 1410300057

Altmann Oliver Associates, LLC
AOA Environmental Planning & Landscape Architecture
PO Box 578 Carnation, WA 98014 Office (425) 333-4535 Fax (425) 333-4599

6656-MIT-01-27-25.dwg

STREAM 2
TYPE NP
60' STANDARD
BUFFER
45' REDUCED
BUFFER

EAVE
LINE - NO
STRUCTURE
IN BSBL

FOREST AVE.

FOREST AVE.

STREAM 1
TYPE NP
60' STANDARD BUFFER

10' SANITARY SEWER
ESMT. REC. NO. 5820490.

OHW 3-1
OHW 3-2
OHW 3-3
OHW 3-4
OHW 3-5
OHW 3-6
OHW 3-7
OHW 3-8
OHW 3-9
OHW 2-1
OHW 2-2
OHW 2-3

WF 1-1
WF 1-2
WF 1-3
WF 1-4
WF 1-5
WF 1-6
WF 1-7
WF 1-8
WF 1-9
WF 1-10
WF 2-1
WF 2-2
WF 2-3
WF 2-4
WF 2-5
WF 2-6
WF 2-7
WF 2-8
WF 2-9
WF 2-10
WF 2-11
WF 2-12
WF 2-13
WF 2-16
WF 2-17
WF 2-18
WF 2-21

5121

16

17

18

PLAN LEGEND

- PROPERTY LINE
- OHW TYPE NP STREAMS
- 60' STANDARD BUFFER
- 45' REDUCED BUFFER
- PROPOSED BUFFER
- 10' STRUCTURE SETBACK
- 10' STRUCTURE SETBACK FOR REDUCED BUFFER

MITIGATION LEGEND

	BUFFER ENHANCEMENT - HAND REMOVE HIMALAYAN BLACKBERRY AND ENGLISH IVY AROUND EXISTING SNOWBERRY, SWORD FERN, TALL OREGON GRAPE, AND DOUGLAS FIR. REPLANT AT 75% PLANTING DENSITY	1,375 SF
	BUFFER REPLACEMENT WITH ENHANCEMENT - PLANT AT 100% PLANTING DENSITY	934 SF

GRAPHIC SCALE
(IN FEET)

