# CITY OF MERCER ISLAND

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

# PRELIMINARY SHORT SUBDIVISION DECISION

## SUB20-004

| | |
|---|---|
| **Project No:** | SUB20-004 |
| **Description:** | The proposal is a request to subdivide the subject site into two lots. |
| **Applicant/ Owner:** | Darrell Offe / George Constantine |
| **Site Address:** | 8817 SE 44th ST Mercer Island WA 98040<br>Identified by King County Assessor tax parcel number: 759810-0191 |
| **Zoning District** | R-9.6 |
| **Staff Contact:** | Lauren Anderson, Planner |
| **Exhibits:** | 1. Development Application, signed October 30, 2020.<br>2. Public Notice of Application for project SUB20-004, dated December 21, 2020.<br>3. Plan set prepared by Offe Engineers, dated February 24, 2021.<br>4. Geotechnical report prepared by Cobalt Geosciences, dated November 5, 2020.<br>5. Memorandum from Ruji Ding, City of Mercer Island Senior, Development Review Engineer, dated May 4, 2021.<br>6. Memorandum from John Kenney, City of Mercer Island City Arborist, dated April 28, 2021.<br>7. Transportation Concurrency Certificate No. TCC21-004.<br>8. Geotechnical Peer Review Letter, dated December 28, 2020. |

## INTRODUCTION

### I. Project & Site Description

The applicant proposed to subdivide an existing lot of 19,467 sq ft into two lots, with one lot of 9,748 sq ft (Lot 1) and one lot of 9,748 sq ft (Lot 2). Both lots will take access from a private shared access easement that connects to SE 44th Street.

### II. Site Description and Context

The project site is located on SE 44th Street and to the east of 88th Ave and is bordered by single-family residential development. To the north of the site is Rotary Park and to the East is the Mercer

Island Library. The subject lot is 19,467 square feet with an existing house. The lot is relatively flat with low slope.

## FINDINGS OF FACT & CONCLUSIONS OF LAW

### III. Application Procedure

1. An application for preliminary short plat approval was received by the City of Mercer Island on November 9, 2020.

2. A letter of completeness was issued on December 17, 2020, establishing a vesting date of November 9, 2020.

3. Pursuant to section 19.15.030 MICC Table A, applications for preliminary short plats are Type III reviews, which require a notice of application, a 30-day public comment period, and a notice of decision.

4. The City of Mercer Island issued notice of application for this preliminary short plat application consistent with the provisions of MICC 19.15.090, which include the following methods: a mailing sent to neighboring property owners within 300 feet of the subject parcels; a notice sign posted on the subject parcels; and publication in the City of Mercer Island's weekly permit bulletin. The notice of application began a 30-day comment period, which took place between December 21, 2020 and January 20, 2021 (Exhibit 2).

5. No public comments were received for this land use application.

### IV. State Environmental Policy Act (SEPA) Compliance

6. The application for a preliminary short plat approval is exempt from SEPA review, pursuant to WAC 197-11-800(6)(d).

### V. Consistency with Subdivision Code Standards

7. **MICC 19.08.020(C)(2)** Long Subdivision or Short Subdivision Plans. The applicant shall provide copies of fully dimensioned plans of the project prepared by a Washington registered civil engineer or land surveyor, meeting the requirements of Chapter 19.07 MICC, Environment, and containing any other information deemed necessary by the code official. The city engineer may waive the requirement that an engineer or surveyor prepare the plans for a short subdivision. The submitted plans shall identify the proposed building pad location for each proposed lot pursuant to MICC 19.09.090.

   ***Staff Finding****: The applicant has provided dimensioned plans prepared by a professional land surveyor, identifying proposed building pad locations.*

8. **MICC 19.08.020(D)(1)** Preliminary Application Procedure. All preliminary approvals or denials of long subdivisions or short subdivisions shall be accompanied by written findings of fact demonstrating that:

   a. The project does or does not make appropriate provisions for the public health, safety, and general welfare and for such open spaces, drainage ways, streets or roads, alleys, other public ways, transit stops, potable water supplies, sanitary wastes, parks and recreation,

playgrounds, schools and schoolgrounds and all other relevant facts, including sidewalks and other planning features that assure safe walking conditions for students who only walk to and from school;

b. The public use and interest will or will not be served by approval of the project; and

c. The project does or does not conform to applicable zoning and land use regulations.

***Staff Finding**: The proposed subdivision makes appropriate provisions for public health, safety, and general welfare by providing adequate infrastructure to support future development as shown in the analysis below. Safe walking conditions for children who walk only to and from school are provided to Northwood Elementary School which is 0.81 miles away and Mercer Island High School which is 0.4 miles away from the subject site. The shoulders provide safe walking access.*

*Goal 2.7 of the Housing Element of the City's Comprehensive Plan states that the City should "Encourage infill development on vacant or under-utilized sites that are outside of critical areas and ensure that the infill is compatible with the scale and character of the surrounding neighborhoods." The proposed subdivision is located in a single-family residential zone with adjacent single-family residential uses. The proposed short subdivision would foster infill development on a site with adequate lot area outside of critical areas. The proposed development is single-family and proposed a density that is commensurate with existing development in the vicinity. Therefore, the public use and interest will be served by approval of the project due to compliance with the comprehensive plan, growth targets, and coordinated growth.*

*Conformance with applicable zoning and land use regulations is documented in findings 10 through 25 below.*

9. **MICC 19.08.020(D)(2)** Short Subdivisions. The code official shall grant preliminary approval for a short subdivision if the application is in proper form and the project complies with the design standards set out in MICC 19.08.030, the comprehensive plan, and other applicable development standards.

***Staff Finding**: The application is in proper form and the project complies with the design standards set out in MICC19.08.030 as documented findings 10 through 25. The proposed short subdivision is consistent with Land Use Goal 15 ("Mercer Island should remain principally a low density, single family residential community.") and Land Use Policy 16.5 ("Infill development on vacant or under-utilized sites should occur outside of critical areas and ensure that the infill is compatible with the surrounding neighborhoods.") The zoning and Comprehensive Plan designation of the property described in the application is Single-Family Residential R-9.6 (9,600 square foot minimum lot size). The proposed and current use of this property is single-family residential, which is a permitted use in the R-9.6 zone and consistent with the Comprehensive Plan Land Use and Housing elements.*

10. **MICC 19.08.030(B)(1):** The subdivision shall be reconciled as far as possible with current official plans for acquisition and development of arterial or other public streets, trails, public buildings, utilities, parks, playgrounds, and other public improvements.

***Staff Finding**: The current City of Mercer Island official plans for acquisition and development of arterial or other public streets, trails, public buildings, utilities, parks, playgrounds, and other public improvements do not designate any portion of the subject property. This standard does not apply.*

11. **MICC 19.08.030(B)(2)** If the preliminary plat includes a dedication of a public park with an area of less than two acres and the donor has designated that the park be named in honor of a deceased individual of good character, the city shall adopt the designated name.

    ***Staff Finding****: The preliminary plat does not propose the dedication of a public park (Exhibit 3). This standard does not apply.*

12. **MICC 19.08.030(C)(1)** Where the project may adversely impact the health, safety, and welfare of, or inflict expense or damage upon, residents or property owners within or adjoining the project, other members of the public, the state, the city, or other municipal corporations due to flooding, drainage problems, critical slopes, unstable soils, traffic access, public safety problems, or other causes, the city council in the case of a long subdivision, or the code official in the case of a short subdivision, shall require the applicant to adequately control such hazards or give adequate security for damages that may result from the project, or both.

    ***Staff Finding****: The applicant has provided a geotechnical report (Exhibit 4). On page 4 the report states the following: "based on our review of geologic mapping in conjunction with the results of our field investigation, it is our opinion that the site is not located within a seismic hazard area." Construction on site will be required to comply with all applicable drainage design, building and engineering standards in place at the time of permit application, addressing potential erosion hazards. Compliance with fire code standards will occur during building permit review of future structures, and a condition of approval, reflecting this requirement has been added to this decision.*

13. **MICC 19.08.030(C)(2)** If there are soils or drainage problems, the city engineer may require that a Washington registered civil engineer perform a geotechnical investigation of each lot in the project. The report shall recommend the corrective action likely to prevent damage to the areas where such soils or drainage problems exist. Storm water shall be managed in accordance with Chapter 15.09 MICC and shall not increase likely damage to downstream or upstream facilities or properties.

    ***Staff Finding****: A geotechnical report has been provided for this site that provides an analysis of the conditions present (Exhibit 4). Based on this analysis, the report makes recommendations for future construction and drainage design. Field and engineering review services will be required during the construction phase in order to provide a Final Letter for the project. All private shared utilities and shared access for Lot 1 and Lot 2 shall be completed prior to plat recording. The proposed demolition/common utility plan and conceptual grading & utility plan has been reviewed by the City Senior Development Engineer and as conditioned (Exhibit 5), complies with the provisions of Chapter 15.09 MICC.*

*14.* **MICC 19.08.030(C)(3*):*** Alternative tightline storm drains to Lake Washington shall not cause added impact to the properties, and the applicant shall submit supportive calculations for storm drainage detention.

    ***Staff Finding****: No tightline storm drain to Lake Washington is proposed as part of these storm drainage plan (Exhibit 3, sheet 9 of 10). This standard does not apply.*

15. **MICC 19.08.030(D)(1)**: The width and location of rights-of-way for major, secondary, and collector arterial streets shall be as set forth in the comprehensive arterial plan.

***Staff Finding**: No right-of-way is proposed to be dedicated as part of this subdivision. This standard does not apply.*

16. **MICC 19.08.030(D)(2)** Public rights-of-way shall comply with the requirements set out in MICC 19.09.030.

    ***Staff Finding**: No right-of-way is proposed to be dedicated as part of this subdivision. This standard does not apply.*

17. **MICC 19.08.030(D)(3)** Private access roads shall meet the criteria set out in MICC 19.09.040.

    ***Staff Finding**: The proposed Lot 1 will be accessed by a driveway of 20 feet and Lot 2 will be accessed by a driveway of 14 feet (Exhibit 3, sheet 5 of 10). This is consistent with the standard in MICC 19.09.040, which requires driveways serving one single-family dwelling to be at least eight feet in width.*

    *Per MICC 19.09.040 all private access roads serving three or more single-family dwellings shall be at least 20 feet in width. All private access roads serving two single-family dwellings shall be at least 16 feet in width, with at least 12 feet of that width consisting of pavement and the balance consisting of well compacted shoulders. As seen in Exhibit 3, sheet 6 of 10, the existing 20 foot wide shared access easement will be improved to 20 feet paved until Lot 1 driveway access, then 12 feet paved and 4 feet compacted gravel shoulder until Lot 2 driveway access, then transitioned into the existing driveway for 8815 SE 44$^{th}$ Street to the south. The proposed improved private access road complies with this criterion.*

18. **MICC 19.08.030(D)(4)** Streets of the proposed subdivision shall connect with existing improved public streets, or with existing improved private access roads subject to easements of way in favor of the land to be subdivided.

    **Staff Finding**: *The driveways providing access to both the proposed Lots 1 and 2 will connect to the existing shared access easement to the west which connects to SE 44$^{th}$ Street, consistent with this standard (Exhibit 3, sheet 5 of 10).*

19. **MICC 19.08.030(E)(1)** The area, width, and depth of each residential lot shall conform to the requirements for the zone in which the lot is located. Any lot which is located in two or more zones shall conform to the zoning requirements determined by the criteria set out in MICC 19.01.040(G)(2).

    ***Staff Finding:** The proposed residential lots conform to the area, width, and depth requirements for the zone in which the lot is located (R-9.6) shown in MICC 19.02.020(A), as summarized in the table below:*

| | **Net Lot Area** | **Lot Width** | **Lot Depth** |
|---|---|---|---|
| R-9.6 zone minimum requirement | 9,600 sq ft | 75 feet | 80 feet |
| Lot 1 | 9,748 sq ft | 75 feet | 130 feet |

| | | | |
|---|---|---|---|
| Lot 2 | 9,748 sq ft | 75 feet | 130 feet |

20. **MICC 19.08.030(E)(2)** Each side line of a lot shall be approximately perpendicular or radial to the center line of the street on which the lot fronts

    ***Staff Finding****: One side lot line will be created by the proposed short subdivision, which will be approximately perpendicular to the 20 foot shared access easement, refer to sheet 4 of 10 in Exhibit 3. Per MICC 19.16 the definition of street is as follows: "improved or unimproved public or private right-of-way or easement which affords or could be capable of affording vehicular access to property." The shared private access easement is a street based on the city's definition. Refer to sheet 4 of 10 in Exhibit 3. The proposed lot lines are consistent with this criterion.*

21. **MICC 19.08.030(E)(3)** The proposed subdivision shall identify the location of building pads for each proposed lot per MICC 19.09.090. No cross-section dimension of a designated building pad shall be less than 20 feet in width (Exhibit 3).

    ***Staff Finding****: Building pads, with no cross section less than 20 feet in width, are shown on sheet 4 of 10 of the preliminary short plat (Exhibit 3). The topographic site plan indicates less than a 2-foot elevation change across the site. The city's Geotechnical peer reviewer stated the following on page 2 of Exhibit 8: "the proposed building pad locations minimize the disturbance of the existing, natural topography."*

22. **MICC 19.08.030(E)(4)** The proposed subdivision shall incorporate preferred development practices pursuant to MICC 19.09.100 where feasible.

    **MICC 19.09.100** Proposed development shall incorporate all of the following preferred development practices where feasible:

    A. Use common access drives and utility corridors.

    B. Development, including roads, walkways and parking areas, in critical areas should be avoided, or if not avoided, adverse impacts to critical areas will be mitigated to the greatest extent reasonably feasible.

    C. Retaining walls should be designed to minimize grading, including the placement of fill, on or near an existing natural slope.

    ***Staff Finding****: Lots 1 and 2 will be accessed via the existing 20 foot shared access easement to the west. This easement will be improved to provide access shared access to both new lots. A geotechnical report has been submitted, documenting how future development will meet the standards in MICC 19.07.160 (Exhibit 4). The city's Geotechnical Peer Reviewer has assessed "that the property is not within a seismic hazard area as defined in MICC 19.16" and "that the proposed building pad locations minimize the disturbance of the existing, natural topography" (Exhibit 8). No retaining walls are proposed as part of this subdivision. These preferred development practices have been incorporated where feasible.*

23. **MICC 19.08.030(E)(5)** The proposed subdivision shall be designed to comply with the provisions of Chapter 19.10 MICC.

    ***Staff Finding**: The proposed tree retention plan has been reviewed by the City Arborist and as conditioned (Exhibit 6), complies with the provisions of Chapter 19.10 MICC.*

24. **MICC 19.08.030(F)(1)** Subdivisions abutting an arterial street as shown on the comprehensive arterial plan shall be oriented to require the rear or side portion of the lots to abut the arterial and provide for internal access streets.

    ***Staff Finding**: The subdivision abuts SE 44th Street, which classified as a local street. The side yard of Lot 1 is proposed to abut SE 44th Street, and access will be provided via a shared access easement to the west connecting to SE 44th Street.*

25. **MICC 19.08.040(A)** Streets, Utilities and Storm Drainage. A subdivision shall include provisions for streets, water, sanitary sewers, storm drainage, utilities and any easements or facilities necessary to provide these services. All utilities shall be placed underground unless waived by the city engineer. Detailed plans for these provisions shall not be required until after the approval of the preliminary plat and shall be a condition precedent to the official approval of the subdivision.

    ***Staff Finding**: Preliminary grading and storm drainage plans have been provided, showing that the provision of services is feasible (Exhibit 3). A condition of approval has been added to this decision requiring construction of all improvements for access, utilities, all storm drainage system and all site work, shall be completed prior to final plat application.*

26. **MICC 19.17, 19.18, and 19.19**: The city shall collect impact fees, based on the city's permit and impact fee schedule, from any applicant seeking a residential building permit from the city.[…] For building permits within new subdivisions approved under Chapter 19.08 MICC (Subdivisions), a credit shall be applied for any dwelling unit that exists on the land within the subdivision prior to the subdivision if the dwelling unit is demolished. The credit shall apply to the first complete building permit application submitted to the city subsequent to demolition of the existing dwelling unit, unless otherwise allocated by the applicant of the subdivision as part of approval of the subdivision

    ***Staff Finding**: A condition of approval has been added to this decision and requiring that school, park, and transportation impact fees shall be paid at the issuance of each building permit unless deferral of payment is sought pursuant to MICC 19.17.080, 19.18.060, or 19.19.060. Impact fees are not subject to vesting and the amount paid will be the impact fee amount in effect at the time of payment.*

27. **MICC 19.20.020** A transportation concurrency application and transportation concurrency certificate are required for any development proposal specified in MICC 19.20.030 or any development that will otherwise result in the creation of one or more net new trips in the morning peak hour or evening peak hour. No development shall be required to obtain more than one transportation concurrency certificate, unless the applicant or subsequent owners propose changes or modifications that require a new development permit application or result in increased net new trips, a future phase of the project requires a transportation concurrency application, or the original transportation concurrency certificate has expired.

    ***Staff Finding**: A transportation concurrency certificate has been issued for this development proposal (Exhibit 7).*

**CONDITIONS OF APPROVAL**

1. The final short plat for SUB20-004 shall be in substantial conformance with the preliminary plat drawing attached as Exhibit 3.

2. Expiration of approval – The final short plat shall be recorded prior to the expiration deadline set forth in MICC 19.15 – Administration.

3. Show all the existing and proposed easements on the final plat. Clearly distinguish all public easements from the private easements. The private utility easement and public utility easement shall not be combined. Cleanly distinguish all existing easements from the proposed easements.

4. Easements for utilities and storm drainage facilities shall be depicted on the face of the Final Plat. Language which indicates joint rights and responsibilities of each lot with respect to all utilities and roadways shall be shown along with individual lot Joint Maintenance Easement Agreements (where applicable) for all shared usage and filed with the King County Recorder and noted on the final plat. The easement notation shall indicate whether the easement is public or private, existing or proposed.

5. The Final Plat shall be prepared in conformance with Title 58 RCW and Surveys shall comply with Chapter 332-130 WAC. Submit using Mercer Island's datum and tie the plat to at least two monuments.

6. A City of Mercer Island title block for approval signatures (Planner and City Engineer) shall be provided on the final plat along with the designated Short plat number.

7. All private shared utilities and shared access for Lot 1 and Lot 2 shall be completed prior to plat recording. A Site Development Permit for constructing all shared utilities and access are required for the city approval. A construction bond (150% of the construction cost) for the plat improvement is required prior to issuance of the permit. All construction must be completed prior to submit the final plat.

8. Construction of all improvements for other access, utilities, all storm drainage system (conveyance system and onsite detention system), except the items described in Condition #7, and all site work shall be completed as part of future building permits for individual lots. The requirements will be based on the City ordinances, regulations, and requirements of the City Engineer established at the time of application for future building permits.

9. A tree replacement plan for the 105 required replacement trees or 52 trees/lot. Or a fee in lieu of $494.50/tree for any tree that cannot be planted at least 10’ away from each other, existing trees and infrastructure such as fences. This replanting/fee in lieu plan for both lots will be required at the building plan application. Very little room appears on site for replanting and no opportunity in the right of way. It will follow the requirements described in 19.10.070.

10. The tree protection plan will be submitted during building review. No further tree removal will be allowed unless it is justified under 19.10.060.A. Showing tree protection fencing at the Arborist stated tree protection zone (TPZ).

11. The tree protection fence shall be 6' chain-link fence secured into the ground. This will be called out on the Tree Plan during building review.