0 10 20 30 40 60

SCALE: 1:20

N

NOTES

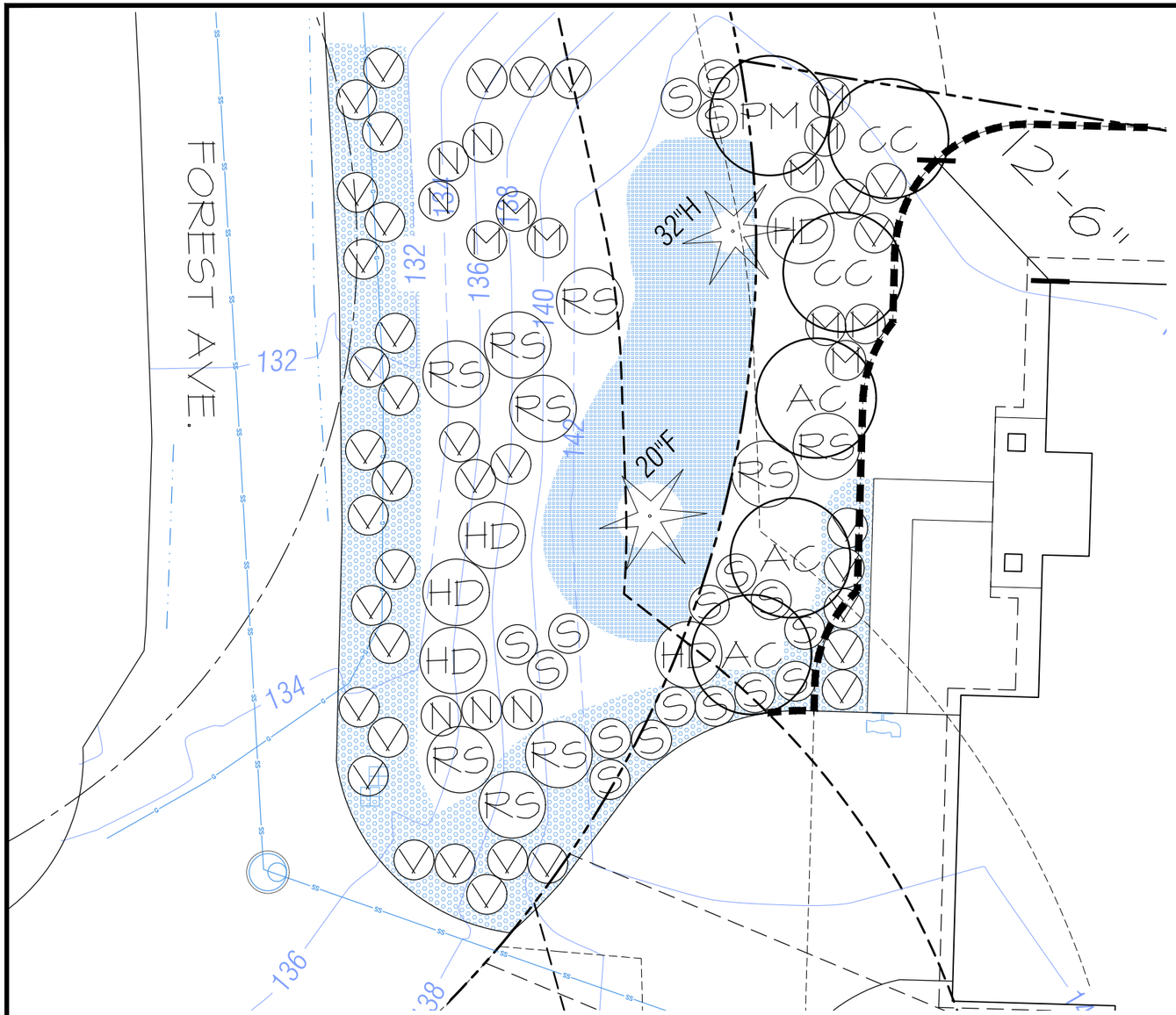
1. BASE INFORMATION PROVIDED BY MEAD GILMAN LAND SURVEYORS P.O.BOX 289, WOODINVILLE, WA 98072, 425.486.1252

PROJECT 6656
DRAWN SO
SCALE AS NOTED
DATE 8-23-24
REVISED 01-27-25
2/5

FIGURE 2: SITE PLAN
SEASCAPE HOMES
FOREST AVE - BUFFER MITIGATION PLAN
MERCER ISLAND, WASHINGTON
PARCEL 1410300057

Altmann Oliver Associates, LLC
AOA
Environmental Planning & Landscape Architecture
PO Box 578 Carnation, WA 98014 Office (425) 333-4535 Fax (425) 333-4569

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PLANT LIST (SEE FIGURE 4 FOR SCHEDULE)

TREES

KEY	COMMON NAME
AC	VINE MAPLE
CC	WESTERN HAZELNUT
PM	DOUGLAS FIR
RP	CASCARA

SHRUBS

KEY	COMMON NAME
HD	OCEAN SPRAY
M	TALL OREGON GRAPE
RS	RED FLOWERING CURRANT
N	NOOTKA ROSE
S	SNOWBERRY
V	EVERGREEN HUCKLEBERRY

GROUNDCOVER

KEY	COMMON NAME
	COAST STRAWBERRY
	SALAL

GRAPHIC SCALE
(IN FEET)