12. The Project Arborist is to be on site and in control of any excavation or grading within trees dripline. They will document and clean cut any root over 1" in diameter that needs to be removed. Call this out on Tree Plan during building review.

13. The plan showing numbered retained trees and building pad will be recorded as part of the plat. This plan should be the same or consistent with the Preliminary Tree Plan.

14. The existing house and shed shall be demolished prior to Final Plat application.

15. Include the following conditions to the face of the final plat:

    a. Maintenance and repair of joint use side sewers (sewer lines from the building to the City sewer main), shared roads, access easements, storm drainage facilities shall be the responsibility of the owners of each lot served (with the exception that owners of any lot which is lower in elevation shall not be responsible for that portion of a private side sewer above their connection.) In the event that maintenance and repair of any facilities enumerated above are not performed to the satisfaction of the City Engineer, after a timely demand has been made for such action, the City or its agent shall have the right to enter upon the premises and perform the necessary maintenance and repair to protect the safety and general welfare of the public and shall have the right to charge the owner of each lot an equal share of the total maintenance and repair costs. The City or the owner of any lot within this Short plat shall have the right to bring action in Superior Court to require any maintenance or repair and to recover the costs incurred in making or effecting repairs to improvements.

    b. The monitoring, cleaning, maintenance and repair of storm drainage systems in accordance with City Ordinance No. 95C-118 is required for all lot owners within this Plat to control stormwater runoff and control erosion and flooding downstream. All costs related to stormwater runoff control shall be borne by the owners of each lot in equal share. This obligation shall be recorded separately with each individual lot sale and shall travel with the land.

    c. All staging for construction shall occur on site and shall not be located in the public right-of-way.

    d. Prior to the issuance of a building permit, each application shall be accompanied with a temporary erosion and sedimentation control plan, clearing and grading plan, access and utility service plan, a landscape plan (which shall identify existing vegetation to be retained, limits of all clearing and grading), and a schedule for the construction. The applicant's Civil Engineer, experienced in soils geology and mechanics, shall review the proposed site and building construction and provide recommendations that will limit site disturbance, minimize risk of soils movement, evaluate site slope stability and define materials and construction practices for the work. The Building Official may require that the Engineer be present during construction, monitor the work, and recommend special techniques or

mitigating measures. The costs associated with the Engineer's monitoring and mitigation measures shall be borne by the applicant.

e. No permanent landscaping, structures, or fences shall be placed on or within public utility or storm drainage easements without the written approval of the City Engineer. If in the opinion of the City Engineer, utilities or storm drainage facilities require maintenance, repair or replacement, the City or its agent shall have the right to enter those lots adjoining the facility for the purpose of maintaining, repairing, relocating or replacing said facilities. Lot owners shall be responsible for the restoration of any private improvements or landscaping within said easements.

f. Installation of landscaping and/or structures including trees, shrubs, rocks, berms, walls, gates, and other improvements are not allowed within the public right-of-way without an approved encroachment agreement from the City prior to the work occurring.

g. No tree identified for retention may be removed unless otherwise approved by the City Arborist.

h. All building permits are subject to meeting current fire code requirements at the time of permit submittal. Access shall be provided as outlined in the International Fire Code Appendix D and MICC 19.09.040. Fire plan reviews will be conducted at time of building permit submittal and may require additional fire protection systems and/or additional fire prevention measures for building approval.

i. At building permit application, the applicant shall pay school, park, and transportation impact fees based on the fee schedule in place at the time of application. A credit shall be applied for any dwelling unit that exists on the land within the subdivision prior to the subdivision if the dwelling unit is demolished. The credit shall apply to the first complete building permit application submitted to the city subsequent to demolition of the existing dwelling unit, unless otherwise allocated by the applicant of the subdivision as part of approval of the subdivision.

**DEVELOPMET REGULATION COMPLIANCE – DISCLOSURE**

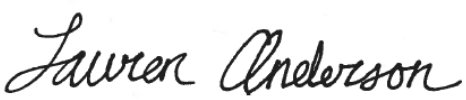
1. Compliance with all local, state and federal regulations is required.

2. No construction, tree removal, grading, installation of utilities on land within a proposed long or short subdivision shall be allowed prior to preliminary approval of the long or short subdivision and until the applicant has secured the permits required under the Mercer Island City Code. Following preliminary approval, tree removal, grading, and installation of utilities shall be the minimum necessary to allow for final plat approval of the long or short subdivision. (MICC 19.08.020(5)).

## 3. DECISION / RECOMMENDATION

Based upon the above noted Findings of Fact and Conclusions of Law, preliminary short plat application SUB20-004, as depicted in Exhibit 3, is hereby preliminarily **APPROVED**. This decision is final, unless appealed in writing consistent with adopted appeal procedures, MICC 19.15.130, and all other applicable appeal regulations.

**Approved this 10th day of May 2021**



***Lauren Anderson***
***Planner***
**Community Planning & Development**
**City of Mercer Island**
**Lauren.anderson@mercergov.org**
**206-275-7704**

*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.*

Exhibit 1

# CITY OF MERCER ISLAND

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

| CITY USE ONLY | | |
|---|---|---|
| PROJECT# | RECEIPT # | FEE |
| | | |
| Date Received: | | |
| Received By: | | |

## DEVELOPMENT APPLICATION

| STREET ADDRESS/LOCATION | ZONE |
|---|---|
| 8813 SE 44th Street | R-9.6 |
| COUNTY ASSESSOR PARCEL #'S | PARCEL SIZE (SQ. FT.) |
| 759810-0191 | 19,467 square feet |

| PROPERTY OWNER *(required)* | ADDRESS *(required)* | CELL/OFFICE *(required)* |
|---|---|---|
| O. George Constantine | 16510 - 39th Avenue NE<br>Lake Forest Park, WA 98155 | 206-852-1740<br>E-MAIL *(required)*<br>georgec@constantinebuilders.com |
| PROJECT CONTACT NAME | ADDRESS | CELL/OFFICE |
| Darrell Offe, P.E. | 13932 SE 159th Place<br>Renton, WA 98058-7832 | 425-260-3412<br>E-MAIL<br>darrell.offe@comcast.net |
| TENANT NAME | ADDRESS | CELL PHONE<br>E-MAIL |
| | | |

**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

10/30/20
DATE

**PROPOSED APPLICATION(S) AND CLEAR DESCRIPTION OF PROPOSAL** (PLEASE USE ADDITIONAL PAPER IF NEEDED):
Subdivide existing parcel into two single family lots

ATTACH RESPONSE TO DECISION CRITERIA IF APPLICABLE

**CHECK TYPE OF LAND USE APPROVAL REQUESTED:**

| APPEALS | DEVIATIONS | SUBDIVISION SHORT PLAT |
|---|---|---|
| ☐ Building | ☐ Changes to Antenna requirements | ■ Short Plat- Two Lots |
| ☐ Code Interpretation | ☐ Changes to Open Space | ☐ Short Plat- Three Lots |
| ☐ Land use | ☐ Seasonal Development Limitation Waiver | ☐ Short Plat- Four Lots |
| ☐ Right-of-Way Use | | ☐ Short Plat- Deviation of Acreage Limitation |
| **CRITICAL AREAS** | **ENVIRONMENTAL REVIEW (SEPA)** | ☐ Short Plat- Amendment |
| ☐ Critical Area Review 1 (Hourly Rate 2hr Min) | ☐ SEPA Review (checklist)- Minor | ☐ Short Plat- Final Plat |
| | ☐ SEPA review (checklist)- Major | **OTHER LAND USE** |
| ☐ Critical Area Review 2 (Determination) | ☐ Environmental Impact Statement | ☐ Accessory Dwelling Unit |
| ☐Reasonable Use Exception | **SHORELINE MANAGEMENT** | ☐ Code Interpretation Request |
| **DESIGN REVIEW** | ☐ Exemption | ☐ Comprehensive Plan Amendment (CPA) |
| ☐ Pre Design Meeting | ☐ Permit Revision | ☐ Conditional Use (CUP) |
| ☐ Design Review (Code Official) | ☐ Shoreline Variance | ☐ Lot Line Revision |
| ☐ Design Commission Study Session | ☐ Shoreline Conditional Use Permit | ☐ Noise Exception |
| ☐ Design Review- Design Commission- Exterior Alteration | ☐ Substantial Development Permit | ☐ Reclassification of Property (Rezoning) |
| | **SUBDIVISION LONG PLAT** | ☐ Transportation Concurrency (see supplemental application form) |
| ☐ Design Review- Design Commission- New Building | ☐ Long Plat- Preliminary | |
| | ☐ Long Plat- Alteration | ☐ Planning Services (not associated with a permit or review) |
| **WIRELESS COMMUNICATION FACILITIES** | ☐ Long Plat- Final Plat | |
| ☐ Wireless Communications Facilities- 6409 Exemption | **VARIANCES (Plus Hearing Examiner Fee)** | ☐ Zoning Code Text Amendment |
| | ☐ Variance | ☐ Request for letter |
| ☐ New Wireless Communication Facility | | ☐ Temporary Commerce on Public Property |
| | | |
| | | |

Exhibit 2

# CITY OF MERCER ISLAND

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

# PUBLIC NOTICE OF APPLICATION

**NOTICE IS HEREBY GIVEN** for the application described below:

| | |
|---|---|
| **File Nos.:** | SUB20-004 |
| **Permit Type:** | Type III |
| **Description of Request:** | A request for Preliminary Short Plat approval for two (2) lots. |
| **Applicant/ Owner:** | Darrell Offe / George Constantine |
| **Location of Property:** | 8817 SE 44th ST Mercer Island WA 98040<br>Identified by King County Assessor tax parcel number: 759810-0191 |
| **SEPA Compliance:** | This project is exempt from SEPA review pursuant to WAC 197-11-800(6)(d). |
| **Project Documents:** | Please follow this file path to access the associated documents for this project: https://mieplan.mercergov.org/public/SUB20-004 |
| **Written Comments:** | **This may be the only opportunity to comment on the environmental impacts of the proposal.** Written comments on this proposal may be submitted to the City of Mercer Island either by email 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:** | Pursuant to MICC 19.15.030 Table A and B a public hearing is not required for Type I-III permits. |
| **Applicable Development Regulations** | Applications for a Preliminary Short Plat approval are required to be processed as a 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. Subdivision and platting standards are located in MICC 19.08. |
| **Other Associated Permits:** | None at this time. |
| **Environmental Documents:** | Copies of all studies and / or environmental documents are available through the above project documents link. |
| **Application Process Information:** | Date of Application: November 9, 2020<br>Determined to Be Complete: December 17, 2020 |

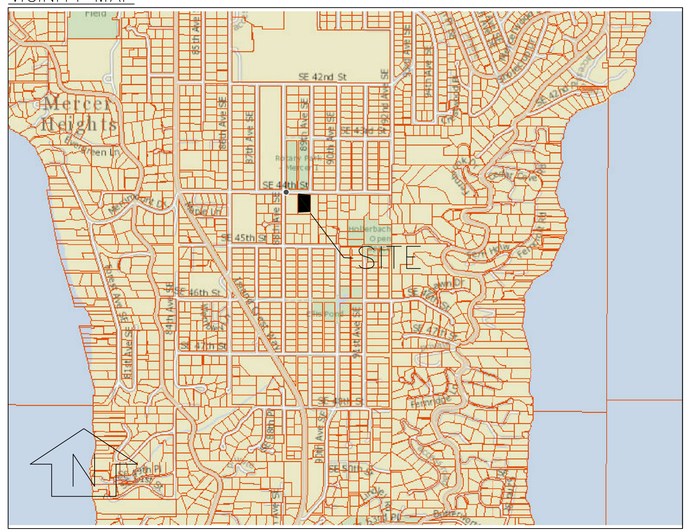
Bulletin Notice: December 21, 2020
Date Mailed: December 21, 2020
Date Posted on Site: December 21, 2020
Comment Period Ends: 5:00PM on January 20, 2021

Project Contact:
Lauren Anderson / Planner
Community Planning & Development
City of Mercer Island
9611 SE 36th Street
Mercer Island, WA 98040
(206) 275-7704
lauren.anderson@mercerisland.gov

Exhibit 3

# CONSTANTINE SHORT PLAT
## 8817 SE 44th Street
## Mercer Island, Washington
### Land Use File #: SUB20-004

VICINITY MAP




PROJECT DATA:
SITE ADDRESS: 8817 SE 44th Street
Mercer Island, WA 98040
ZONING DESIGNATION: R-9.6
GROSS PROPERTY AREA: 19,467 SQUARE FEET
KING COUNTY PARCEL #: 759810-0191

CONTACT INFORMATION

OWNER: O. GEORGE CONSTANTINE
16510 – 39TH AVENUE NE
LAKE FOREST PARK, WASHINGTON 98155
OFFICE NUMBER: 206-852-1740
EMAIL: georgec@constantinebuilders.com

ENGINEER: OFFE ENGINEERS, PLLC
ATTN: DARRELL OFFE, PE
13932 SOUTHEAST 159TH PLACE
RENTON, WASHINGTON 98058
OFFICE NUMBER: 425-260-3412
EMAIL: darrell.offe@comcast.net

SURVEYOR: LDC, INC.
ATTN: VINCE TOWNSEND
20210 142nd AVENUE NE
WOODINVILLE, WASHINGTON 98072
OFFICE NUMBER: 425-892-9588
EMAIL: vtownsend@ldccorp.com

ARBORIST: TREE SOLUTIONS, INC.
ATTN: JOSEPH SUTTON-HOLCOMB
2940 WESTLAKE AVENUE NE
SEATTLE, WASHINGTON 98109
OFFICE NUMBER: 206-528-4670
EMAIL: joseph@treesolutions.net

TABLE OF CONTENTS



APPROVAL NOTE:
THIS REQUEST DOES NOT GUARANTEE THAT THE LOTS WILL BE SUITABLE FOR DEVELOPMENT NOW OR IN THE FUTURE. THE LEGAL TRANSFER OF THE PROPERTY MUST BE DONE BY SEPERATE INSTRUMENT UNLESS ALL LOTS HEREIN ARE UNDER SAME OWNERSHIP.

FILE#: SUB20-004

| REV. NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

OFFE ENGINEERS
13932 SOUTHEAST 159TH PLACE
RENTON, WASHINGTON 98058
PHONE: 425-260-3412
CONTACT: DARRELL OFFE, P.E.

DRAWN BY: VS
CHECKED BY: DLO
DESIGNED BY: DLO

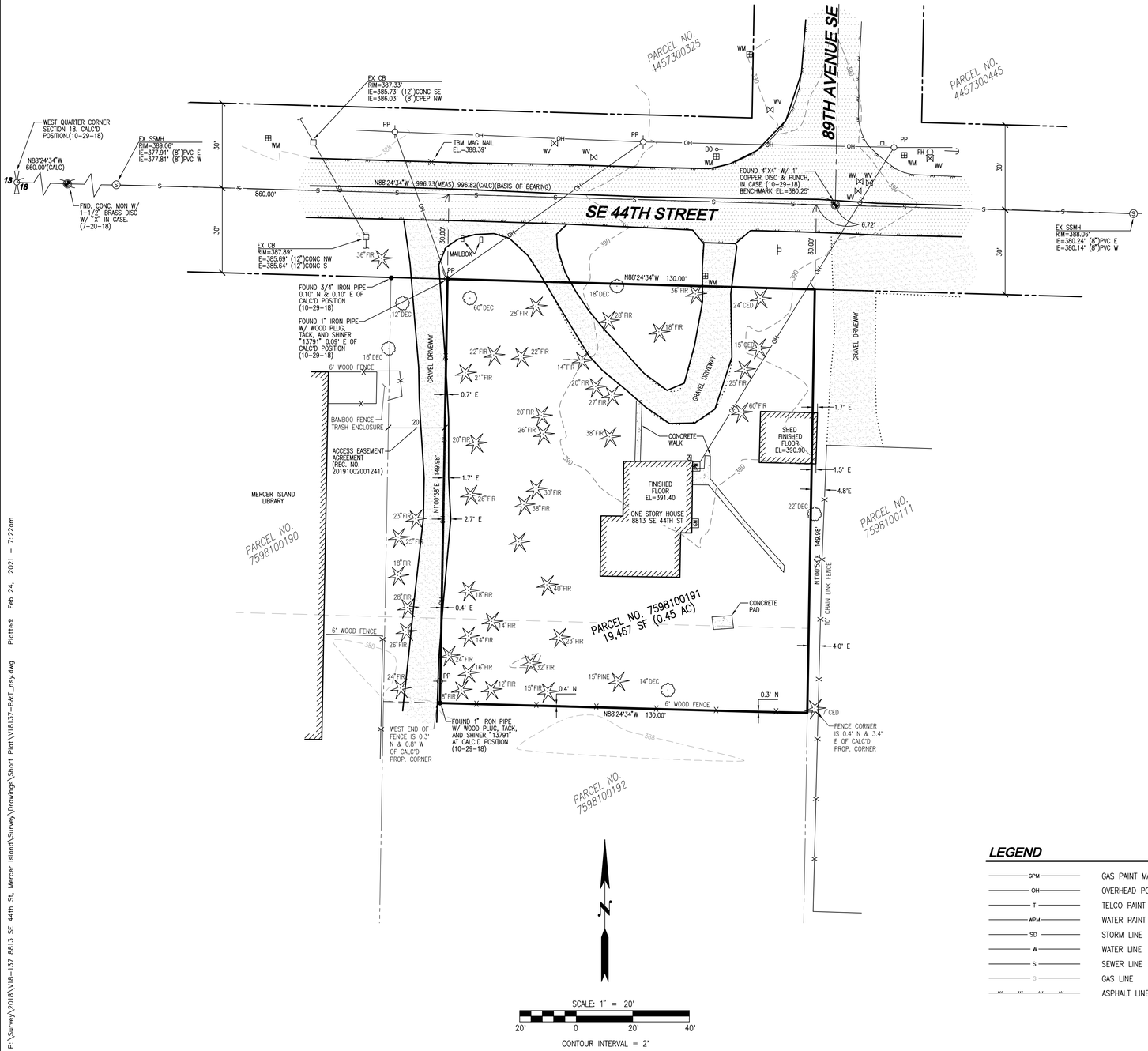
PROJECT: Constantine Short Plat
CLIENT: O. George Constantine
SHEET CONTENT: COVER SHEET

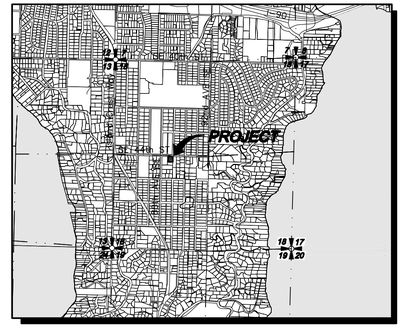
DATE 02/24/2021
JOB NO.
DWG NO.

SHEET 1 OF 10

*A PORTION OF THE NE 1/4 OF THE SW 1/4 OF SEC 18, TWN 24 N, RGE 5 E, W.M., KING COUNTY, WASHINGTON*

# CONSTANTINE PROPERTY
## BOUNDARY AND TOPOGRAPHIC SURVEY




**VICINITY MAP**
SCALE: 1"=2000'

## LEGAL DESCRIPTION

CHICAGO TITLE INSURANCE COMPANY
GUARANTEE/CERTIFICATE NO.0138698-ETU-SECOND(AMENDED)
EFFECTIVE DATE: OCTOBER 26, 2020 AT 8:00AM

THE NORTH 30 FEET OF THE EAST 1/2 OF LOT 9; AND THE EAST 1/2 OF LOT 10, LESS THE WEST 20 FEET THEREOF; BLOCK 8 VITUS SCHMID'S EAST SEATTLE ACRE TRACTS, ACCORDING TO THE PLAT RECORDED IN VOLUME 7, PAGE 76 OF PLATS;

SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.