0 5 10 15 20 30

SCALE: 1:10

N

NOTES

1. BASE INFORMATION PROVIDED BY MEAD GILMAN LAND SURVEYORS P.O.BOX 289, WOODINVILLE, WA 98072, 425.486.1252

PROJECT 6656
DRAWN SO
SCALE AS NOTED
DATE 8-23-24
REVISED 01-27-25
2/5

FIGURE 2: SITE PLAN
SEASCAPE HOMES
FOREST AVE - BUFFER MITIGATION PLAN
MERCER ISLAND, WASHINGTON
PARCEL 1410300057

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PLANT SCHEDULE

TREES

KEY	SCIENTIFIC NAME	COMMON NAME	SPACING	QTY	SIZE (MIN.)	NOTES
AC	ACER CIRCINATUM	VINE MAPLE	9' O.C.	3	2 GAL.	MULTI-STEM (3 MIN.)
CC	CORYLUS CORNUTA	WESTERN HAZELNUT	9' O.C.	2	2 GAL.	MULTI-STEM (3 MIN.)
PM	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	9' O.C.	1	2 GAL.	FULL & BUSHY

SHRUBS

KEY	SCIENTIFIC NAME	COMMON NAME	SPACING	QTY	SIZE (MIN.)	NOTES
HD	HOLODISCUS DISCOLOR	OCEAN SPRAY	5' O.C.	7	1 GAL.	MULTI-STEM (3 MIN.)
M	MAHONIA AQUIFOLIUM	TALL OREGON GRAPE	3' O.C.	12	1 GAL.	FULL & BUSHY
RS	RIBES SANUINEUM	RED FLOWERING CURRANT	5' O.C.	12	1 GAL.	MULTI-STEM (3 MIN.)
N	ROSA NUTKANA	NOOTKA ROSE	3' O.C.	9	1 GAL.	MULTI-STEM (3 MIN.)
S	SYMPHORICARPOS ALBUS	SNOWBERRY	3' O.C.	20	1 GAL.	MULTI-STEM (3 MIN.)
V	VACCINIUM OVATUM	EVERGREEN HUCKLEBERRY	3' O.C.	37	1 GAL.	FULL & BUSHY

GROUNDCOVER

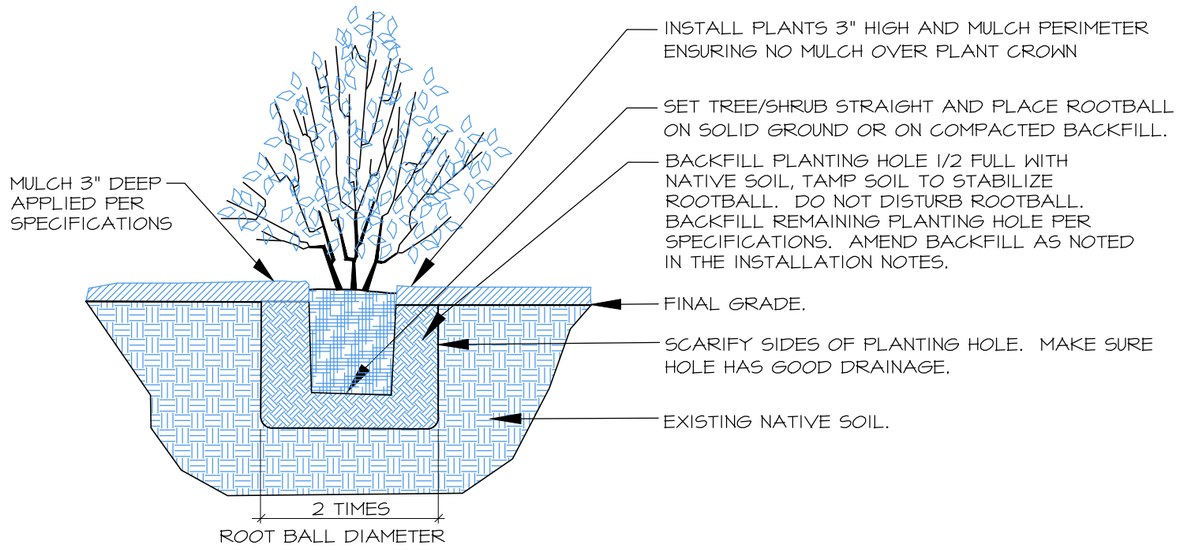
KEY	SCIENTIFIC NAME	COMMON NAME	DENSITY	QTY	SIZE (MIN.)	NOTES
	FRAGARIA CHILOENSIS	COAST STRAWBERRY	2' O.C.	75	1 GAL.	FULL & BUSHY
	GAULTHERIA SHALLON	SALAL	2' O.C.	35	1 GAL.	FULL & BUSHY