## SURVEY INFORMATION

### VERTICAL DATUM
NORTH AMERICAN VERTICAL DATUM-1988

### BENCHMARK
BENCHMARK:
MONUMENT AT THE INTERSECTION OF SE 44TH ST & 89TH AVE SE
ELEVATION = 380.25'
TBM:
MAG NAIL SET ON NORTH SIDE OF SE 44TH ST
ELEVATION = 388.39'

### HORIZONTAL DATUM:
NAD 83/91
WASHINGTON STATE COORDINATES-NORTH ZONE

### BASIS OF BEARING
NAD83/91 FROM GPS OBSERVATION
MONUMENTED CENTERLINE OF SE 44TH STREET
(BEARING = N88°24'34"W)

### REFERENCES
(R1) PLAT OF VITUS SCHMID'S EAST SEATTLE ACRE TRACTS VOL. 7, PG. 76 OF PLATS, FILLED IN KING COUNTY, WA
(R2) RECORD OF SURVEY AF#199005159008 VOL 72, PG. 293 OF SURVEYS, FILLED IN KING COUNTY, WA
(R2) SHORT PLAT AF#197801069010, FILLED IN KING COUNTY, WA

### EQUIPMENT & PROCEDURES
**METHOD OF SURVEY:**
SURVEY PERFORMED BY FIELD TRAVERSE
**INSTRUMENTATION:**
LEICA MS-50 ROBOTIC TOTAL STATION WITH DATA COLLECTOR AND LEICA GS-14 GPS MAINTAINED IN ADJUSTMENT TO MANUFACTURES SPECIFICATIONS AS REQUIRED BY WAC 332-130-100
**PRECISION:**
MEETS OR EXCEEDS STATE STANDARDS WAC 332-130-090

### SURVEY NOTES
1. BOUNDARY LINES SHOWN AND CORNERS SET REPRESENT DEED LOCATIONS; OWNERSHIP LINES MAY VARY. NO GUARANTEE OF OWNERSHIP IS EXPRESSED OR IMPLIED. THIS SURVEY WAS PERFORMED WITH THE BENEFIT OF A TITLE REPORT.
2. SURVEY FIELDWORK PERFORMED ON OCTOBER 29, 2018
3. THIS BOUNDARY TOPOGRAPHIC MAP MAY HAVE DEPICTED OCCUPATIONAL INDICATORS (IE: EDGE OF ASPHALT DRIVE, FENCE LINES, BUILDINGS AND RETAINING WALLS- SEE MAP FOR SITE SPECIFICS) AS PER W.A.C. 332-130. LINES OF OCCUPATION, AS DEPICTED MAY INDICATE AREAS FOR POTENTIAL CLAIMS OF UNWRITTEN OWNERSHIP. THIS BOUNDARY TOPOGRAPHIC MAP HAS ONLY DEPICTED THE RELATIONSHIP BETWEEN LINES OF OCCUPATION AND DEEDED LINES OF RECORD. NO RESOLUTION OR OWNERSHIP BASED ON UNWRITTEN RIGHTS HAS BEEN MADE BY THIS BOUNDARY TOPOGRAPHIC MAP OR BY ANY PERSONNEL OF LDC, INC.
4. POTENTIAL ENCROACHMENTS
   -GRAVEL DRIVEWAY HAS BEEN OBSERVED AS CROSSING THE WESTERLY DEED LINE AS SHOWN HEREON.
   -SHED HAS BEEN OBSERVED AS CROSSING THE EASTERLY DEED LINE AS SHOWN HEREON.
5. EXISTING HOUSE AND SHED WILL BE DEMOLISHED PRIOR TO FINAL PLAT APPLICATION.

## LEGEND

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| GPM | GAS PAINT MARK | CB | CATCH BASIN | SSMH | SEWER MANHOLE | | RETAINING WALL |
| OH | OVERHEAD POWER LINE | SDMH | STORM MANHOLE | SDCO | STORM CLEANOUT | W | EXISTING PAVEMENT |
| T | TELCO PAINT MARK | FH | FIRE HYDRANT | T | TELCO MANHOLE | CONC | EXISTING CONCRETE |
| WPM | WATER PAINT MARK | GV | GAS VALVE | TEL | TELCO RISER | | EXISTING GRAVEL |
| SD | STORM LINE | | GUY ANCHOR | WM | WATER METER | | EXISTING BUILDING |
| W | WATER LINE | PP | POWER POLE | WV | WATER VALVE | | CALCULATED QUARTER SECTION CORNER |
| S | SEWER LINE | | JUNCTION BOX | | IRRIGATION CONTROL VALVE | | |
| G | GAS LINE | | LIGHT POLE | PV | POWER VAULT | | |
| | ASPHALT LINE | | LIGHT STANDARD | PV | POWER VAULT | | |
| | | PT | POWER TRANSFORMER | | | | |

**MERCER ISLAND SHORT PLAT NO. SUB20-004**

| NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

REVISIONS


LDC
THE CIVIL ENGINEERING GROUP
Engineering
Structural
Planning
Survey
20210 142nd Avenue NE
Woodinville, WA 98072
Ph. 425.806.1869
Fx. 425.482.2893
www.LDCcorp.com


**0. GEORGE CONSTANTINE**

# 8817 SE 44TH ST, MERCER IS., WA

*BOUNDARY AND TOPOGRAPHIC SURVEY*

VINCENT JAMES TOWNSEND — STATE OF WASHINGTON — 52841 — REGISTERED PROFESSIONAL LAND SURVEYOR

| | |
|---|---|
| JOB NUMBER: | V18-137 |
| DRAWING NAME: | V18137-B&T |
| DESIGNER: | |
| DRAFTING BY: | NSY |
| DATE: | 11-9-18 |
| SCALE: | 1"=20' |
| JURISDICTION: | |

**BT-01**

SHEET 2 OF 10

Drawing: P:\Survey\2018\V18-137 8813 SE 44th St, Mercer Island\Survey\Drawings\Short Plat\V18137-B&T_nsy.dwg Plotted: Feb 24, 2021 - 7:22am

# CONSTANTINE SHORT PLAT

## MERCER ISLAND SHORT PLAT NO. SUB20-004

### DECLARATION

WE THE UNDERSIGNED OWNER(S) IN FEE SIMPLE OF THE LAND HEREIN DESCRIBED, DO HEREBY MAKE A SHORT SUBDIVISION THEREOF PURSUANT TO RCW 58.17.060 AND DECLARE THE SHORT SUBDIVISION TO BE THE GRAPHIC REPRESENTATION OF THE SAME, AND THAT SAID SHORT SUDIVISION IS MADE WITH THE FREE CONSENT AND IN ACCORDANCE WITH THE DESIRE OF THE OWNER(S).

IN WITNESS WHEREOF, WE SET OUR HANDS AND SEALS THIS _____ DAY OF _____ , 2020.

_____

BY: **OWNER** BY: **OWNER**

### ACKNOWLEDGMENTS

STATE OF WASHINGTON )
) SS.
COUNTY OF SNOHOMISH )

I CERTIFY THAT I KNOW OR HAVE SATISFACTORY EVIDENCE THAT **LAND OWNER(S) (IF A PERSON OF PERSONS)**, ARE THE PERSON(S) WHO APPEARED BEFORE ME, AND SAID PERSON(S) ACKNOWLEDGED THAT THEY SIGNED THIS INSTRUMENT AND ACKNOWLEDGED IT TO BE THEIR FREE AND VOLUNTARY ACT FOR THE USES AND PURPOSES MENTIONED IN THE INSTRUMENT.

DATED _____
SIGNATURE OF NOTARY PUBLIC
PRINTED NAME _____
NOTARY PUBLIC IN AND FOR THE STATE OF WASHINGTON
RESIDING AT _____
MY APPOINTMENT EXPIRES

### CITY OF MERCER ISLAND APPROVALS

EXAMINED AND APPROVED THIS _____ DAY OF_____, 2021.

_____
CODE OFFICIAL

EXAMINED AND APPROVED THIS _____ DAY OF_____, 2021.

_____
CITY ENGINEER

### KING COUNTY DEPARTMENT OF ASSESSMENTS

EXAMINED AND APPROVED THIS _____ DAY OF_____, 2021.

_____ _____
ASSESSOR DEPUTY ASSESSOR

### RECORDER'S CERTIFICATE

FILED FOR RECORD AT THE REQUEST OF LAND DEVELOPMENT CONSULTANTS, CORP. THIS _____ DAY OF_____, 2021, AT _____ MINUTES PAST _____ M. AND RECORDED IN BOOK _____ OF SURVEYS, PAGE(S)_____.

_____
MANGER SUPT. OF RECORDS

### ORIGINAL LEGAL DESCRIPTION

CHICAGO TITLE INSURANCE COMPANY
GUARANTEE/CERTIFICATE NO.0138698-ETU-SECOND(AMENDED)
EFFECTIVE DATE: OCTOBER 26, 2020 AT 8:00AM

THE NORTH 30 FEET OF THE EAST 1/2 OF LOT 9; AND THE EAST 1/2 OF LOT 10, LESS THE WEST 20 FEET THEREOF; BLOCK 8 VITUS SCHMID'S EAST SEATTLE ACRE TRACTS, ACCORDING TO THE PLAT RECORDED IN VOLUME 7, PAGE 76 OF PLATS;

SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.

### NEW LEGAL DESCRIPTIONS

LOT 1

THE NORTH 30 FEET OF THE EAST 1/2 OF LOT 9; AND THE EAST 1/2 OF LOT 10, LESS THE WEST 20 FEET THEREOF; BLOCK 8 VITUS SCHMID'S EAST SEATTLE ACRE TRACTS, ACCORDING TO THE PLAT RECORDED IN VOLUME 7, PAGE 76 OF PLATS;

EXCEPT THE SOUTH 74.99 FEET THEREOF.

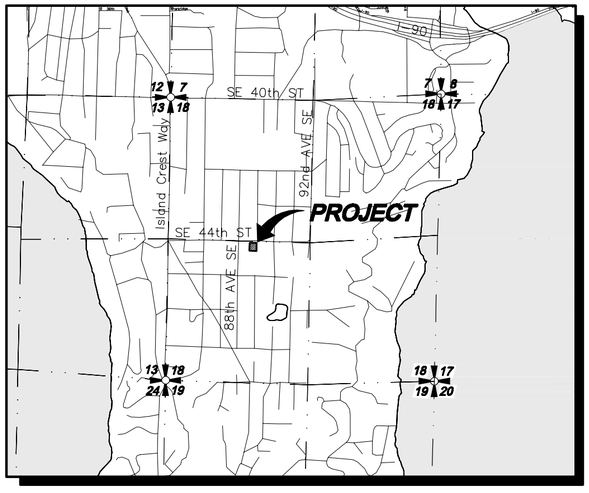
SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.

LOT 2

THE NORTH 30 FEET OF THE EAST 1/2 OF LOT 9; AND THE EAST 1/2 OF LOT 10, LESS THE WEST 20 FEET THEREOF; BLOCK 8 VITUS SCHMID'S EAST SEATTLE ACRE TRACTS, ACCORDING TO THE PLAT RECORDED IN VOLUME 7, PAGE 76 OF PLATS;

EXCEPT THE NORTH 74.99 FEET THEREOF.

SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.




### VICINITY MAP

SCALE: 1"=2000'

N

### APPROVAL NOTE

THIS REQUEST DOES NOT GUARANTEE THAT THE LOTS WILL BE SUITABLE FOR DEVELOPMENT NOW OR IN THE FUTURE. THE LEGAL TRANSFER OF THE PROPERTY MUST BE DONE BY SEPARATE INSTRUMENT UNLESS ALL LOTS HEREIN ARE UNDER THE SAME OWNERSHIP.

### SURVEYOR NOTE

EXISTING HOUSE AND SHED WILL BE DEMOLISHED PRIOR TO FINAL PLAT APPLICATION.

### LAND SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THIS PLAT OF 8813 SE 44TH STREET IS BASED UPON AN ACTUAL SURVEY AND SUBDIVISION OF SECTION 18, TOWNSHIP 24 NORTH, RANGE 5 EAST, W.M. AS REQUIRED BY STATE STATUTES; THAT THE DISTANCES, COURSES AND ANGLES ARE SHOWN THEREON CORRECTLY; THAT THE MONUMENTS SHALL BE SET AND LOT AND BLOCK CORNERS SHALL BE STAKED CORRECTLY ON THE GROUND, THAT I FULLY COMPLIED WITH THE PROVISIONS OF THE STATE AND LOCAL STATUTES AND REGULATIONS GOVERNING PLATTING.

VINCENT J. TOWNSEND, PROFESSIONAL LAND SURVEYOR DATE
STATE OF WASHINGTON CERTIFICATE NO. 52841

VINCENT JAMES TY
STATE OF WASH
-041
REGISTERED
IONAL LAND SURVEYOR
11-3-20

PRELIMINARY


**LDC** Surveying Engineering Planning

**Woodinville**
20210 142nd Avenue NE
Woodinville, WA 98072
T 425.806.1869

**Kent**
1851 Central Pl S, #101
Kent, WA 98030
F 425.482.2893

*www.LDCcorp.com*


**CONSTANTINE SHORT PLAT**

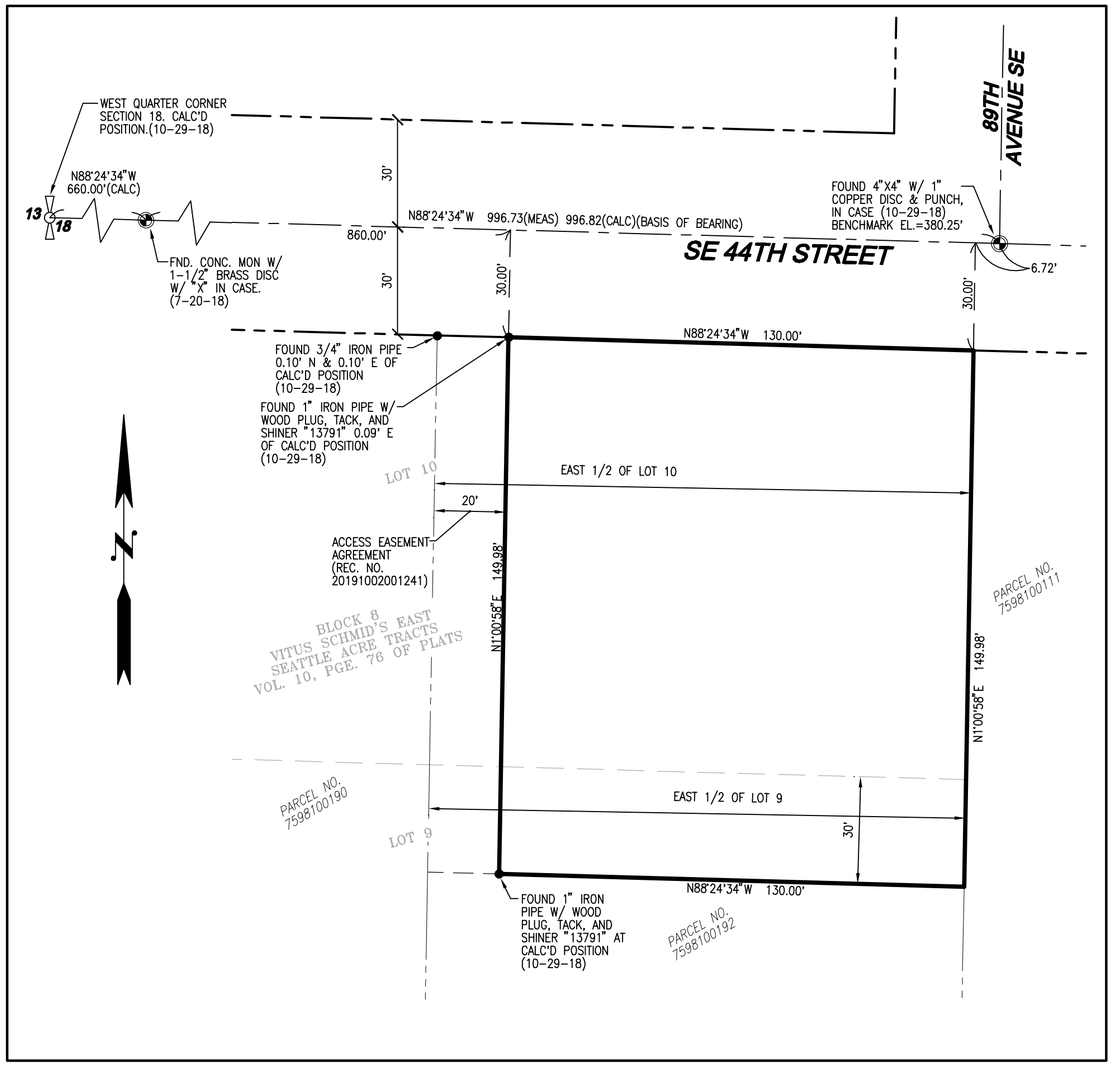
**NE 1/4 OF THE SW 1/4 OF SEC 18, TWN 24 N, RGE 5 E, W.M.**

CITY OF MERCER ISLAND, KING COUNTY, WASHINGTON

| DRAWN BY: | DATE: | DRAWING FILE NAME: | SCALE: | JOB NUMBER: | SHEET: |
|---|---|---|---|---|---|
| NSY | 28 OCT 20 | V18-137-SP | N.T.S | V20-137 | 3 OF 10 |

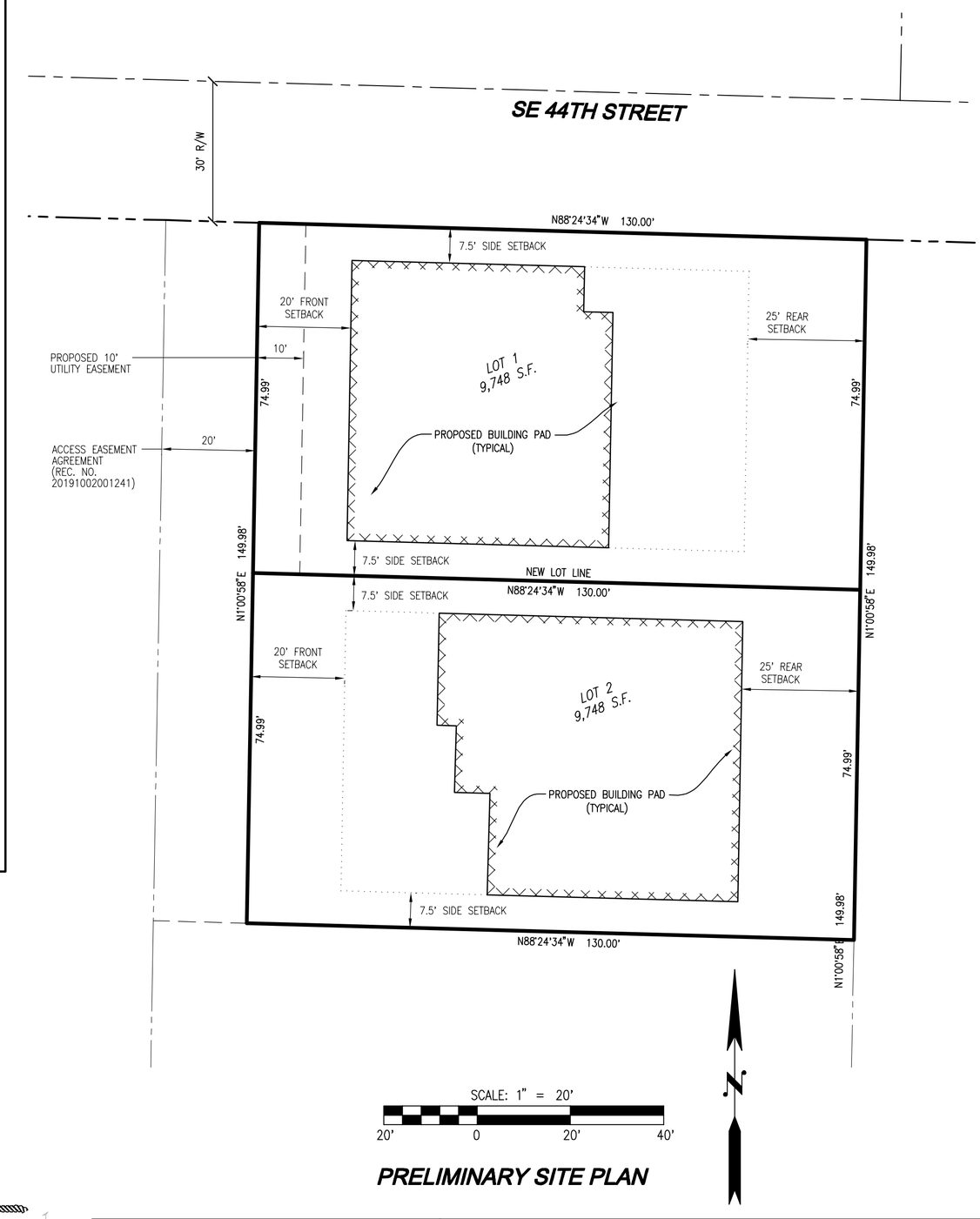
# CONSTANTINE SHORT PLAT

## MERCER ISLAND SHORT PLAT NO. SUB20-004




### CONTROL MAP

SCALE: 1"=30'




### PRELIMINARY SITE PLAN

## SURVEY INFORMATION

### HORIZONTAL DATUM:

NAD 83/91
WASHINGTON STATE COORDINATES–NORTH ZONE

### BASIS OF BEARING

NAD83/91 FROM GPS OBSERVATION
MONUMENTED CENTERLINE OF SE 44TH STREET
(BEARING = N88°24'34"W)

### REFERENCES


(R1) PLAT OF VITUS SCHMID'S EAST SEATTLE ACRE TRACTS
VOL. 7, PG. 76 OF PLATS, FILLED IN KING COUNTY, WA

(R2) RECORD OF SURVEY AF#199005159008
VOL 72, PG. 293 OF SURVEYS, FILLED IN KING COUNTY, WA

(R2) SHORT PLAT AF#197801069010, FILLED IN KING COUNTY, WA


### SURVEY NOTE

EXISTING HOUSE AND SHED WILL BE DEMOLISHED PRIOR TO FINAL PLAT APPLICATION.

VINCENT JAMES IV
STATE OF WASH.
-041
REGISTERED
IONAL LAND SURVEYOR
11-3-20
PRELIMINARY


**LDC** | Surveying Engineering Planning

**Woodinville**
20210 142nd Avenue NE
Woodinville, WA 98072

**Kent**
1851 Central Pl S, #101
Kent, WA 98030

T 425.806.1869 www.LDCcorp.com F 425.482.2893

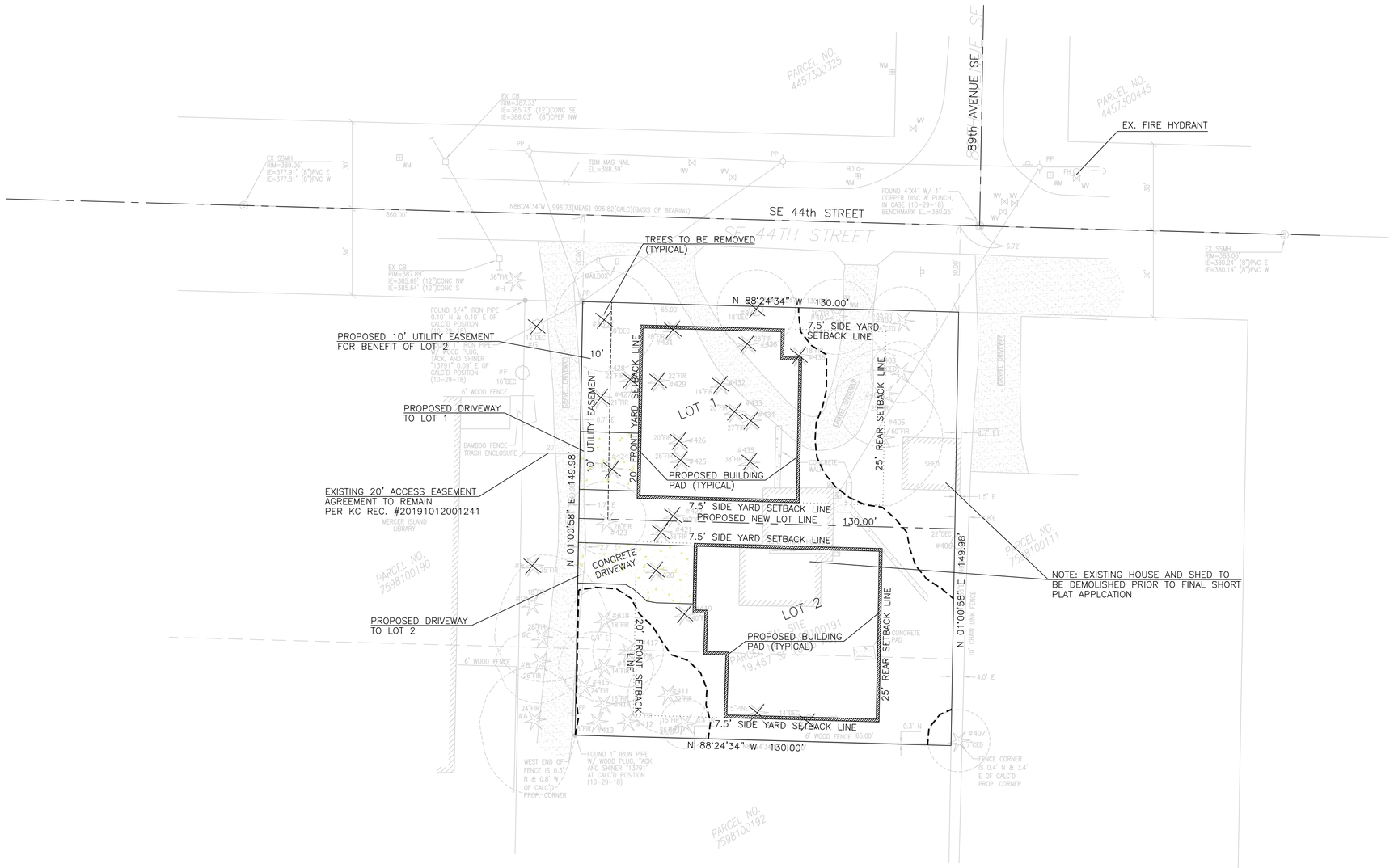

## CONSTANTINE SHORT PLAT

**NE 1/4 OF THE SW 1/4 OF SEC 18, TWN 24 N, RGE 5 E, W.M.**

CITY OF MERCER ISLAND, KING COUNTY, WASHINGTON

| DRAWN BY: | DATE: | DRAWING FILE NAME: | SCALE: | JOB NUMBER: | SHEET: |
|---|---|---|---|---|---|
| NSY | 28 OCT 20 | V18-137-SP | N.T.S | V20-137 | 4 OF 10 |

A PORTION OF THE NE 1/4, OF THE SW 1/4, OF SECTION 18, TOWNSHIP 24 N., RANGE 5 EAST, W.M., CITY OF MERCER ISLAND, WASHINGTON




NOTE:
(A) NO CONSTRUCTION, TREE REMOVAL, GRADING, INSTALLATION OF UTILITIES ON LAND WITHIN A PROPOSED LONG OR SHORT SUBDIVISION SHALL BE ALLOWED PRIOR TO PRELIMINARY APPROVAL ON THE LONG OR SHORT SUBDIVISION AND UNTIL THE APPLICANT HAS SECURED THE PERMITS REQUIRED UNDER THE MERCER ISLAND CITY CODE. FOLLOWING PRELIMINARY APPROVAL, TREE REMOVAL, GRADING, AND INSTALLATION OF UTILITIES SHALL BE THE MINIMUM NECESSARY TO ALLOW FOR THE FINAL PLAT APPROVAL OF THE LONG OR SHORT SUBDIVISION.
(B) AN EXISITNG LOT, CREATED THROUGH THE FINAL PLAT APPROVAL OF A LONG OR SHORT SUBDIVISION, SHALL BE A CONDITION PRECEDENT FOR DETERMINATION OF COMPLETE APPLICATION FOR A BUILDING PERMIT TO CONSTRUCT A NEW SINGLE-FAMILY DWELLING.

| | SLOPE | NET LOT AREA (sq. feet) | LOT COVERAGE ( SF/% ) | HARDSCAPE ( SF/% ) | GROSS FLOOR AREA ( SF/% ) | COVERED/UNCOVERED PARKING STALLS (#'s) | IMPERVIOUS SURFACE ( SF/% ) | LOT WIDTH ( FEET ) | LOT DEPTH ( FEET ) |
|---|---|---|---|---|---|---|---|---|---|
| LOT 1 | | | | | | | | | |
| OLD: | 1.93% | 19,467 | 1,441/7.40% | 1,541/7.92% | 1,104/5.67% | 0/2 | 2,982/15.3% | 130.00 | 149.98 |
| NEW: | 1.93% | 9,748 | 3,260/33.4% | 650/6.67% | 3,899/40% | 2/2 | 3,910/40.1% | 75.00 | 130.00 |
| LOT 2 | | | | | | | | | |
| NEW: | 2.38% | 9,748 | 3,693/37.9% | 850/8.72% | 3,899/40% | 2/2 | 4,543/46.6% | 75.00 | 130.00 |

APPROVAL NOTE:
THIS REQUEST DOES NOT GUARANTEE THAT THE LOTS WILL BE SUITABLE FOR DEVELOPMENT NOW OR IN THE FUTURE. THE LEGAL TRANSFER OF THE PROPERTY MUST BE DONE BY SEPERATE INSTRUMENT UNLESS ALL LOTS HEREIN ARE UNDER SAME OWNERSHIP.

GRAPHIC SCALE
0 10 20 40
1 inch = 20 feet

FILE#: SUB20-004

| REV. NO. | DATE | DESCRIPTION |
|---|---|---|
| 1 | 02/09/21 | RESPOND TO CITY COMMENTS DATED 02/02/2021 |

02/24/2021

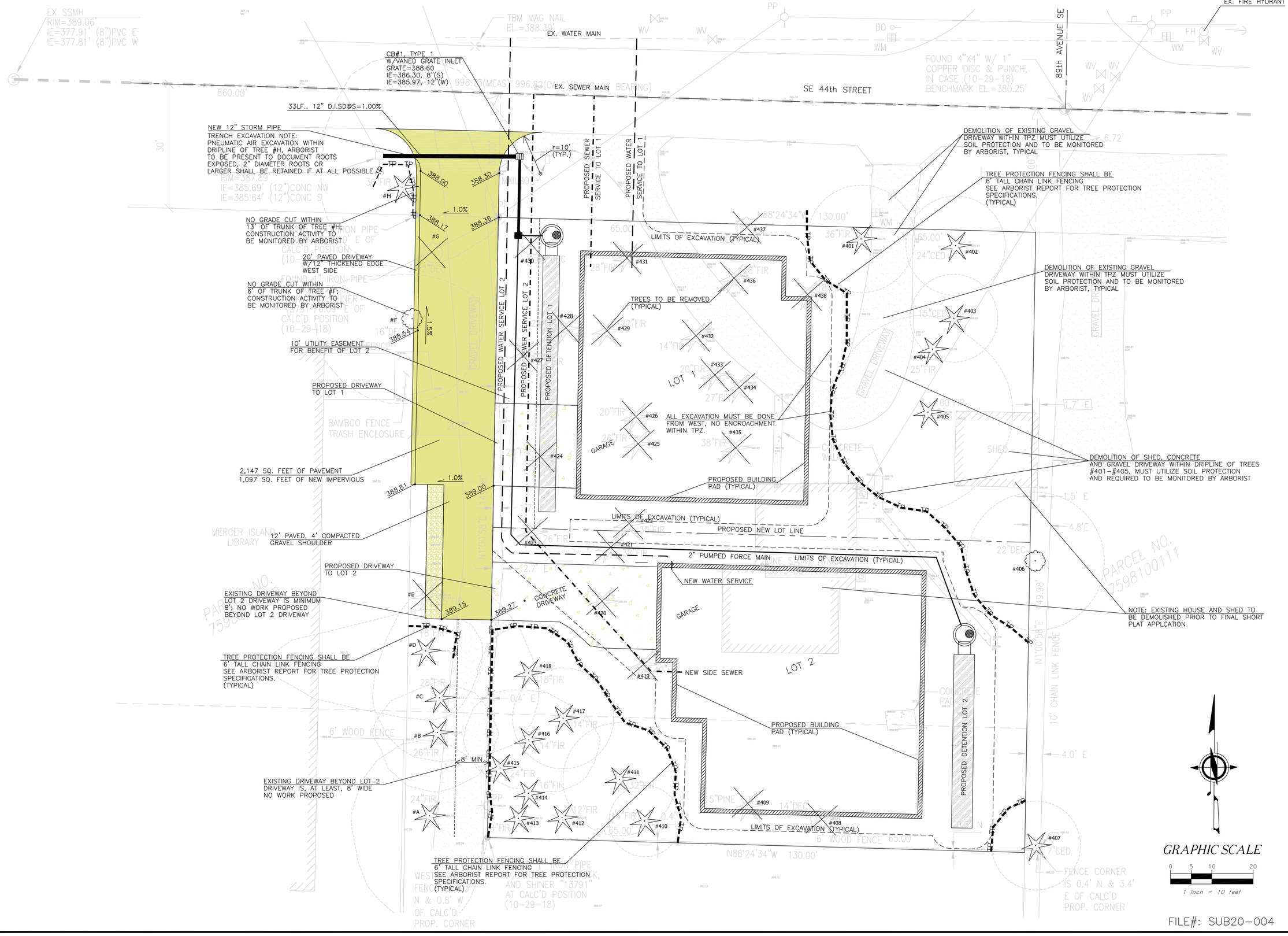

OFFE ENGINEERS
13932 SOUTHEAST 159TH PLACE
RENTON, WASHINGTON 98058
PHONE: 425-260-3412
CONTACT: DARRELL OFFE, P.E.


DRAWN BY VS
CHECKED BY DLO
DESIGNED BY DLO

PROJECT: Constantine Short Plat
CLIENT: O. George Constantine
SHEET CONTENT: SITE PLAN

DATE 02/24/2021
JOB NO.
DWG NO.
SHEET 5 OF 10

# A PORTION OF THE NE 1/4, OF THE SW 1/4, OF SECTION 18, TOWNSHIP 24 N., RANGE 5 EAST, W.M., CITY OF MERCER ISLAND, WASHINGTON




FILE#: SUB20-004

| REV. NO. | DATE | DESCRIPTION |
|---|---|---|
| 2 | 02/09/21 | RESPOND TO CITY COMMENTS DATED 02/02/2021 |
| 1 | 12/16/20 | RESPOND TO CITY COMMENTS DATED 12/04/2020 |

02/24/2021


OFFE ENGINEERS
13932 SOUTHEAST 159TH PLACE
RENTON, WASHINGTON 98058
PHONE: 425-260-3412
CONTACT: DARRELL OFFE, P.E.


DRAWN BY VS | CHECKED BY DLO
DESIGNED BY DLO

PROJECT: **Constantine Short Plat**
CLIENT: **O. George Constantine**
SHEET CONTENT: **TREE PLAN**

DATE 02/24/2021
JOB NO. _____
DWG NO. _____

SHEET 6 OF 10

Tree Solutions Inc
Consulting Arborists

## Table of Trees
8817 SE 44th St. Mercer Island, WA

**Arborist:** Joseph S-H, Andrea S
**Date of Inventory:** July 21, 2020
**Table Prepared:** Oct 27, 2020

| Tree ID | Scientific Name | Common Name | DSH (inches) | DSH Multistem | Health Condition | Structural Condition | N | E | S | W | Exceptional Threshold | Exceptional Grove? (Yes/No) | Exceptional | Proposed Action | Limits of Disturbance* | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 401 | *Pseudotsuga menziesii* | *Douglas-fir* | 37.4 | | Good | Good | 31.1 | 29.6 | 28.1 | 29.6 | *30.0* | *Yes* | Exceptional - Size | Impact | Tree dripline. Removal of gravel in root zone shall be monitored | Adjacent to driveway, utility box 3' from trunk, prominent surface roots, codominant at 60', one stem significantly smaller |
| 402 | *Thuja plicata* | *Western Redcedar* | 26.0 | | Good | Good | 14.1 | 14.1 | 14.1 | 14.1 | *30.0* | *Yes* | | Impact | Tree dripline. Removal of gravel in root zone shall be monitored | Typical drought stress canopy sparseness, ivy on stem, blackberries in dripline, brush pile in root zone |
| 403 | *Thuja plicata* | *Western Redcedar* | 12.8 | | Good | Good | 8.5 | 8.5 | 8.5 | 8.5 | *30.0* | *Yes* | | Impact | Tree dripline. Removal of gravel in root zone shall be monitored | Brush pile in root zone, suppressed by larger adjacent Douglas-firs |
| 404 | *Pseudotsuga menziesii* | *Douglas-fir* | 26.5 | | Good | Good | 19.1 | 19.1 | 19.1 | 19.1 | *30.0* | *Yes* | | Impact | Tree dripline. Removal of gravel in root zone shall be monitored | Wound 3'-6' with response, brush on north side |
| 405 | *Pseudotsuga menziesii* | *Douglas-fir* | 52.5 | | Good | Good | 25.2 | 31.2 | 31.2 | 28.2 | *30.0* | *Yes* | Exceptional - Size | Impact | Tree dripline. Removal of gravel and shed in root zone shall be monitored | Concrete pad from shed is 4' from trunk, light attached to trunk at 15', cut enveloped electrical line on east side, crown raised in past, 3 reiterated scaffolds with narrow attachment angles, could prune to subordinate |
| 406 | *Arbutus menziesii* | *Madrone* | 16.7 | 15.1, 7.2 | Good | Good | 13.2 | 12.7 | 18.7 | 20.7 | *6.0* | *No* | Exceptional - Size | Retain | Tree dripline. | Shared tree, phototropic to southwest, bricks at base |
| 407 | *Castanea dentata* | *American chestnut* | 9.9 | | Good | Good | 17.4 | 13.4 | 15.4 | 15.9 | | *No* | | Retain | Tree dripline | Chestnut tree, not on survey, stub cuts on trunk |
| 408 | *Malus sp.* | *Apple* | 17.0 | 13.3,10.6 | Good | Fair | 16.7 | 16.7 | 16.7 | 16.7 | *20.0* | *No* | | Remove | N/A | 3"diameter stub cuts, 7' from fence |
| 409 | *Pinus jeffreyi* | *Jeffrey pine* | 29.7 | | Good | Good | 18.2 | 21.2 | 25.2 | 16.2 | - | *No* | | Remove | N/A | Clusters of 3 needles 5-6" long, ivy on trunk, 7.5' from fence to south, needle disease causing premature wilt/droop, tree health is good overall |
| 410 | *Pseudotsuga menziesii* | *Douglas-fir* | 15.5 | | Good | Fair | 13.6 | 16.6 | 12.6 | 19.6 | *30.0* | *Yes* | | Retain | Tree dripline | Codominant stems at 12', one stem is smaller & subordinate, trunk is 6' from fence, brush in root zone |
| 411 | *Pseudotsuga menziesii* | *Douglas-fir* | 34.3 | | Good | Good | 24.4 | 24.4 | 24.4 | 24.4 | *30.0* | *Yes* | Exceptional - Size | Retain | Tree dripline | Epicormic release on north side of trunk, unusual trunk anatomy as well |
| 412 | *Pseudotsuga menziesii* | *Douglas-fir* | 11.8 | | Good | Fair | 3.5 | 12.0 | 11.5 | 7.5 | *30.0* | *Yes* | | Retain | Tree dripline | Utility line in contact with stems, most of live canopy to southeast, codominant stems with narrow union, third stem was removed in past |
| 413 | *Pseudotsuga menziesii* | *Douglas-fir* | 8.1 | | Good | Fair | 1.3 | 10.3 | 10.3 | 8.8 | *30.0* | *no (under 10" diameter)* | | Retain | Tree dripline | Topped for wire clearence, 3 reiterated trunks, most of live canopy to southeast |
| 414 | *Pseudotsuga menziesii* | *Douglas-fir* | 17.1 | | Good | Fair | 10.7 | 15.7 | 22.7 | 12.7 | *30.0* | *Yes* | | Retain | Tree dripline | Broken top with reiteration at 45', ivy at base |