PROJECT 6656
DRAWN SO
SCALE AS NOTED
DATE 8-23-24
REVISED 01-27-25
4/5

FIGURE 4: PLANT SCHEDULE
SEASCAPE HOMES
FOREST AVE - BUFFER MITIGATION PLAN
MERCER ISLAND, WASHINGTON
PARCEL 1410300057

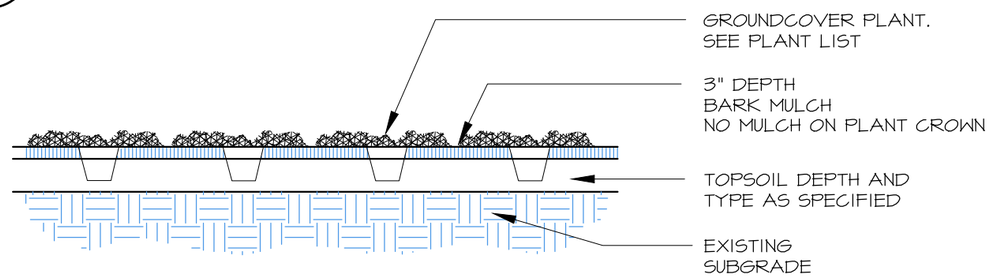
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1 CONTAINER TREE/SHRUB PLANTING (TYP.)

SCALE: NTS



2 GROUNDCOVER PLANTING (TYP.)

SCALE: NTS

SPECIFICATIONS

1. PRIOR TO PLANTING, ALL NON-ORGANIC DEBRIS AND NON-NATIVE, INVASIVE VEGETATION SHALL BE HAND-REMOVED AND EXPORTED OFF SITE.
2. PRIOR TO PLANTING, ALL NON-NATURAL MATERIALS SHALL BE REMOVED (GRAVEL, ROCK, CONCRETE) FROM EXISTING CLEARED AREAS. A 4" LIFT OF IMPORTED CEDAR GROVE 3-WAY TOPSOIL SHALL BE PLACED AND LIGHTLY RAKED INTO THE TOP 4" OF SUBGRADE PRIOR TO PLANTING.
3. ALL PLANTS SHOULD BE INSTALLED BETWEEN DECEMBER 1ST AND MARCH 15TH.
4. ALL PLANTS SHALL BE PIT-PLANTED IN PLANTING PITS EXCAVATED 2X THE DIAMETER OF THE PLANT. PITS SHALL BE BACKFILLED WITH A 30/70 MIX OF STEERCO TO NATIVE SOIL. PLANTS SHALL BE INSTALLED 2" HIGH AND SURFACED MULCHED TO A DEPTH OF 3" WITH HOG-FUEL PLACED CONTINUOUSLY THROUGHOUT THE PLANTING BED.
5. ALL PLANTS SHALL BE NURSERY GROWN (IN W. WA OR OR.) FOR AT LEAST 1 YEAR FROM PURCHASE DATE, FREE FROM DISEASE OR PESTS, WELL-ROOTED, BUT NOT ROOT-BOUND AND TRUE TO SPECIES.
6. LANDSCAPE CONTRACTOR TO INSTALL DRIP OR LOW-FLOW IRRIGATION SYSTEM CAPABLE OF HEAD TO HEAD COVERAGE OF ALL PLANTINGS.
7. ALL PLANTINGS SHALL BE IRRIGATED AT A RATE OF ½" OF FLOW 2-3 TIMES WEEKLY, FROM JUNE 15-OCT 15 THE FIRST YEAR AFTER PLANTING. THE SECOND YEAR, FLOW SHOULD BE REDUCED TO PROVIDE ½" OF FLOW 1-2 TIMES WEEKLY FROM JULY 1-SEPT 30. THE SYSTEM CAN BE REMOVED AFTER 3 YEARS.
8. UPON APPROVAL OF PLANTING INSTALLATION BY AOA, MERCER ISLAND WILL BE NOTIFIED TO CONDUCT A SITE REVIEW FOR FINAL APPROVAL OF CONSTRUCTION.
9. MAINTENANCE SHALL BE IMPLEMENTED ON A REGULAR BASIS ACCORDING TO THE SCHEDULE BELOW.
10. MONITORING AND MAINTENANCE SHALL BE COMPLETED IN MARCH, MAY JULY AND SEPTEMBER PER THE APPROVED STREAM BUFFER REDUCTIONS AND ENHANCEMENT REPORT PREPARED BY AOA.

ANNUAL MAINTENANCE SCHEDULE

MAINTENANCE ITEM	J	F	M	A	M	J	J	A	S	O	N	D
WEED CONTROL			1		1		1		1			
GENERAL MAINT.			1		1		1		1			
WATERING - YEAR 1						4-6	8-12	8-12	8-12	4-6		
WATERING - YEAR 2							4-8	4-8	4-8			

1-8 = NUMBER OF TIMES TASK SHALL BE PERFORMED PER MONTH.

MAINTENANCE WILL INCLUDE:
1. REMOVAL OF NON-NATIVE PLANTS, BY HAND, AS LISTED ABOVE.
2. CONTINUED APPLICATION OF IRRIGATION, AS NOTED ABOVE.
3. REMOVAL OF PEST INFESTATIONS, LIKE TENT CATERPILLAR AND SPRUCE APHID.
4. THINNING OF RED ALDER AND MOWING OF TALL GRASSES, AS DIRECTED BY AOA TO ENSURE SURVIVAL OF PLANTED SPECIES.

PROJECT 6656
DRAWN SO
SCALE AS NOTED
DATE 8-23-24
REVISED 01-27-25
5/5

FIGURE 5: PLANTING DETAILS & SPECIFICATIONS
SEASCAPE HOMES
FOREST AVE - BUFFER MITIGATION PLAN
MERCER ISLAND, WASHINGTON
PARCEL 1410300057

Altmann Oliver Associates, LLC
AOA Environmental Planning & Landscape Architecture
PO Box 578 Carnation, WA 98014 Office (425) 333-4535 Fax (425) 333-4569

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1 CRITICAL AREA LANDSCAPE PLAN PLAN

SCALE: 1/8" = 1'-0"

N

SCALE: IF SHEET IS LESS THAN 24" X 36", IT IS A REDUCED PRINT; REDUCE SCALE ACCORDINGLY

PERMIT SET 03/13/25

STURMAN ARCHITECTS
9-103rd Avenue NE Suite 203
Bellevue, WA 98004
TEL 425.451.7003

REGISTERED ARCHITECT
BRADLEY J. STURMAN
STATE OF WASHINGTON
5962

www.sturmanarchitects.com

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FOREST CREEK ESTATES LOT 1

PERMIT SET

5222 FOREST AVE S.E.
MERCER ISLAND, WA 98040

CRITICAL AREA LANDSCAPE PLAN

REVISIONS:
1 2025-3-13 Corrections #1

DRAWN BY: KE

CHECKED BY: BJS

SHEET A1.3

PLOT DATE: 3/13/2025

COMMUNITY PLANNING & DEVELOPMENT
206.275.7605
www.mercerisland.gov/cpd

10/25/2024

Sturman Architects
Attn: Kati Eitzman
9 103rd Ave NE
Ste. 203
Bellevue, WA 98004
Via: Email

RE: **CAO24-032** Letter of Completeness; 5222 Forest Ave SE, Mercer Island, WA 98040

The City of Mercer Island received the above referenced application for a Critical Area Review 2 (CAR2) permit for the property located at 5222 Forest Ave SE, Mercer Island, WA 98040 on September 27, 2024. The City has assigned file number CAO24-032 to the CAR2 application. Following review of the application, City staff has determined that the application is complete and has established a vesting date of October 25, 2024.