Tree Solutions Inc
Consulting Arborists

Table of Trees
8817 SE 44th St. Mercer Island, WA

Arborist: Joseph S-H, Andrea S
Date of Inventory: July 21, 2020
Table Prepared: Oct 27, 2020


| Tree ID | Scientific Name | Common Name | DSH (inches) | DSH Multistem | Health Condition | Structural Condition | N | E | S | W | Exceptional Threshold | Exceptional Grove? (Yes/No) | Exceptional | Proposed Action | Limits of Disturbance* | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 415 | *Pseudotsuga menziesii* | *Douglas-fir* | 24.7 | | Good | Good | 18.0 | 18.0 | 21.0 | 25.0 | *30.0* | *Yes* | | Retain | Tree dripline | Epicormic release, growing 2' from driveway, ivy at base, lost top possibly due to storm damage |
| 416 | *Pseudotsuga menziesii* | *Douglas-fir* | 12.7 | | Good | Fair | 12.0 | 17.0 | 13.5 | 16.0 | *30.0* | *Yes* | | Retain | Tree dripline | Previously topped, ivy at base |
| 417 | *Pseudotsuga menziesii* | *Douglas-fir* | 12.1 | | Good | Good | 9.5 | 10.5 | 10.0 | 10.0 | *30.0* | *Yes* | | Retain | Tree dripline | Ivy at base, recent soil disturbance in dripline |
| 418 | *Pseudotsuga menziesii* | *Douglas-fir* | 17.6 | | Good | Good | 13.7 | 18.7 | 11.2 | 15.7 | *30.0* | *Yes* | | Retain | Tree dripline | Soil disturbance in root zone, driveway 7' from trunk |
| 419 | *Pseudotsuga menziesii* | *Douglas-fir* | 35.1 | | Good | Good | 22.0 | 23.0 | 18.0 | 18.0 | *30.0* | *Yes* | Exceptional - Size | Remove | N/A | Existing house 16' from trunk to east,brush and soil disturbance in dripline on west side |
| 420 | *Pseudotsuga menziesii* | *Douglas-fir* | 19.7 | | Good | Good | 13.8 | 7.8 | 13.8 | 13.8 | *30.0* | *No* | | Remove | N/A | Dead ivy up to 65', has been severed at base but canopy is stunted from this |
| 421 | *Pseudotsuga menziesii* | *Douglas-fir* | 31.0 | | Good | Good | 22.8 | 24.3 | 32.3 | 23.3 | *30.0* | *Yes* | Exceptional - Size | Remove | N/A | Dead ivy in tree, ivy at base, epicormic release on lower trunk, compaction in root zone to west |
| 422 | *Pseudotsuga menziesii* | *Douglas-fir* | 21.6 | | Good | Fair | 15.9 | 18.9 | 11.9 | 17.4 | *30.0* | *Yes* | | Remove | N/A | Kink in trunk at 45' previously lost top higher up on the stem |
| 423 | *Pseudotsuga menziesii* | *Douglas-fir* | 25.1 | | Good | Good | 20.5 | 12.0 | 17.0 | 21.5 | *30.0* | *Yes* | | Remove | N/A | Abuts driveway on west side, compaction in root zone |
| 424 | *Pseudotsuga menziesii* | *Douglas-fir* | 20.4 | | Good | Fair | 21.4 | 9.9 | 11.4 | 22.4 | *30.0* | *Yes* | | Remove | N/A | Lost top with multiple small reiterations, driveway 4' from base |
| 425 | *Pseudotsuga menziesii* | *Douglas-fir* | 24.9 | | Good | Good | 16.0 | 16.0 | 23.0 | 23.0 | *30.0* | *Yes* | | Remove | N/A | Dead ivy on trunk |
| 426 | *Pseudotsuga menziesii* | *Douglas-fir* | 14.6 | | Good | Good | 16.6 | 15.1 | 13.6 | 18.6 | *30.0* | *Yes* | | Remove | N/A | Kink in trunk at 25', perhaps from losing its top in the past |
| 427 | *Pseudotsuga menziesii* | *Douglas-fir* | 21.1 | | Good | Good | 19.9 | 7.9 | 18.9 | 17.4 | *30.0* | *Yes* | | Remove | N/A | Asymmetric canopy, driveway abuts trunk to west approx 4' from trunk |
| 428 | *Pseudotsuga menziesii* | *Douglas-fir* | 22.5 | | Good | Fair | 14.9 | 12.9 | 20.4 | 20.9 | *30.0* | *Yes* | | Remove | N/A | Kink in trunk at 40' |
| 429 | *Pseudotsuga menziesii* | *Douglas-fir* | 21.7 | | Good | Good | 15.9 | 12.9 | 14.9 | 11.9 | *30.0* | *Yes* | | Remove | N/A | Dead ivy on trunk, kink in trunk at 50' |
| 430 | *Acer macrophyllum* | *Bigleaf Maple* | 34.7 | | Good | Fair | 38.4 | 32.4 | 23.4 | 26.4 | *30.0* | *Yes* | Exceptional - Size | Remove | 15' from trunk to southeast only for building foundation | Cavities with decay in trunk, large cavity at base with wound up to 6', wound makes an L shape and is 3.5' x 4' on the north side, k. Deusta at base, perhaps caused by large trunk failure many years ago, teerouts in canopy, canopy color looks good, good leaf size. |
| 431 | *Pseudotsuga menziesii* | *Douglas-fir* | 26.3 | | Good | Good | 23.1 | 14.6 | 1.1 | 16.1 | *30.0* | *Yes* | | Remove | N/A | Pini conks on trunk, dead branches in crown with saprophytic fungi, lost top many years ago, recommend advanced aerial assessment if tree is retained |




Tree Solutions Inc
Consulting Arborists

Table of Trees
8817 SE 44th St. Mercer Island, WA

Arborist: Joseph S-H, Andrea S
Date of Inventory: July 21, 2020
Table Prepared: Oct 27, 2020


| Tree ID | Scientific Name | Common Name | DSH (inches) | DSH Multistem | Health Condition | Structural Condition | N | E | S | W | Exceptional Threshold | Exceptional Grove? (Yes/No) | Exceptional | Proposed Action | Limits of Disturbance* | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 432 | *Pseudotsuga menziesii* | *Douglas-fir* | 12.1 | | Good | Fair | 16.5 | 8.5 | 10.0 | 10.5 | *30.0* | *Yes* | | Remove | N/A | Large canker on stem at 45', growing 3' from old driveway, good candidate for removal |
| 433 | *Pseudotsuga menziesii* | *Douglas-fir* | 17.5 | | Good | Good | 15.7 | 8.2 | 8.2 | 8.7 | *30.0* | *Yes* | | Remove | N/A | Ivy on stem to 20' |
| 434 | *Pseudotsuga menziesii* | *Douglas-fir* | 26.6 | | Good | Good | 17.6 | 20.6 | 20.1 | 17.1 | *30.0* | *Yes* | | Remove | N/A | Ivy on stem to 15' |
| 435 | *Pseudotsuga menziesii* | *Douglas-fir* | 39.0 | | Good | Good | 21.1 | 30.1 | 28.6 | 24.1 | *30.0* | *Yes* | Exceptional - Size | Remove | N/A | House foundation 10' to southeast of trunk, 6" holly tree on southeast side of trunk, crown raised, first branches at 40' above ground |
| 436 | *Pseudotsuga menziesii* | *Douglas-fir* | 27.2 | | Good | Fair | 23.6 | 23.1 | 27.6 | 21.1 | *30.0* | *Yes* | | Remove | N/A | Large kink in trunk at 55',likely from loss or removed top |
| 437 | *Arbutus menziesii* | *Madrone* | 17.2 | | Good | Good | 35.7 | 15.2 | 3.7 | 13.7 | *6.0* | *Yes* | Exceptional - Size | Remove | N/A | Some dieback in lower stems and stems overhanging road, as is typical for madrones in urban environments, large climbing rose on trunk up to 30', phototropic to north over road, cankers on trunk |
| 438 | *Pseudotsuga menziesii* | *Douglas-fir* | 19.3 | | Good | Fair | 14.3 | 17.3 | 15.3 | 14.3 | *30.0* | *Yes* | | Remove | N/A | Pitch flow from trunk, previously lost top, burl on trunk at 5', pile of deadwood abuts base of tree |
| A | *Pseudotsuga menziesii* | *Douglas-fir* | 23.5 | | Good | Good | 18.0 | 14.5 | 26.0 | 19.0 | *30.0* | *Yes* | | Retain | Tree dripline | Driveway abuts base of tree |
| B | *Pseudotsuga menziesii* | *Douglas-fir* | 22.2 | | Good | Fair | 12.4 | 14.9 | 14.4 | 15.9 | *30.0* | *Yes* | | Retain | Tree dripline | Driveway abuts base of tree, twisting top possibly from past damage to stem |
| C | *Pseudotsuga menziesii* | *Douglas-fir* | 28.5 | | Good | Good | 28.7 | 23.7 | 15.2 | 16.2 | *30.0* | *Yes* | | Retain | Tree dripline | Driveway abuts base of tree, low live crown ratio,slightly sparse canopy |
| D | *Pseudotsuga menziesii* | *Douglas-fir* | 18.2 | | Good | Good | 9.8 | 13.8 | 16.8 | 36.8 | *30.0* | *Yes* | | Impact | 5' radius from trunk on east and north side only, limit grade cuts within dripline | Apical stem leans strongly to west creating an unusual form, driveway abuts base of tree |
| E | *Pseudotsuga menziesii* | *Douglas-fir* | 25.3 | | Good | Good | 23.1 | 16.1 | 16.1 | 22.1 | *30.0* | *Yes* | | Remove | N/A | Driveway abuts base of tree, low live crown ratio |
| F | *Acer macrophyllum* | *Bigleaf Maple* | 14.8 | | Good | Good | 10.6 | 17.1 | 20.6 | 23.6 | *30.0* | *No* | | Impact | no grade cuts within 6' of trunk, arborist to monitor road improvement work near tree | Surface roots impacted by driveway, arborist monitoring recommended for road improvements near trunk. |
| G | *Acer macrophyllum* | *Bigleaf Maple* | 11.7 | | Good | Good | 15.5 | 11.5 | 16.0 | 17.5 | *30.0* | *No* | | Remove | N/A | base of tree directly abuts driveway to east |




Tree Solutions Inc
Consulting Arborists

Table of Trees
8817 SE 44th St. Mercer Island, WA

Arborist: Joseph S-H, Andrea S
Date of Inventory: July 21, 2020
Table Prepared: Oct 27, 2020


| Tree ID | Scientific Name | Common Name | DSH (inches) | DSH Multistem | Health Condition | Structural Condition | N | E | S | W | Exceptional Threshold | Exceptional Grove? (Yes/No) | Exceptional | Proposed Action | Limits of Disturbance* | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H | *Pseudotsuga menziesii* | *Douglas-fir* | 32.7 | | Good | Fair | 31.9 | 28.9 | 19.4 | 19.4 | *30.0* | *No* | Exceptional - Size | Impact | no grade cuts within 13' of trunk to east. Tree protection fencing at edge of proposed new road to east and edge of proposed utility trench proposed to north. Air excavation and arborist monitoring required | Gravel driveway to east, road to north, lost top at 60' with reiterations, road 13.5' from trunk. Arborist must monitor work proposed within tree dripline to document root impacts and ensure tree is safe for retention. Some compacted fill in dripline allowable for road work. |

* Limits of disturbance are measured radially from the face of the trunk.

**Notes**

> Tree dripline is preferred limits of disturbance for all trees
> If limits of disturbance within the dripline are allowed on a specific side only, the limits of disturbance on all other sides is the tree dripline or greater.
> paving within limits of disturbance may be feasible if no grade cuts are made
> any work occuring within limits of disturbance shall be monitored by a qualified ISA Certified Arborist.
> contact project arborist if excavation requires removal of any roots greater than 2" diameter within tree driplines



FILE#: SUB20-004

| REV. NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

02/24/2021


OFFE ENGINEERS
13932 SOUTHEAST 159TH PLACE
RENTON, WASHINGTON 98058
PHONE: 425-260-3412
CONTACT: DARRELL OFFE, P.E.


DRAWN BY VS | CHECKED BY DLO | DESIGNED BY DLO

PROJECT: Constantine Short Plat
CLIENT: O. George Constantine
SHEET CONTENT: ARBORIST TREE TABLES

DATE 02/24/2021
JOB NO. _____
DWG NO. _____

SHEET 7 OF 10

# A PORTION OF THE NE 1/4, OF THE SW 1/4, OF SECTION 18, TOWNSHIP 24 N., RANGE 5 EAST, W.M., CITY OF MERCER ISLAND, WASHINGTON

EX SSMH
RIM=389.06'
IE=377.91' (8")PVC E
IE=377.81' (8")PVC W

TBM MAG NAIL
EL.=388.30'

EX. WATER MAIN

EX. FIRE HYDRANT

89th AVENUE SE

SE 44th STREET

EX. SEWER MAIN

CB#1, TYPE 1
W/VANED GRATE INLET
GRATE=388.60
IE=386.30, 8"(S)
IE=385.97, 12"(W)

33LF., 12" D.I.SD@S=1.00%

NEW 12" STORM PIPE
TRENCH EXCAVATION NOTE:
PNEUMATIC AIR EXCAVATION WITHIN DRIPLINE OF TREE #H, ARBORIST TO BE PRESENT TO DOCUMENT ROOTS EXPOSED, 2" DIAMETER ROOTS OR LARGER SHALL BE RETAINED IF AT ALL POSSIBLE

19LF., 8" D.I.SD@S=1.00%

CB#2, TYPE 1
W/SOLID LOCKING LID
RIM=388.40
IE=386.49, 8"(N)

NO GRADE CUT WITHIN
13' OF TRUNK OF TREE #H;
CONSTRUCTION ACTIVITY TO
BE MONITORED BY ARBORIST

NO GRADE CUT WITHIN
6' OF TRUNK OF TREE #F;
CONSTRUCTION ACTIVITY TO
BE MONITORED BY ARBORIST

TREE TO BE
REMOVED (TYPICAL)

20' PAVED DRIVEWAY
W/12" THICKENED EDGE
WEST SIDE

12' PAVED, 4' COMPACTED
GRAVEL SHOULDER

EXISTING DRIVEWAY BEYOND
LOT 2 DRIVEWAY IS MINIMUM
8'; NO WORK PROPOSED
BEYOND LOT 2 DRIVEWAY

TREE PROTECTION FENCING SHALL BE
6' TALL CHAIN LINK FENCING
SEE ARBORIST REPORT FOR TREE PROTECTION
SPECIFICATIONS.
(TYPICAL)

EXISTING DRIVEWAY BEYOND LOT 2
DRIVEWAY IS, AT LEAST, 8' WIDE
NO WORK PROPOSED

TREE PROTECTION FENCING SHALL BE
6' TALL CHAIN LINK FENCING
SEE ARBORIST REPORT FOR TREE PROTECTION
SPECIFICATIONS.
(TYPICAL)

DEMO AND REMOVE EXISTING FEATURES
UNDER A SEPARATE DEMO PERMIT
(TYPICAL)

DEMOLITION OF EXISTING GRAVEL
DRIVEWAY WITHIN TPZ MUST UTILIZE
SOIL PROTECTION AND TO BE MONITORED
BY ARBORIST, TYPICAL

TREE PROTECTION FENCING SHALL BE
6' TALL CHAIN LINK FENCING
SEE ARBORIST REPORT FOR TREE PROTECTION
SPECIFICATIONS.
(TYPICAL)

DEMOLITION OF EXISTING GRAVEL
DRIVEWAY WITHIN TPZ MUST UTILIZE
SOIL PROTECTION AND TO BE MONITORED
BY ARBORIST, TYPICAL

DEMO AND REMOVE EXISTING FEATURES
UNDER A SEPARATE DEMO PERMIT
(TYPICAL)

DEMOLITION OF SHED, CONCRETE
AND GRAVEL DRIVEWAY WITHIN DRIPLINE OF TREES
#401–#405, MUST UTILIZE SOIL PROTECTION
AND REQUIRED TO BE MONITORED BY ARBORIST

NOTE: EXISTING HOUSE AND SHED TO
BE DEMOLISHED PRIOR TO FINAL SHORT
PLAT APPLCATION

ONE STORY HOUSE
8813 SE 44TH ST

PARCEL NO.
7598100111

GRAPHIC SCALE
0 5 10 20
1 inch = 10 feet

FILE#: SUB20–004

| DESCRIPTION | DATE | REV. NO. |
|---|---|---|
| | 02/24/2021 | |

PROFESSIONAL ENGINEER
JAMES L. OFFE JR.
27460


OFFE ENGINEERS
13932 SOUTHEAST 159TH PLACE
RENTON, WASHINGTON 98058
PHONE: 425-260-3412
CONTACT: DARRELL OFFE, P.E.