The application is scheduled for mailing and posting on November 4, 2024 as required by MICC 19.15.030.

Formal review of the application will now begin in compliance with Mercer Island City Code, Chapter 19. As review progresses, additional documentation will most likely be requested.

Pursuant to Mercer Island City Code 19.15.110(B), if the applicant fails to provide the required information within 60 days from the date of any request for information, the application shall lapse, and become null and void.

Please do not hesitate to contact me at 206-275-7764 or via e-mail at grace.manahan@mercerisland.gov if you have any questions.

Sincerely,

Grace Manahan

Grace Manahan, Code Compliance Planner
City of Mercer Island Community Planning and Development

COMMUNITY PLANNING & DEVELOPMENT
9611 SE 36TH STREET | MERCER ISLAND, WA 98040
206.275.7605 | www.mercerisland.gov

PUBLIC NOTICE OF APPLICATION

NOTICE IS HEREBY GIVEN for the application described below:

File No.:	CAO24-032
Permit Type:	Type III
Description of Request:	A request for a Critical Area Review 2 for the construction of a new two-story single-family home located on a site containing geological hazardous areas and a watercourse.
Applicant/Owner:	Kati Eitzman (Sturman Architects) / Seascape Homes, LLC
Location of Property:	5222 Forest Ave SE, Mercer Island WA 98040 King County Assessor tax parcel number: 141030-0057

SEPA Compliance:
The project is exempt from SEPA Review pursuant to WAC 197-11-800(1).

Project Documents: https://mieplan.mercergov.org/public/CAO24-032

Written Comments: This may be the only opportunity to comment on this proposal. Written comments on this proposal may be submitted to the City of Mercer Island either by email, in person, or by mail to the City of Mercer Island, 9611 SE 36th Street, Mercer Island, WA 98040-3732. Anyone may comment on the application, receive notice, and request a copy of the decision once made. Only those persons who submit written comments or participate at the public hearing (if a hearing is required) will be parties of record; and only parties of record will have the right to appeal.

Public Hearing and Public Meeting:	Pursuant to MICC 19.15.030 Tables A and B, a public hearing is not required for Type I-III permits.
Applicable Development Regulations	Applications for Critical Area Review 2 are required to be processed as Type III land use reviews pursuant to Mercer Island City Code (MICC) 19.15.030. Processing requirements for Type III land use reviews are further detailed in MICC 19.15.030.
Other Associated Permits:	Permit No(s): 2410-056
Environmental Documents:	Copies of all studies and/or environmental documents are available through the above project documents link.

Application Process Information:

Date of Application:	September 27, 2024
Determined to Be Complete:	October 25, 2024
Weekly Permit Bulletin Notice:	November 4, 2024
Date Mailed:	November 4, 2024
Date Posted on Site:	November 4, 2024
Comment Period Ends:	5:00PM on December 4, 2024

Project Contact: Grace Manahan, Code Compliance Planner

grace.manahan@mercerisland.gov | (206) 275-7764

City of Mercer Island Property Hazard Report

Site Address: 5222 FOREST AVE SE

Parcel #: 1410300057 Report Generated on April 7, 2025

Potential Slide:



Steep Slope:

No Hazard Found

Erosion:



Seismic:

No Hazard Found

Wind Exposure:



Wind Speed Up Values 1.0 1.3 1.6 1.9



These maps are for the use of City of Mercer Island staff for the purposes of permit application evaluation. It provides a general assessment of known or suspect hazard areas for which the City will require site and project specific evaluation by a Washington State licensed engineer, geologist or engineering geologist prior to issuing a site for development. All areas have not specifically evaluated for hazards and there may be locations that are not correctly represented on these maps. It is the responsibility of the property owners and map users to evaluate risk associated with their proposed development. No site-specific assessment of risk is implied or otherwise indicated by the City of Mercer Island by these maps.

City of Mercer Island

Information & Geographic Services





Legend

- Unpiped Watercourse
  - Type "F" = Fish
  - Type "Np" = Non-Fish
  - Type "Ns" = Non-Fish Seasonal
  - Type "Np" (Unverified)
  - Type "Ns" (Unverifed)
- Piped Watercourse
- Watercourse Buffer/Setback
  - Type "F" = 120-Ft Buffer
  - Type "Np" = 60-Ft Buffer
  - Type "Ns" = 60-Ft Buffer
  - Type "Np" Unverifed = 60-Ft Buffer
  - Type "Ns" Unverified = 60-Ft Buffer
  - Reduced buffer per CAO
  - Piped Type F/Np/Ns = 45-Ft Setbac
- Address
- Parcels
- Buildings
- Docks
- Shoreline
- Major Roads
- Street Centerline
- Paved Road
- Paved Driveway
- Parks
- May 2023
  - Red: Band_1
  - Green: Band_2
  - Blue: Band_3

0 65 130 Feet

1 inch = 130.484468608316 feet

© City of Mercer Island

Map Printed: April 7, 2025

Disclaimer: These maps were developed by the City of Mercer Island and are intended to be a general purpose digital reference tool. These maps are not an accepted legal instrument for describing, establishing, recording or maintaining descriptions for property concerns or boundaries. The City makes no representation or warranty with respect to the accuracy or currency of these data sets, especially in regard to labeling of surveyed dimensions, or agreement with official sources such as records of survey, or mapped locations of features.

Notes

Instrument Number: 20250203000248 Document:NOSA Rec: $304.50 Page-1 of 2
Record Date:2/3/2025 10:49 AM
Electronically Recorded King County, WA

City of Mercer Island
Attn: Community Planning & Development
9611 S.E. 36th Street
Mercer Island, WA 98040

AFFIDAVIT ACKNOWLEDGEMENT OF CRITICAL AREA(S) ON PROPERTY

Grantor:
SeaScape Homes, LLC

Grantee: City of Mercer Island, a municipal corporation

Legal Description: CARRS LAKE SIDE ADD "LOT 1" MERCER ISLAND SHORT PLAT NO SUB07-003 REC NO 20071210900010 SD SHORT PLAT DAF – LOTS 12,13,14,15,16,17 AND 18 OF CARR'S LAKE SIDE ADDITION PLAT LESS THE EAST 72.00 FT OF LOTS 12,13,14 AND 15 & ALSO LESS POR LY SOUTH OF A LN DRWN PLW AND 50.00 FT SOUTH OF WHEN MEAS AT R/A TO NORTH LN OF LOTS 15-16-17 AND 18; Plat Lot: 12 THRU 18

(If not enough space, attach separate sheet labeled Exhibit A)

Assessor's Tax Parcel ID Number: 141030-0057

Affidavit In Support Of Single-Family Building Permit #_____

I, SeaScape Homes, LLC, am over the age of 21 years, and make the statements herein of actual knowledge.

1. The address of my property is
   5222 Forest Ave SE
   , Mercer Island, WA 98040.
2. I am the legal owner of the aforementioned property.
3. This property contains Critical Areas of: Potential Landslide Hazard Area, Erosion Hazard, Type Np Stream, as defined by the Mercer Island City Code (MICC) 19.07 and regulated by provisions in MICC 19.07.160, MICC 19.07.170, MICC 19.07.180, and/or MICC 19.07.190.
4. Due to development activity within a Critical Area, a City of Mercer Island Critical Area Study was conducted by qualified professionals who confirmed the presence of these Critical Areas. The geotechnical engineer determined that no buffers were necessary for this property and no

mitigation beyond foundation recommendations were necessary. Any future development

recording requested by
First American Title as an
accommodation only

Unofficial Copy

involving foundations is recommended to be reviewed and endorsed by a geotechnical engineer. For further information regarding related requirements and limitations, please contact the City of Mercer Island Community Planning and Development Department.