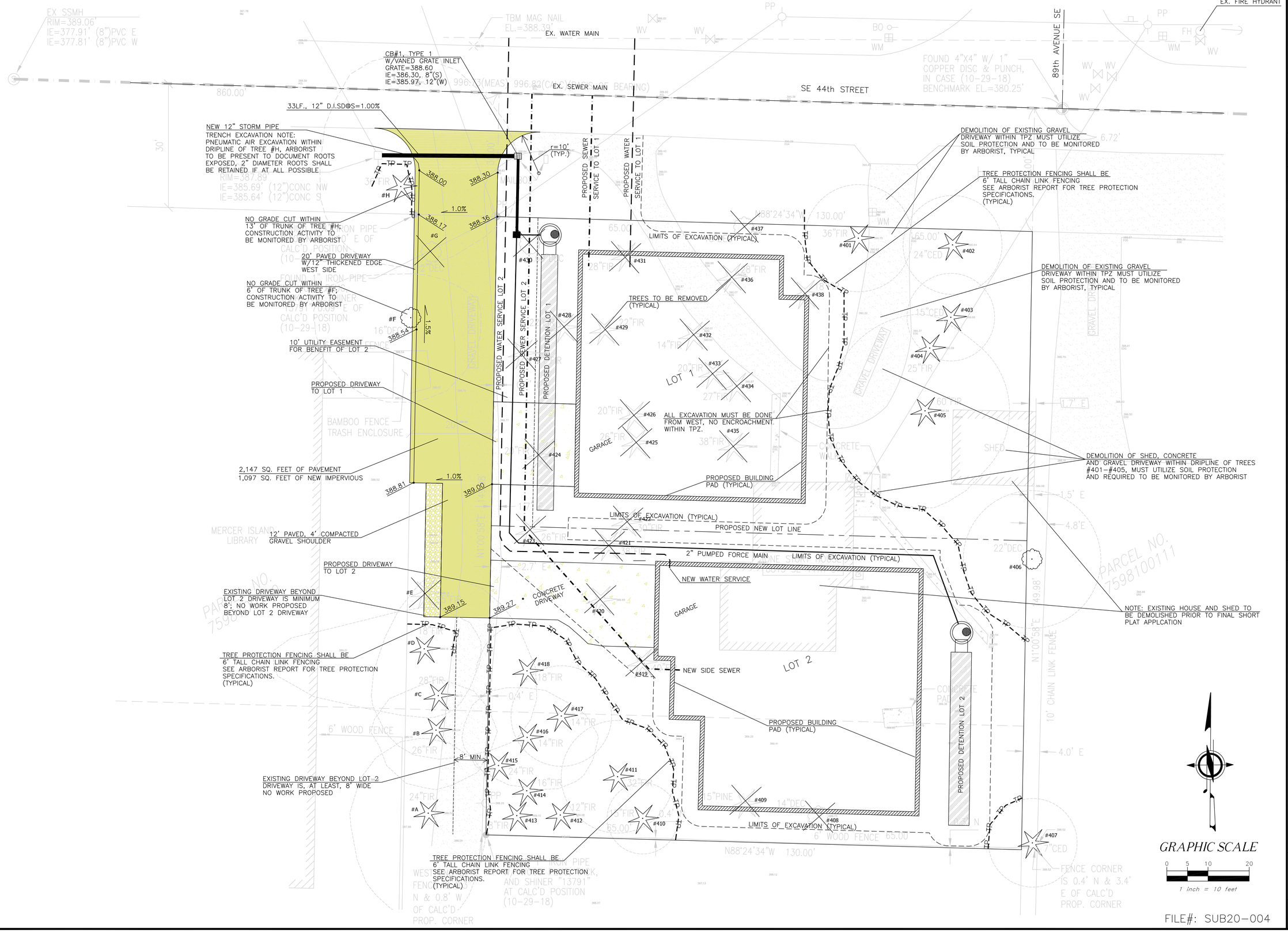

DRAWN BY VS
CHECKED BY DLO
DESIGNED BY DLO

PROJECT: Constantine Short Plat
CLIENT: O. George Constantine
SHEET CONTENT: DEMOLITION/COMMON UTILITY PLAN

DATE 02/24/2021
JOB NO. _____
DWG NO. _____

SHEET 8 OF 10

# A PORTION OF THE NE 1/4, OF THE SW 1/4, OF SECTION 18, TOWNSHIP 24 N., RANGE 5 EAST, W.M., CITY OF MERCER ISLAND, WASHINGTON




FILE#: SUB20-004

| REV. NO. | DATE | DESCRIPTION |
|---|---|---|
| 2 | 02/09/21 | RESPOND TO CITY COMMENTS DATED 02/02/2021 |
| 1 | 12/16/20 | RESPOND TO CITY COMMENTS DATED 12/04/2020 |

02/24/2021


OFFEE ENGINEERS
13932 SOUTHEAST 159TH PLACE
RENTON, WASHINGTON 98058
PHONE: 425-260-3412
CONTACT: DARRELL OFFEE, P.E.


DRAWN BY VS | CHECKED BY DLO | DESIGNED BY DLO

PROJECT: **Constantine Short Plat**

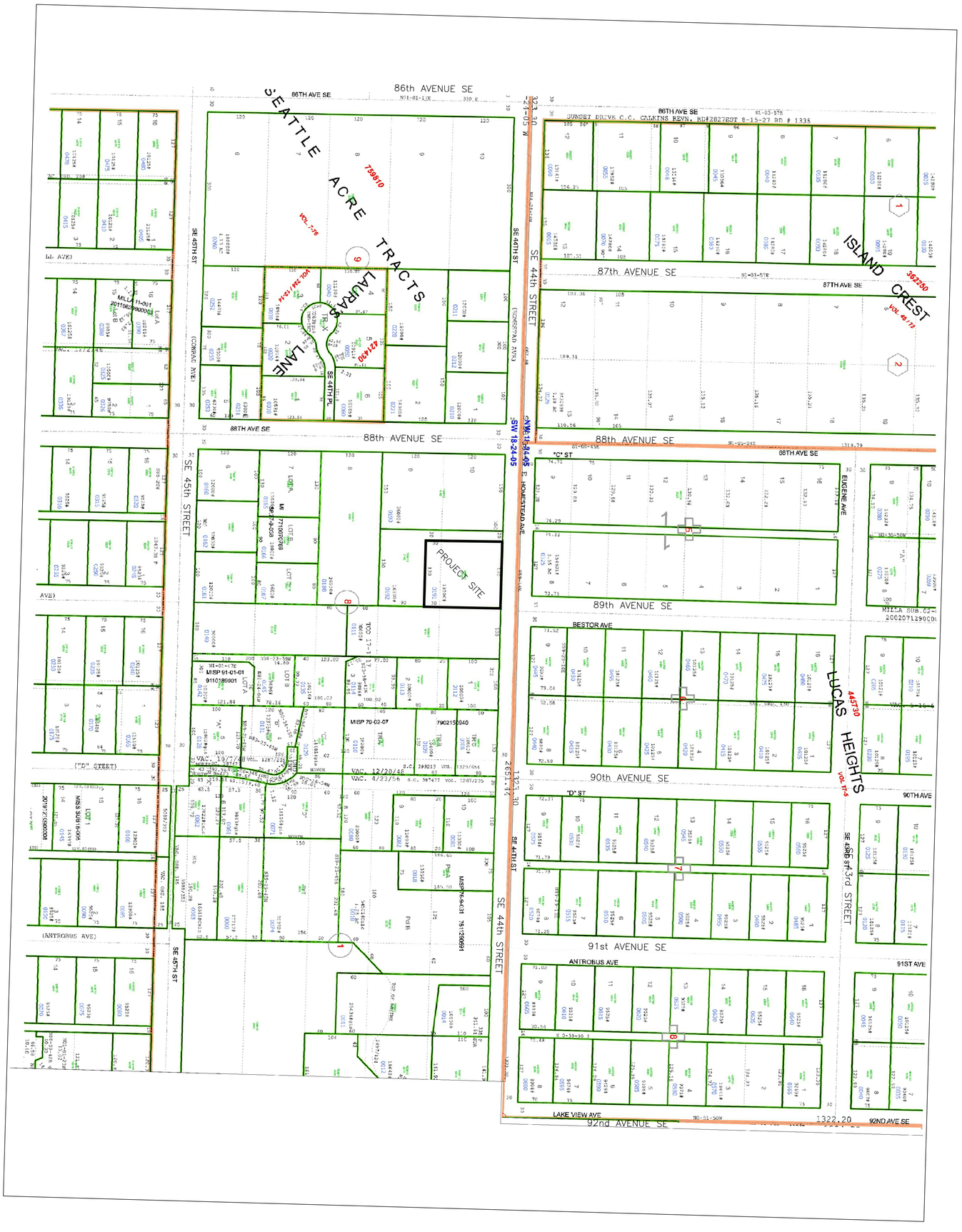
CLIENT: **O. George Constantine**

SHEET CONTENT: CONCEPTUAL GRADING & UTILITY PLAN

DATE 02/24/2021
JOB NO. _____
DWG NO. _____

SHEET 9 OF 10

A PORTION OF THE NE 1/4, OF THE SW 1/4, OF SECTION 18, TOWNSHIP 24 N., RANGE 5 EAST, W.M., CITY OF MERCER ISLAND, WASHINGTON




GRAPHIC SCALE

0 50 100 200

1 inch = 100 feet

FILE#: SUB20-004

| | |
|---|---|
| PROJECT | **Constantine Short Plat** |
| CLIENT | **O. George Constantine** |
| SHEET CONTENT | **NEIGHBORHOOD PLAN** |
| DESIGNED BY | DLO |
| DRAWN BY | VS |
| CHECKED BY | DLO |
| DATE | 02/24/2021 |
| JOB NO. | |
| DWG NO. | |
| SHEET | 10 OF 10 |


OFFE ENGINEERS
13932 SOUTHEAST 159TH PLACE
RENTON, WASHINGTON 98058
PHONE: 425-260-3412
CONTACT: DARRELL OFFE, P.E.


DARRELL L. OFFE JR. 27460 — 02/24/2021

| REV. NO. | DATE | DESCRIPTION |
|---|---|---|
| | | |

COBALT
GEOSCIENCES

# Limited Geotechnical Investigation
# Proposed Residences

8813 SE 44th Street
Mercer Island, Washington

November 5, 2020

# Table of Contents



## LIST OF APPENDICES

# 1.0 Introduction

In accordance with your authorization, Cobalt Geosciences, LLC (Cobalt) has completed a limited geotechnical investigation for the proposed single-family residences located at 8813 SE 44th Street in Mercer Island, Washington (Figure 1).

The purpose of the geotechnical investigation was to identify subsurface conditions and to provide geotechnical recommendations for foundation design, earthwork, soil compaction, and suitability of the on-site soils for use as fill.

The scope of work for the geotechnical investigation consisted of a site investigation followed by engineering analyses to prepare this report. Recommendations presented herein pertain to various geotechnical aspects of the proposed development, including foundation design and stormwater management.

# 2.0 Project Description

The project includes subdivision followed by construction of a new residence on each of the new lots. A driveway will extend into the property through a currently undeveloped right-of-way west of the property. Foundation loads are expected to be relatively light and site grading may include cuts or fills of 3 feet or less. We should be provided with the civil and structural plans when they become available.

# 3.0 Site Description

The site is located at 8813 SE 44th Street in Mercer Island, Washington (Figure 1). The property consists of one rectangular parcel (No. 7598100191) with a total area of 19,500 square feet.

The central portion of the property is developed with a single-family residence, driveway and detached shed. The remainder of the property is undeveloped and vegetated with grasses, blackberry vines, bushes/shrubs, and sparse trees.

The site is mostly level to slightly sloping from south to north. The site is bordered to the west by right-of-way and a commercial building, to the east by a power substation, to the south by a residence, and to the north by SE 44th Street.

# 4.0 Field Investigation

### 4.1.1 Site Investigation Program

The geotechnical field investigation program was completed on October 27, 2020 and included excavating two test pits within the property for subsurface analysis.

The soils encountered were logged in the field and are described in accordance with the Unified Soil Classification System (USCS).



PO Box 82243
Kenmore, WA 98028
cobaltgeo@gmail.com
206-331-1097

A Cobalt Geosciences field representative conducted the explorations, collected disturbed soil samples, classified the encountered soils, kept a detailed log of the explorations, and observed and recorded pertinent site features.

The results of the sampling are presented on the exploration logs enclosed in Appendix C.

# 5.0 Soil and Groundwater Conditions

## 5.1.1 Area Geology

The site lies within the Puget Lowland. The lowland is part of a regional north-south trending trough that extends from southwestern British Columbia to near Eugene, Oregon. North of Olympia, Washington, this lowland is glacially carved, with a depositional and erosional history including at least four separate glacial advances/retreats. The Puget Lowland is bounded to the west by the Olympic Mountains and to the east by the Cascade Range. The lowland is filled with glacial and non-glacial sediments consisting of interbedded gravel, sand, silt, till, and peat lenses.

The Geologic Map of Mercer Island, indicates that the site is near the contacts between Vashon Ice Contact Deposits and Vashon Glacial Till.

Vashon Ice Contact Deposits include intercalated till and outwash. Typically, the outwash consists of sand and gravel and the till consists of a matrix supported mixture of sandy silt with gravel that may or may not have been glacially consolidated.

Vashon Glacial Till consists of an unsorted mixture of sand, silt, clay, and gravel. These materials are dense to very dense and nearly impermeable.

**Explorations**

The test pits encountered approximately 6 inches of topsoil and vegetation underlain by approximately 2.5 to 3 feet of loose to medium dense/stiff, silty-fine to fine grained sand trace gravel (Weathered Ice Contact Deposits – Till Like). These materials were underlain by very stiff/dense, silty-fine to fine grained sand (Ice Contact Deposits – Till Like), which continued to the termination depths of the explorations.

We also reviewed three boring logs that were drilled for the library just west of the site. These borings encountered local fill and weathered till-like soils underlain by very dense glacial till. These borings are consistent with the findings of our site investigation.

## 5.1.2 Groundwater

Groundwater was not encountered during our investigation. Seasonal perched groundwater should be expected between the weathered and unweathered glacial till.

Water table elevations often fluctuate over time. The groundwater level will depend on a variety of factors that may include seasonal precipitation, irrigation, land use, climatic conditions and soil permeability. Water levels at the time of the field investigation may be different from those encountered during the construction phase of the project.



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# 6.0 Geologic Hazards

## 6.1 Erosion Hazard

The Natural Resources Conservation Services (NRCS) maps for King County indicate that the site is underlain by Arents, Alderwood Material (6 to 15 percent slopes). These soils have a slight erosion potential in a disturbed state.

It is our opinion that soil erosion potential at this project site can be reduced through landscaping and surface water runoff control. Typically erosion of exposed soils will be most noticeable during periods of rainfall and may be controlled by the use of normal temporary erosion control measures, such as silt fences, hay bales, mulching, control ditches and diversion trenches. The typical wet weather season, with regard to site grading, is from October 31st to April 1st. Erosion control measures should be in place before the onset of wet weather.

## 6.2 Seismic Hazard

The overall subsurface profile corresponds to a Site Class *D* as defined by Table 1613.5.2 of the 2015 International Building Code (2015 IBC). A Site Class *D* applies to an overall stiff soil profile within the upper 100 feet.

We referenced the U.S. Geological Survey (USGS) Earthquake Hazards Program Website to obtain values for $S_S$, $S_1$, $F_a$, and $F_v$. The USGS website includes the most updated published data on seismic conditions. These parameters are from ASCE 7-10. The site-specific seismic design parameters and adjusted maximum spectral response acceleration parameters are as follows:

| | |
|---|---|
| PGA | (Peak Ground Acceleration, in percent of g) |
| $S_S$ | 141.5% of g |
| $S_1$ | 54.40% of g |
| $F_A$ | 1.00 |
| $F_V$ | 1.50 |

Additional seismic considerations include liquefaction potential and amplification of ground motions by soft/loose soil deposits. The liquefaction potential is highest for loose sand with a high groundwater table. The very fine grained soil materials that underlie the site have a low potential for liquefaction.

**Seattle Fault Zone**

The site is located within the Seattle Fault Zone which extends west to east through portions of Bainbridge Island, Seattle, Mercer Island, extending further east along and near the I-90 corridor.

We reviewed available fault maps from the Department of Natural Resources website. The site is not located near any known faults and is situated approximately 1.4 miles south of a northern splay of the Seattle Fault Zone and approximately 1.76 miles north of another mapped fault. The risk of fault rupture at the site is very low.



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**Municipal Code Information**

We understand that the site is mapped within a seismic hazard area. This is likely due to the mapped geologic unit – Vashon Ice Contact Deposits, which can include deposits of clean sands with gravel; which can have a moderate to high risk of liquefaction. Ice-Contact Deposits can vary widely in composition and density over relatively short distances.

At this site, the soils are consistent with very fine grained till-like materials that consist of a weathered zone overlying relatively dense to very dense, fine-grained soil materials. The risk of liquefaction and ground amplification is low in very fine grained and relatively dense soils.

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;

Based on our review of geologic mapping in conjunction with the results of our field investigation, it is our opinion that the site is not located within a seismic hazard area.

# 7.0 DISCUSSION

### 7.1.1 General

It is our opinion that the proposed residences may be supported on shallow foundation systems bearing on medium dense or firmer native soils. These soils are anticipated to be encountered within 3 feet of the ground surface. Local overexcavation and replacement may be necessary if loose soils are encountered during footing excavation work.

Stormwater infiltration is not feasible at this site. The site is underlain by very dense silty-sand with gravel, which is nearly impermeable. We recommend direct connection to City infrastructure if possible. Local detention systems, rain gardens, or permeable pavement may be feasible depending on their location and depth. We can provide additional recommendations upon request.

# 8.0 Recommendations

### 8.1.1 Site Preparation

Trees, shrubs and other vegetation should be removed prior to stripping of surficial organic-rich soil. Based on observations from the site investigation program, it is anticipated that the stripping depth will range from 6 to 12 inches. Deeper excavations should be expected below larger vegetation and where undocumented fill is present.



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The near-surface soils consist of silty-sand with gravel grading to sandy silt with gravel. These soils are suitable for use as structural fill provided it is within 3 percent of the optimum moisture. These soils are moisture sensitive and may not be suitable during the winter months. We do not recommend using the native soils as fill below foundation elements of the structure.

Imported structural fill should consist of a sand and gravel mixture with a maximum grain size of 3 inches and less than 5 percent fines (material passing the U.S. Standard No. 200 Sieve). Structural fill should be placed in maximum lift thicknesses of 12 inches and should be compacted to a minimum of 95 percent of the modified proctor maximum dry density, as determined by the ASTM D 1557 test method.

### 8.1.2 Temporary Excavations

Based on our understanding of the project, we anticipate that the grading could include local cuts on the order of approximately 4 feet or less for foundation placement. If deeper excavations are proposed, they should be sloped no steeper than 1H:1V (Horizontal:Vertical) in medium dense native soils. If an excavation is subject to heavy vibration or surcharge loads, we recommend that the excavations be sloped no steeper than 1.5H: 1V, where room permits.

Temporary cuts should be in accordance with the Washington Administrative Code (WAC) Part N, Excavation, Trenching, and Shoring. Temporary slopes should be visually inspected daily by a qualified person during construction activities and the inspections should be documented in daily reports. The contractor is responsible for maintaining the stability of the temporary cut slopes and reducing slope erosion during construction.

Temporary cut slopes should be covered with visqueen to help reduce erosion during wet weather, and the slopes should be closely monitored until the permanent retaining systems or slope configurations are complete. Materials should not be stored or equipment operated within 10 feet of the top of any temporary cut slope.

Soil conditions may not be completely known from the geotechnical investigation. In the case of temporary cuts, the existing soil conditions may not be completely revealed until the excavation work exposes the soil. Typically, as excavation work progresses the maximum inclination of temporary slopes will need to be re-evaluated by the geotechnical engineer so that supplemental recommendations can be made. Soil and groundwater conditions can be highly variable. Scheduling for soil work will need to be adjustable, to deal with unanticipated conditions, so that the project can proceed and required deadlines can be met.

If any variations or undesirable conditions are encountered during construction, we should be notified so that supplemental recommendations can be made. If room constraints or groundwater conditions do not permit temporary slopes to be cut to the maximum angles allowed by the WAC, temporary shoring systems may be required. The contractor should be responsible for developing temporary shoring systems, if needed. We recommend that Cobalt Geosciences and the project structural engineer review temporary shoring designs prior to installation, to verify the suitability of the proposed systems.



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### 8.1.3 Erosion and Sediment Control

Erosion and sediment control (ESC) is used to reduce the transportation of eroded sediment to wetlands, streams, lakes, drainage systems, and adjacent properties. Erosion and sediment control measures should be implemented and these measures should be in general accordance with local regulations. At a minimum, the following basic recommendations should be incorporated into the design of the erosion and sediment control features for the site:

- Schedule the soil, foundation, utility, and other work requiring excavation or the disturbance of the site soils, to take place during the dry season (generally May through September). However, provided precautions are taken using Best Management Practices (BMP's), grading activities can be completed during the wet season (generally October through April).
- All site work should be completed and stabilized as quickly as possible.
- Additional perimeter erosion and sediment control features may be required to reduce the possibility of sediment entering the surface water. This may include additional silt fences, silt fences with a higher Apparent Opening Size (AOS), construction of a berm, or other filtration systems.
- Any runoff generated by dewatering discharge should be treated through construction of a sediment trap if there is sufficient space. If space is limited other filtration methods will need to be incorporated.

### 8.1.4 Foundation Design

The proposed residences may be supported on shallow spread footing foundation systems bearing on undisturbed medium dense or firmer native soils or on properly compacted structural fill placed on the suitable native soils. If structural fill is used to support foundations, then the zone of structural fill should extend beyond the faces of the footing a lateral distance at least equal to the thickness of the structural fill.

For shallow foundation support, we recommend widths of at least 16 and 24 inches, respectively, for continuous wall and isolated column footings supporting the proposed structure. Provided that the footings are supported as recommended above, a net allowable bearing pressure of 2,500 pounds per square foot (psf) may be used for design. If a detention vault is used and is at least 5 feet below grade, an allowable bearing pressure of 5,000 psf may be used for design.

A 1/3 increase in the above value may be used for short duration loads, such as those imposed by wind and seismic events. Structural fill placed on bearing, native subgrade should be compacted to at least 95 percent of the maximum dry density based on ASTM Test Method D1557. Footing excavations should be inspected to verify that the foundations will bear on suitable material.

Exterior footings should have a minimum depth of 18 inches below pad subgrade (soil grade) or adjacent exterior grade, whichever is lower. Interior footings should have a minimum depth of 12 inches below pad subgrade (soil grade) or adjacent exterior grade, whichever is lower.

If constructed as recommended, the total foundation settlement is not expected to exceed 1 inch. Differential settlement, along a 25-foot exterior wall footing, or between adjoining column footings, should be less than ½ inch. This translates to an angular distortion of 0.002. Most settlement is expected to occur during construction, as the loads are applied. However, additional post-construction



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settlement may occur if the foundation soils are flooded or saturated. All footing excavations should be observed by a qualified geotechnical consultant.

Resistance to lateral footing displacement can be determined using an allowable friction factor of 0.35 acting between the base of foundations and the supporting subgrades. Lateral resistance for footings can also be developed using an allowable equivalent fluid passive pressure of 250 pounds per cubic foot (pcf) acting against the appropriate vertical footing faces (neglect the upper 12 inches below grade in exterior areas). The allowable friction factor and allowable equivalent fluid passive pressure values include a factor of safety of 1.5. The frictional and passive resistance of the soil may be combined without reduction in determining the total lateral resistance.

Care should be taken to prevent wetting or drying of the bearing materials during construction. Any extremely wet or dry materials, or any loose or disturbed materials at the bottom of the footing excavations, should be removed prior to placing concrete. The potential for wetting or drying of the bearing materials can be reduced by pouring concrete as soon as possible after completing the footing excavation and evaluating the bearing surface by the geotechnical engineer or his representative.

### 8.1.5 Reinforced Concrete Retaining Walls

The following table, titled **Wall Design Criteria**, presents the recommended soil related design parameters for retaining walls with a level backslope, if this information is required. Contact Cobalt if an alternate retaining wall system is used.

| **Wall Design Criteria** | |
|---|---|
| "At-rest" Conditions (Lateral Earth Pressure – EFD[+]) | 55 pcf (Equivalent Fluid Density) |
| "Active" Conditions (Lateral Earth Pressure – EFD[+]) | 35 pcf (Equivalent Fluid Density) |
| Seismic Increase for "At-rest" Conditions (Lateral Earth Pressure) | 14H* (Uniform Distribution) |
| Seismic Increase for "Active" Conditions (Lateral Earth Pressure) | 7H* (Uniform Distribution) |
| Passive Earth Pressure on Low Side of Wall (Allowable, includes F.S. = 1.5) | Neglect upper 2 feet, then 250 pcf EFD[+] |
| Soil-Footing Coefficient of Sliding Friction (Allowable; includes F.S. = 1.5) | 0.35 |

*H is the height of the wall; Increase based on one in 500 year seismic event (10 percent probability of being exceeded in 50 years),
+ EFD – Equivalent Fluid Density

The stated lateral earth pressures do not include the effects of hydrostatic pressure generated by water accumulation behind the retaining walls. Uniform horizontal lateral active and at-rest pressures on the retaining walls from vertical surcharges behind the wall may be calculated using active and at-rest lateral



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earth pressure coefficients of 0.3 and 0.5, respectively. The soil unit weight of 125 pcf may be used to calculate vertical earth surcharges.

To reduce the potential for the buildup of water pressure against the walls, continuous footing drains (with cleanouts) should be provided at the bases of the walls. The footing drains should consist of a minimum 4-inch diameter perforated pipe, sloped to drain, with perforations placed down and enveloped by a minimum 6 inches of pea gravel in all directions.

The backfill adjacent to and extending a lateral distance behind the walls at least 2 feet should consist of free-draining granular material. All free draining backfill should contain less than 3 percent fines (passing the U.S. Standard No. 200 Sieve) based upon the fraction passing the U.S. Standard No. 4 Sieve with at least 30 percent of the material being retained on the U.S. Standard No. 4 Sieve. The primary purpose of the free-draining material is the reduction of hydrostatic pressure. Some potential for the moisture to contact the back face of the wall may exist, even with treatment, which may require that more extensive waterproofing be specified for walls, which require interior moisture sensitive finishes.

We recommend that the backfill be compacted to at least 90 percent of the maximum dry density based on ASTM Test Method D1557. In place density tests should be performed to verify adequate compaction. Soil compactors place transient surcharges on the backfill. Consequently, only light hand operated equipment is recommended within 3 feet of walls so that excessive stress is not imposed on the walls.

### 8.1.6 Stormwater Recommendations

The site is underlain by very fine-grained deposits which become very dense within a few feet of the ground surface. These materials are nearly impermeable and there is a high probability that there will be shallow groundwater seepage at multiple depths below grade during winter months.

We performed a small scale Pilot Infiltration Test (PIT) in TP-1 at a depth of 4 feet below grade. Following saturation, testing and application of correction factors for site variability (0.8), influent control (0.9), and testing (0.4), the infiltration rate was 0.12 inches per hour. This is lower than what is considered to be feasible. Widespread infiltration is not feasible in the very dense aquitard represented by the glacial till or till-like materials.

Depending on the location and depth, rain gardens and permeable pavements could be feasible for flow control. Any system should have overflow to City infrastructure. We can provide additional recommendations once a civil plan has been prepared.

### 8.1.7 Slab-on-Grade

We recommend that the upper 12 inches of the native soils within any proposed slab areas be compacted to at least 95 percent of the modified proctor (ASTM D1557 Test Method). Any remaining loose or unstable soils should be removed prior to fill placement and compaction.

Often, a vapor barrier is considered below concrete slab areas. However, the usage of a vapor barrier could result in curling of the concrete slab at joints. Floor covers sensitive to moisture typically requires the usage of a vapor barrier. A materials or structural engineer should be consulted regarding the detailing of the vapor barrier below concrete slabs. Exterior slabs typically do not utilize vapor barriers.



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The American Concrete Institutes ACI 360R-06 Design of Slabs on Grade and ACI 302.1R-04 Guide for Concrete Floor and Slab Construction are recommended references for vapor barrier selection and floor slab detailing.

Slabs on grade may be designed using a coefficient of subgrade reaction of 200 pounds per cubic inch (pci) assuming the slab-on-grade base course is underlain by structural fill placed and compacted as outlined in Section 8.1. A 4 to 6 inch thick capillary break consisting of 5/8 inch clean angular rock or pea gravel should be placed over the prepared subgrade.

A perimeter drainage system is recommended unless interior slab areas are elevated a minimum of 12 inches above adjacent exterior grades. If installed, a perimeter drainage system should consist of a 4 inch diameter perforated drain pipe surrounded by a minimum 6 inches of drain rock wrapped in a non-woven geosynthetic filter fabric to reduce migration of soil particles into the drainage system. The perimeter drainage system should discharge by gravity flow to a suitable stormwater system.

Exterior grades surrounding buildings should be sloped at a minimum of one percent to facilitate surface water flow away from these buildings and preferably with a relatively impermeable surface cover immediately adjacent to the buildings.

### 8.1.8 Groundwater Influence on Construction

Groundwater was not encountered during our investigation. We do not expect significant volumes of groundwater if the earthwork takes place during the dry season. There may be shallow perched groundwater during late winter and spring months. The depth to perched groundwater may be less than 3 feet in places.

If groundwater is encountered during construction, we anticipate that sump excavations and small pumps will adequate de-water short-term excavations. We can provide additional recommendations if necessary.

### 8.1.9 Pavement Recommendations

The near surface subgrade soils generally consist of silty sand with gravel. These soils are rated as good for pavement subgrade material (depending on silt content and moisture conditions). We estimate that the subgrade will have a California Bearing Ratio (CBR) value of 10 and a modulus of subgrade reaction value of k = 200 pci, provided the subgrade is prepared in general accordance with our recommendations.

We recommend that, at a minimum, 18 inches of the existing subgrade material be moisture conditioned (as necessary) and re-compacted to prepare for the construction of pavement sections. Deeper levels of recompaction or overexcavation and replacement may be necessary in areas where fill and/or very poor (soft/loose) soils are present. Any soils that cannot be compacted to required levels and soils that have more than 40 percent fines by weight should be removed and replaced with imported structural fill.

The subgrade should be compacted to at least 95 percent of the maximum dry density as determined by ASTM Test Method D1557. In place density tests should be performed to verify proper moisture content and adequate compaction.

The recommended flexible and rigid pavement sections are based on design CBR and modulus of subgrade reaction (k) values that are achieved, only following proper subgrade preparation. It should be noted that subgrade soils that have relatively high silt contents will likely be highly sensitive to moisture



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conditions. The subgrade strength and performance characteristics of a silty subgrade material may be dramatically reduced if this material becomes wet.

Based on our knowledge of the proposed project, we expect the traffic to range from light duty (passenger automobiles) to heavy duty (delivery trucks). The following tables show the recommended pavement sections for light duty and heavy duty use. For areas where firetrucks may travel, we recommend using the heavy duty section.

**ASPHALTIC CONCRETE (FLEXIBLE) PAVEMENT**

**LIGHT DUTY**

| Asphaltic Concrete | Aggregate Base* | Compacted Subgrade* ** |
|---|---|---|
| 2.0 in. | 6.0 in. | 12.0 in. |

**HEAVY DUTY**

| Asphaltic Concrete | Aggregate Base* | Compacted Subgrade* ** |
|---|---|---|
| 3.5 in. | 6.0 in. | 12.0 in. |

**PORTLAND CEMENT CONCRETE (RIGID) PAVEMENT**

| Min. PCC Depth | Aggregate Base* | Compacted Subgrade* ** |
|---|---|---|
| 6.0 in. | 6.0 in. | 12.0 in. |

** 95% compaction based on ASTM Test Method D1557*

*** A proof roll may be performed in lieu of in place density tests*

Aggregate base typically consists of 1-1/4-inch minus crushed rock with a possible 2 inch layer of 5/8-inch minus for a leveling course.

The asphaltic concrete depth in the flexible pavement tables should be a surface course type asphalt, such as Washington Department of Transportation (WSDOT) ½ inch HMA. The rigid pavement design is based on a Portland Cement Concrete (PCC) mix that has a 28 day compressive strength of 4,000 pounds per square inch (psi). The design is also based on a concrete flexural strength or modulus of rupture of 550 psi.



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# 9.0 Construction Field Reviews

Cobalt Geosciences should be retained to provide part time field review during construction in order to verify that the soil conditions encountered are consistent with our design assumptions and that the intent of our recommendations is being met. This will require field and engineering review to:

- Monitor and test structural fill placement and soil compaction
- Observe bearing capacity at footing locations
- Monitor excavation
- Proofroll pavement areas
- Verify drainage placement
- Monitor temporary and permanent erosion control

Geotechnical design services should also be anticipated during the subsequent final design phase to support the structural design and address specific issues arising during this phase. Field and engineering review services will also be required during the construction phase in order to provide a Final Letter for the project.

# 10.0 Closure

This report was prepared for the exclusive use of Constantine Builders and their appointed consultants. Any use of this report or the material contained herein by third parties, or for other than the intended purpose, should first be approved in writing by Cobalt Geosciences, LLC.

The recommendations contained in this report are based on assumed continuity of soils with those of our test holes, and assumed structural loads. Cobalt Geosciences should be provided with final architectural and civil drawings when they become available in order that we may review our design recommendations and advise of any revisions, if necessary.

Use of this report is subject to the Statement of General Conditions provided in Appendix A. It is the responsibility of Constantine Builders who is identified as “the Client” within the Statement of General Conditions, and its agents to review the conditions and to notify Cobalt Geosciences should any of these not be satisfied.



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November 5, 2020

Respectfully submitted,

**Cobalt Geosciences, LLC**

***Original signed by:***



11/5/2020

Phil Haberman, PE, LG, LEG
Principal



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Exhibit 4

**APPENDIX A**
Statement of General Conditions

**Statement of General Conditions**

**USE OF THIS REPORT:** This report has been prepared for the sole benefit of the Client or its agent and may not be used by any third party without the express written consent of Cobalt Geosciences and the Client. Any use which a third party makes of this report is the responsibility of such third party.

**BASIS OF THE REPORT:** The information, opinions, and/or recommendations made in this report are in accordance with Cobalt Geosciences present understanding of the site specific project as described by the Client. The applicability of these is restricted to the site conditions encountered at the time of the investigation or study. If the proposed site specific project differs or is modified from what is described in this report or if the site conditions are altered, this report is no longer valid unless Cobalt Geosciences is requested by the Client to review and revise the report to reflect the differing or modified project specifics and/or the altered site conditions.

**STANDARD OF CARE:** Preparation of this report, and all associated work, was carried out in accordance with the normally accepted standard of care in the state of execution for the specific professional service provided to the Client. No other warranty is made.

**INTERPRETATION OF SITE CONDITIONS:** Soil, rock, or other material descriptions, and statements regarding their condition, made in this report are based on site conditions encountered by Cobalt Geosciences at the time of the work and at the specific testing and/or sampling locations. Classifications and statements of condition have been made in accordance with normally accepted practices which are judgmental in nature; no specific description should be considered exact, but rather reflective of the anticipated material behavior. Extrapolation of in situ conditions can only be made to some limited extent beyond the sampling or test points. The extent depends on variability of the soil, rock and groundwater conditions as influenced by geological processes, construction activity, and site use.

**VARYING OR UNEXPECTED CONDITIONS:** Should any site or subsurface conditions be encountered that are different from those described in this report or encountered at the test locations, Cobalt Geosciences must be notified immediately to assess if the varying or unexpected conditions are substantial and if reassessments of the report conclusions or recommendations are required. Cobalt Geosciences will not be responsible to any party for damages incurred as a result of failing to notify Cobalt Geosciences that differing site or sub-surface conditions are present upon becoming aware of such conditions.

**PLANNING, DESIGN, OR CONSTRUCTION:** Development or design plans and specifications should be reviewed by Cobalt Geosciences, sufficiently ahead of initiating the next project stage (property acquisition, tender, construction, etc), to confirm that this report completely addresses the elaborated project specifics and that the contents of this report have been properly interpreted. Specialty quality assurance services (field observations and testing) during construction are a necessary part of the evaluation of sub-subsurface conditions and site preparation works. Site work relating to the recommendations included in this report should only be carried out in the presence of a qualified geotechnical engineer; Cobalt Geosciences cannot be responsible for site work carried out without being present.

# APPENDIX B
Figures: Vicinity Map, Site Plan



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COBALT GEOSCIENCES

Proposed Residences
8813 SE 44th Street
Mercer Island, Washington

**VICINITY MAP**
**FIGURE 1**

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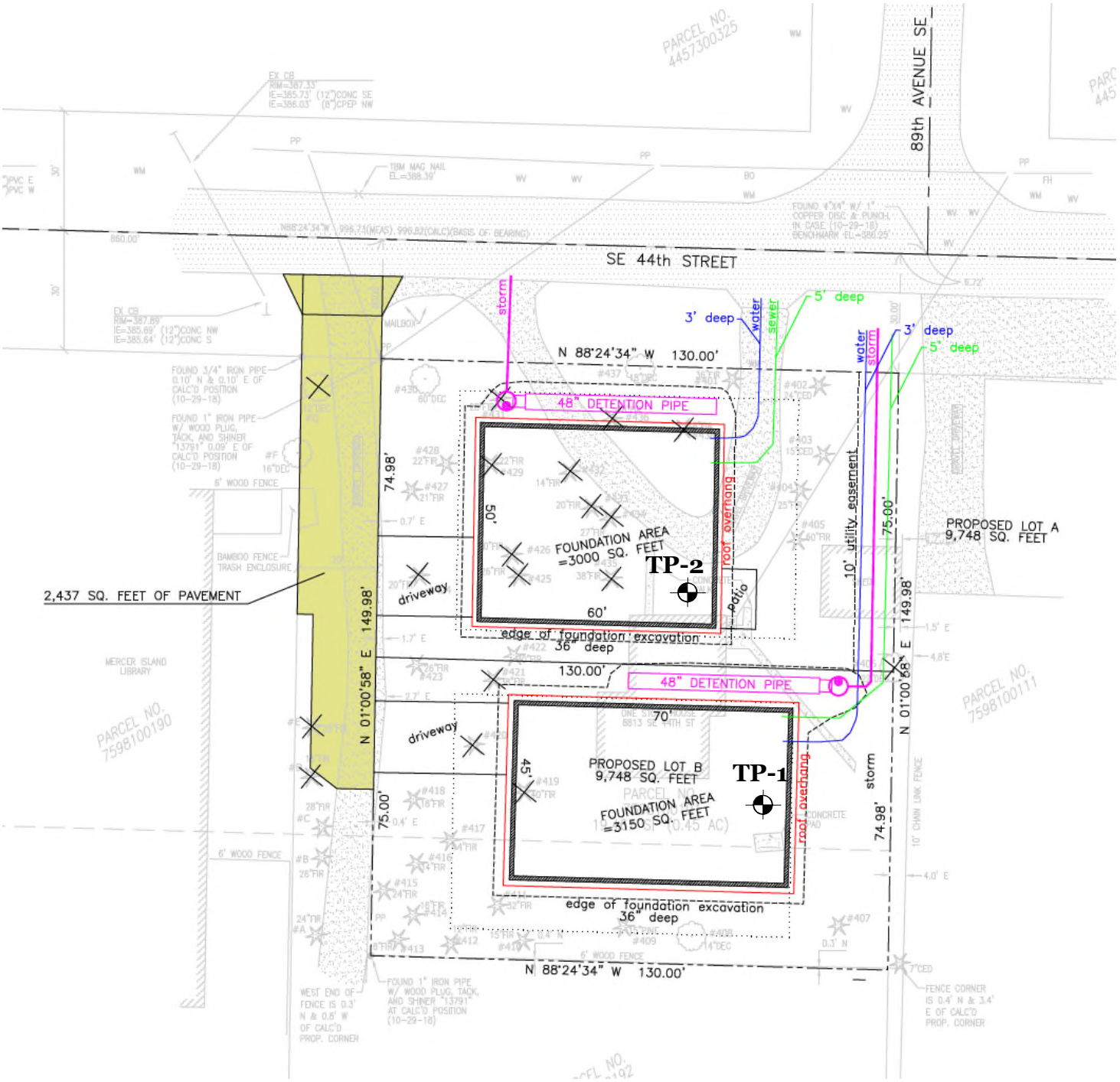