5. I understand and acknowledge the implications of owning a property within a Critical Area, including the restrictions and regulations that apply to development and land use within such areas.
6. I further acknowledge that any alterations, developments, or activities on the aforementioned property must comply with the applicable laws and regulations governing Critical Areas and may require permits or approvals from the relevant authorities.
7. This notice shall run with the land and shall not be removed except upon specific written authorization approved by the City of Mercer Island and recorded herein by King County.
8. I agree to have this document recorded with the King County Department of Records at my expense and supply a copy to the City of Mercer Island.

SIGNED: _____ Mgr/MBr DATE: 1/29/25
Property Owner(s)
SeaScape Homes LLC

SIGNED: _____ DATE: _____
Property Owner(s)

STATE OF WASHINGTON)
) ss
COUNTY OF KING)

On this 29th day of January, 2025, before me the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared before me Jon Tellefson and to me know to be the individual described in and who executed the foregoing instrument and acknowledged that they signed the same as their free and voluntary act and deed, for the uses and purposes therein mentioned.

GIVEN under my hand and official seal this 29th day of January 2025

Heather A Smith
Notary Public
State of Washington
My Appointment Expires 3/10/2028
Commission Number 184441

Heather A Smith
NOTARY PUBLIC in and for the State of Washington

Printed Name Heather A. Smith

My Appointment Expires 03/10/2028

Unofficial Copy

COMMUNITY PLANNING & DEVELOPMENT
9611 SE 36TH STREET | MERCER ISLAND, WA 98040
206.275.7605 | www.mercerisland.gov/cpd

PUBLIC NOTICE OF DECISION

NOTICE IS HEREBY GIVEN that approval has been granted for the application described below:

File No.:	CAO24-032
Permit Type:	Type III
Description of Request:	A request for a Critical Area Review 2 for the construction of a new two-story single-family home located on a site containing geological hazardous areas and watercourse.
Applicant/ Owner:	Kati Eitzman (Sturman Architects) / Seascape Homes, LLC
Location of Property:	5222 Forest Ave SE, Mercer Island, WA 98040 King County Assessor tax parcel number: 141030-0057

SEPA Compliance:
The project is exempt from SEPA Review pursuant to WAC 197-11-800(1)(b)(ii).

Applicable Development Regulations:	Pursuant to Mercer Island City Code (MICC) 19.15.030 Table A, applications for Critical Area Review 2 are required to be processed as Type III land use reviews. Processing requirements for Type III land use reviews are further detailed in MICC 19.15.030 Table B.
Other Associated Permits:	2410-056
Project Documents:	https://mieplan.mercergov.org/public/CAO24-032
Decision:	Approved subject to conditions.

Appeal Rights: *DISCLAIMER: This information is provided as a courtesy. It is the ultimate responsibility of the appellant to comply with all legal requirements for the filing of an appeal.*

Parties of record have the right to appeal certain permit and land use decisions. In some cases, other affected parties also have appeal rights. Depending on the type of decision, the appeal may be heard by a City Hearing Examiner, Commission, Board, or City Council, or outside the City to the State Shoreline Hearings Board, the State Growth Management Hearings Board, or King County Superior Court. For a comprehensive list of actions and the applicable entity who will hear the appeal, see MICC 19.15.030 Table B.

If you desire to file an appeal of a decision that is appealable to the City, you must submit the appropriate form and file it with the City Clerk **within the time stated in the Notice of**

Decision. Forms are available from Community Development and Planning. Upon receipt of a timely complete appeal application and appeal fee, an appeal hearing will be scheduled. To reverse, modify or remand a decision, the appeal hearing body must find that there has been substantial error; the proceedings were materially affected by irregularities in procedure; the decision was unsupported by material and substantial evidence in view of the entire record; or the decision is in conflict with the City's applicable decision criteria.

Application Process Information:	Date of Application:	September 27, 2024
	Determined to Be Complete:	October 24, 2024
	Public Comment Period:	November 4, 2024 through 5:00 PM on December 4, 2024
	Date Notice of Decision Issued:	April 14, 2025
	Appeal Filing Deadline:	5:00 PM on April 28, 2025
Project Contact:	Grace Manahan, Code Compliance Planner grace.manahan@mercerisland.gov | (206) 275-7764	