**TP-1**
Approximate
Test Pit Location

N

| | | | |
|---|---|---|---|
| COBALT GEOSCIENCES | Proposed Residences<br>8813 SE 44th Street<br>Mercer Island, Washington | **SITE PLAN**<br>**FIGURE 2** | Cobalt Geosciences, LLC<br>P.O. Box 82243<br>Kenmore, WA 98028<br>(206) 331-1097<br>www.cobaltgeo.com<br>cobaltgeo@gmail.com |

**APPENDIX C**
Exploration Logs

# Unified Soil Classification System (USCS)

| MAJOR DIVISIONS | | | SYMBOL | TYPICAL DESCRIPTION |
|---|---|---|---|---|
| COARSE GRAINED SOILS (more than 50% retained on No. 200 sieve) | Gravels (more than 50% of coarse fraction retained on No. 4 sieve) | Clean Gravels (less than 5% fines) | GW | Well-graded gravels, gravels, gravel-sand mixtures, little or no fines |
| | | | GP | Poorly graded gravels, gravel-sand mixtures, little or no fines |
| | | Gravels with Fines (more than 12% fines) | GM | Silty gravels, gravel-sand-silt mixtures |
| | | | GC | Clayey gravels, gravel-sand-clay mixtures |
| | Sands (50% or more of coarse fraction passes the No. 4 sieve) | Clean Sands (less than 5% fines) | SW | Well-graded sands, gravelly sands, little or no fines |
| | | | SP | Poorly graded sand, gravelly sands, little or no fines |
| | | Sands with Fines (more than 12% fines) | SM | Silty sands, sand-silt mixtures |
| | | | SC | Clayey sands, sand-clay mixtures |
| FINE GRAINED SOILS (50% or more passes the No. 200 sieve) | Silts and Clays (liquid limit less than 50) | Inorganic | ML | Inorganic silts of low to medium plasticity, sandy silts, gravelly silts, or clayey silts with slight plasticity |
| | | | CL | Inorganic clays of low to medium plasticity, gravelly clays, sandy clays silty clays, lean clays |
| | | Organic | OL | Organic silts and organic silty clays of low plasticity |
| | Silts and Clays (liquid limit 50 or more) | Inorganic | MH | Inorganic silts, micaceous or diatomaceous fine sands or silty soils, elastic silt |
| | | | CH | Inorganic clays of medium to high plasticity, sandy fat clay, or gravelly fat clay |
| | | Organic | OH | Organic clays of medium to high plasticity, organic silts |
| HIGHLY ORGANIC SOILS | Primarily organic matter, dark in color, and organic odor | | PT | Peat, humus, swamp soils with high organic content (ASTM D4427) |

### Classification of Soil Constituents

MAJOR constituents compose more than 50 percent, by weight, of the soil. Major constituents are capitalized (i.e., SAND).

Minor constituents compose 12 to 50 percent of the soil and precede the major constituents (i.e., silty SAND). Minor constituents preceded by "slightly" compose 5 to 12 percent of the soil (i.e., slightly silty SAND).

Trace constituents compose 0 to 5 percent of the soil (i.e., slightly silty SAND, trace gravel).

### Grain Size Definitions

| Description | Sieve Number and/or Size |
|---|---|
| Fines | <#200 (0.08 mm) |
| Sand | |
| -Fine | #200 to #40 (0.08 to 0.4 mm) |
| -Medium | #40 to #10 (0.4 to 2 mm) |
| -Coarse | #10 to #4 (2 to 5 mm) |
| Gravel | |
| -Fine | #4 to 3/4 inch (5 to 19 mm) |
| -Coarse | 3/4 to 3 inches (19 to 76 mm) |
| Cobbles | 3 to 12 inches (75 to 305 mm) |
| Boulders | >12 inches (305 mm) |

### Relative Density (Coarse Grained Soils)

| N, SPT, Blows/FT | Relative Density |
|---|---|
| 0 - 4 | Very loose |
| 4 - 10 | Loose |
| 10 - 30 | Medium dense |
| 30 - 50 | Dense |
| Over 50 | Very dense |

### Consistency (Fine Grained Soils)

| N, SPT, Blows/FT | Relative Consistency |
|---|---|
| Under 2 | Very soft |
| 2 - 4 | Soft |
| 4 - 8 | Medium stiff |
| 8 - 15 | Stiff |
| 15 - 30 | Very stiff |
| Over 30 | Hard |

### Moisture Content Definitions

| | |
|---|---|
| Dry | Absence of moisture, dusty, dry to the touch |
| Moist | Damp but no visible water |
| Wet | Visible free water, from below water table |

COBALT GEOSCIENCES
Cobalt Geosciences, LLC
P.O. Box 82243
Kenmore, WA 98028
(206) 331-1097
www.cobaltgeo.com
cobaltgeo@gmail.com

Soil Classification Chart

**Figure C1**

# Test Pit TP-1

| Date: October 27, 2020 | Depth: 10' | Groundwater: None |
|---|---|---|
| Contractor: Client provided | Elevation: | Logged By: PH Checked By: SC |

| Depth (Feet) | Interval | Graphic Log | USCS Symbol | Material Description | Groundwater |
|---|---|---|---|---|---|
| | | | | Topsoil and Vegetation | |
| 1 | | | SM/ ML | Loose/medium stiff to medium dense/stiff, silty-fine to fine grained sand with gravel, mottled yellowish brown to grayish brown, moist. (Weathered Ice Contact Deposits - Till Like) | |
| 2 | | | | | |
| 3 | | | SM/ ML | Dense/very stiff, silty-fine to fine grained sand trace gravel, grayish brown, moist. (Ice Contact Deposits - Till Like) | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | End of Test Pit 7' | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |

Moisture Content (%): Plastic Limit — Liquid Limit

DCP Equivalent N-Value: 0 10 20 30 40 50

# Test Pit TP-2

| Date: October 27, 2020 | Depth: 6' | Groundwater: |
|---|---|---|
| Contractor: Client provided | Elevation: | Logged By: PH Checked By: SC |

| Depth (Feet) | Interval | Graphic Log | USCS Symbol | Material Description | Groundwater |
|---|---|---|---|---|---|
| | | | | Topsoil/Grass | |
| 1 | | | SM/ ML | Loose/medium stiff to medium dense/stiff, silty-fine to fine grained sand with gravel, mottled yellowish brown to grayish brown, moist. (Weathered Ice Contact Deposits - Till Like) | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | SM/ ML | Dense/very stiff, silty-fine to fine grained sand trace gravel, grayish brown, moist. (Ice Contact Deposits - Till Like) | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | End of Test Pit 6' | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |

Moisture Content (%): Plastic Limit — Liquid Limit

DCP Equivalent N-Value: 0 10 20 30 40 50

COBALT GEOSCIENCES

Proposed Residences
8813 SE 44th Street
Mercer Island, Washington

**Test Pit Logs**

Cobalt Geosciences, LLC
P.O. Box 82243
Kenmore, WA 98028
(206) 331-1097
www.cobaltgeo.com
cobaltgeo@gmail.com

# Exhibit 5

**Memorandum**

To: Lauren Anderson

From: Ruji Ding

Re: Sub20-004, Short Plat

Date: May 4, 2021

I have reviewed the submittal package and have the following conditions of approval:

1. Show all the existing and proposed easements on the final plat. Clearly distinguish all public easements from the private easements. The private utility easement and public utility easement shall not be combined. Cleanly distinguish all existing easements from the proposed easements.

2. Easements for utilities and storm drainage facilities shall be depicted on the face of the Final Plat. Language which indicates joint rights and responsibilities of each lot with respect to all utilities and roadways shall be shown along with individual lot Joint Maintenance Easement Agreements (where applicable) for all shared usage and filed with the King County Recorder and noted on the final plat. The easement notation shall indicate whether the easement is public or private, existing or proposed.

3. The Final Plat shall be prepared in conformance with Title 58 RCW and Surveys shall comply with Chapter 332-130 WAC. Submit using Mercer Island's datum and tie the plat to at least two monuments.

4. A City of Mercer Island title block for approval signatures (Planner and City Engineer) shall be provided on the final plat along with the designated Short plat number.

5. All private shared utilities and shared access for Lot 1 and Lot 2 shall be completed prior to plat recording. A Site Development Permit for constructing all shared utilities and access are required for the city approval. A construction bond (150% of the construction cost) for the plat improvement is required prior to issuance of the permit. All construction must be completed prior to submit the final plat.

6. Construction of all improvements for other access, utilities, all storm drainage system (conveyance system and onsite detention system), except the items described in Condition #5, and all site work shall be completed as part of future building permits for individual lots. The requirements will be based on the City ordinances, regulations, and

requirements of the City Engineer established at the time of application for future building permits.

The following note shall be placed on the final plat:

1. Maintenance and repair of joint use side sewers (sewer lines from the building to the City sewer main), shared roads, access easements, storm drainage facilities shall be the responsibility of the owners of each lot served (with the exception that owners of any lot which is lower in elevation shall not be responsible for that portion of a private side sewer above their connection.) In the event that maintenance and repair of any facilities enumerated above are not performed to the satisfaction of the City Engineer, after a timely demand has been made for such action, the City or its agent shall have the right to enter upon the premises and perform the necessary maintenance and repair to protect the safety and general welfare of the public and shall have the right to charge the owner of each lot an equal share of the total maintenance and repair costs. The City or the owner of any lot within this Short plat shall have the right to bring action in Superior Court to require any maintenance or repair and to recover the costs incurred in making or effecting repairs to improvements.

2. The monitoring, cleaning, maintenance and repair of storm drainage systems in accordance with City Ordinance No. 95C-118 is required for all lot owners within this Plat to control stormwater runoff and control erosion and flooding downstream. All costs related to stormwater runoff control shall be borne by the owners of each lot in equal share. This obligation shall be recorded separately with each individual lot sale and shall travel with the land.

3. All staging for construction shall occur on site and shall not be located in the public right-of-way.

4. Prior to the issuance of a building permit, each application shall be accompanied with a temporary erosion and sedimentation control plan, clearing and grading plan, access and utility service plan, a landscape plan (which shall identify existing vegetation to be retained, limits of all clearing and grading), and a schedule for the construction. The applicant's Civil Engineer, experienced in soils geology and mechanics, shall review the proposed site and building construction and provide recommendations that will limit site disturbance, minimize risk of soils movement, evaluate site slope stability and define materials and construction practices for the work. The Building Official may require that the Engineer be present during construction, monitor the work, and recommend special techniques or mitigating measures. The costs associated with the Engineer's monitoring and mitigation measures shall be borne by the applicant.

5. No permanent landscaping, structures, or fences shall be placed on or within public utility or storm drainage easements without the written approval of the City Engineer. If in the opinion of the City Engineer, utilities or storm drainage facilities require maintenance, repair or replacement, the City or its agent shall have the right to enter those lots adjoining the facility for the purpose of maintaining, repairing, relocating or replacing said facilities.

Lot owners shall be responsible for the restoration of any private improvements or landscaping within said easements.

6. Installation of landscaping and/or structures including trees, shrubs, rocks, berms, walls, gates, and other improvements are not allowed within the public right-of-way without an approved encroachment agreement from the City prior to the work occurring.

# Exhibit 6

**CITY OF MERCER ISLAND, WASHINGTON**
9611 SE 36th Street • Mercer Island, WA 98040-3732
(206) 275-7713
*www.mercergov.org*

Date 4/28/2021

**Subject: SUB20-0004, Short Plat**

I have reviewed the submittal package and have the following conditions of approval**:**

1. A tree replacement plan for the 105 required replacement trees or 52 trees/lot. Or a fee in lieu of $494.50/tree for any tree that cannot be planted at least 10' away from each other, existing trees and infrastructure such as fences. This replanting/fee in lieu plan for both lots will be required at the building plan application. Very little room appears on site for replanting and no opportunity in the right of way. It will follow the requirements described in 19.10.070.
2. The tree protection plan will be submitted during building review. No further tree removal will be allowed unless it is justified under 19.10.060.A. Showing tree protection fencing at the Arborist stated tree protection zone (TPZ).
3. The tree protection fence shall be 6' chain-link fence secured into the ground. This will be called out on the Tree Plan during building review.
4. The Project Arborist is to be on site and in control of any excavation or grading within trees dripline. They will document and clean cut any root over 1" in diameter that needs to be removed. Call this out on Tree Plan during building review.

**Items to be shown on face of the plat**

1. The plan showing numbered retained trees and building pad will be recorded as part of the plat. This plan should be the same or consistent with the Preliminary Tree Plan.
2. No tree identified for retention may be removed unless otherwise approved by the City arborist.

I can be reached at John.Kenney@mercergov.org if you have any questions.

Sincerely,
John Kenney
City Arborist

# CITY OF MERCER ISLAND

**COMMUNITY PLANNING AND DEVELOPMENT**
9611 SE 36TH STREET | MERCER ISLAND, WA 98040
PHONE: 206.275.7605 | www.mercergov.org

## TRANSPORTATION CONCURRENCY CERTIFICATE NO. TCC21-004

Pursuant to MICC 19.20.020 this Certificate confirms that the transportation concurrency requirement for the proposed development described below has been satisfied pursuant to the conditions contained in this Certificate.

| | | | |
|---|---|---|---|
| **Project Name:** | DEMO EXISTING HOUSE & SUBDIVIDE INTO 2 LOTS | **Issuance Date:** | 5/4/2021 |
| **Site Address / Location:** | 8817 SE 44TH ST | **ExpirationDate:** | 5/4/2022* |
| **Parcel(s):** | 7598100191 | | *or as otherwise established in language below |

**Applicant:** CONSTANTINE, ODYSSEUS GEORGE
16510 39TH AVE NE
LAKE FOREST PARK, WA, 98155

**Owner:** CONSTANTINE, ODYSSEUS GEORGE
16510 39TH AVE NE
LAKE FOREST PARK, WA 98155

| | | | |
|---|---|---|---|
| **Proposed Land Use:** | SINGLE FAMILY | **Units:** | 2 |
| **Type of Development Proposal:** | SHORT PLAT | **Square Footage:** | |
| **Related Application(s):** | SUB20-004 | **Net New Trips:** | 1 |

This Certificate is only an indication that there is adequate vehicular capacity on the City of Mercer Island street network to support the traffic forecasted to be generated by the development described above. This Certificate implies no other approvals of land use, site design, or code compliance. It is subject to the following general conditions:

**Validity**: A transportation concurrency certificate is valid only for the specified uses, densities, intensity and development proposal site(s) for which it was issued and shall not be transferred to a different project or parcel. A transportation concurrency certificate shall remain valid for the longer of:

1. One (1) year from the date of issuance;
2. During the period of time the development proposal associated with the certificate is under review by the city;
3. For the same period of time as the development approval. If the development does not have an expiration date or an approved phasing schedule that allows a longer build-out, the concurrency certificate shall be valid for one (1) year from the date of the last permit approval associated with the development proposal;
4. For a period of time specified in an approved development agreement.

**Expiration**: A transportation concurrency certificate shall expire if any of the following occur:

1. The timeframe established in the Validity section above is exceeded.
2. The related development permit application is denied or revoked by the city.
3. The related development permit expires prior to issuance of a building permit.

**Extension**: A transportation concurrency certificate shall not be extended. A new transportation concurrency application, review and certificate are required if the previous transportation concurrency certificate has expired.

# Exhibit 8

December 28, 2020

Lauren Anderson
Planner
Community Planning and Development (CPD)
City of Mercer Island

Re: Constantine Short Plat
8817 SE 44th St
Mercer Island, Washington
SUB 20-004

This letter is provided at your request to comment on whether there is a seismic hazard at the subject property and confirm that the proposed building pad locations minimize the disturbance of the existing, natural topography.

The following documents were reviewed in making our assessment.

City of Mercer Island GIS

Cobalt Geosciences, LLC., Limited Geotechnical Investigation, Proposed Residences, 8813 SE 44th Street, Mercer Island, Washington, November 5, 2020.

Offe Engineers, Constantine Short Plat, 8813 SE 44th Street, Mercer Island, Washington, Land Use File #20-XXX, November 5, 2020, 7 plan sheets. (SUB 2 review plan set)

Project Narrative (undated) submitted in SUB1 package

Troost, Kathy G. and Wisher, Aaron P., Geologic Map of Mercer Island, Washington, October 2006.

**Seismic Hazard**

The City of Mercer Island GIS indicates a seismic hazard present at this property. This designation appears to be associated with the presence of the geologic unit of $Q_{vi}$ or Vashon Ice Contact deposits (Troost, 2006) at the site. The soils in this geologic unit can have a variable soil gradation but is usually loose and granular.

The subsurface information provided in the geotechnical report (Cobalt Geosciences, November 5, 2020) indicated the following conditions:

“The test pits encountered approximately 6 inches of topsoil and vegetation underlain by approximately 2.5 to 3 feet of loose to medium dense/stiff, silty-fine to fine grained sand trace gravel (Weathered Ice Contact Deposits – Till Like). These materials were underlain by very stiff/dense, silty-fine to fine grained sand (Ice Contact Deposits – Till Like), which continued to the termination depths of the explorations.

We also reviewed three boring logs that were drilled for the library just west of the site. These borings encountered local fill and weathered till-like soils underlain by very dense glacial till. These borings are consistent with the findings of our site investigation.”

No groundwater was encountered in the test pits. The report indicated that “Seasonal perched groundwater should be expected between the weathered and unweathered glacial till.”

The geotechnical report presents these conclusions: “At this site, the soils are consistent with very fine grained till-like materials that consist of a weathered zone overlying relatively dense to very dense, fine-

grained soil materials. The risk of liquefaction and ground amplification is low in very fine grained and relatively dense soils." "Based on our review of geologic mapping in conjunction with the results of our field investigation, it is our opinion that the site is not located within a seismic hazard area."

This information concurs with our assessment that the property is not within a seismic hazard area as defined in MICC 19.16 as an area subject to severe risk of damage as a result of earthquake induced ground shaking, slope failure, settlement, soil liquefaction or surface faulting.

It is noted that the Pacific Northwest is in a seismically active area and therefore requires seismic loading to be included in building designs. The geotechnical report provides a Site Class designation recommendation in accordance with the International Building Code.

**Building Pad Locations**

The topographic site plan provided in the plan set (Offe Engineers, November 5, 2020) indicates less than a 2-foot elevation change across the site. The conceptual grading/utility plan shows limits of excavations confined to distances ranging from 2 to 7 feet away from proposed building pads and utility locations.

Based on this information, it is our opinion that the proposed building pad locations minimize the disturbance of the existing, natural topography.

One area to note however is the location of the proposed side sewer along the east property line that will connect to the existing sewer line in SE 44th Street. The sewer manholes in SE 44th Street have invert elevation information ranging from 380 to 378 feet (east to west). This is 10 to 12 feet deeper than the existing site grade of elevation 390 feet.

The proposed location of the side sewer is only two feet from the east property line. To connect to the existing sewer line in SE 44th Street, the depth of the side sewer may be 10 feet or more. An open cut excavation conforming to the geotechnical engineer's recommendation of no steeper than 1 horizontal to 1 vertical (1H:1V) would require a construction easement from the property owner to the east or temporary excavation shoring so as not to encroach on the adjacent property.

This geotechnical review is provided for the SUB2 plan set and associated files.

Should further information be required, feel free to contact me.

Sincerely,

**City of Mercer Island - CPD**

Michele Lorilla, P.E.
Geotechnical Peer Reviewer