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**CITY OF MERCER ISLAND**

9611 SE 36<sup>th</sup> Street • Mercer Island, WA 98040-3732

(206) 275-7605 • FAX (206) 275-7726

www.mercergov.org

**PRELIMINARY SHORT PLAT  
STAFF REPORT AND DECISION**

**March 21, 2022**

<b>Project Number:</b>	SUB16-011
<b>Description:</b>	The application proposes to subdivide the subject site into two lots and one access and utility tract.
<b>Applicant:</b>	Mark Pendergraft (Mead Gilman and Associates)
<b>Owner:</b>	David Yeh (7239 LLC)
<b>Site Address:</b>	7239 SE 27 <sup>th</sup> St, Mercer Island WA 98040
<b>Parcel No.:</b>	531510-0695
<b>Zoning:</b>	R-9.6
<b>Exhibits:</b>	<ol style="list-style-type: none"><li>1. Development Application signed August 31, 2016</li><li>2. Determination of Completeness, dated October 10, 2016</li><li>3. Notice of Application, dated October 24, 2016</li><li>4. Geotechnical Report prepared by The Riley Group, dated April 6, 2016</li><li>5. Geotechnical Report Addendum, prepared by The Riley Group, dated October 24, 2016</li><li>6. Preliminary short plat prepared by Mead Gilman, dated January 3, 2022</li><li>7. Civil plan prepared by Core Design, dated January 3, 2022</li><li>8. Wetland/Stream Reconnaissance Memorandum, prepared by C. Gary Schutz, dated May 17, 2017</li><li>9. Arborist Report Summary Memo prepared by Tree Solutions, dated September 3, 2021</li><li>10. Public comment email from Randall Kramer, dated November 3, 2016</li></ol>

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## I. FINDINGS OF FACT

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Preliminary Short Plat approvals are listed in Mercer Island City Code (“MICC”) 19.15.040 as Type III land use reviews. The following is an analysis of the applicable criteria for approval.

1. **Site Description:** The subject site is a flag lot located behind a residential lot and taking access from SE 27<sup>th</sup> St. The existing lot is 28,759 square feet and slopes gently downward from the northeast to southwest. The site is partially treed and contains one single family home, which will be demolished as part of the short plat.
2. **Applicable Land Use Regulations:** A Determination of Completeness was issued on October 10, 2016 (Exhibit 2). The Preliminary Plat application vested to the land use controls in effect on that date. The following analysis is based on the land use controls in effect on October 10, 2016.
3. **MICC 19.08.020(E)(1):** Short Subdivisions and Lot Line Revisions. Public notice of an application for a short subdivision or a lot line revision shall be made in accordance with the procedures set forth in MICC 19.15.020.

*Staff Analysis: Public notice of application was issued on October 24, 2016 containing the information required by MICC 19.15.100 (Exhibit 3) and distributed via the methods required for Type III Land Use Reviews, including mailing to property owners within 300 feet of the property, posting of the site with a sign, and publication in the City’s weekly permit bulletin.*

4. **MICC 19.08.020(F)(1):** 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 analysis: The proposed short subdivision has made appropriate provisions as required by this code section. The subject site abuts existing improved public streets, which provide safe walking conditions for students who walk to and from school. As demonstrated in Finding No. 8, the subdivision complies with applicable Comprehensive Plan goals and policies, and, in so doing, serve the public use and interest. The proposed short subdivision conforms to zoning and land use regulations applicable to short subdivisions; future development will be reviewed for zoning compliance at the time of future permit application.*

5. **MICC 19.08.020(F)(2):** The code official shall grant preliminary approval for a short subdivision or lot line revision 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 Analysis:** *The application has been provided in the proper form. The project complies with the design standards in MICC 19.08.030, as demonstrated by the analysis that follows. Compliance with the comprehensive plan is demonstrated in the analysis in Finding No. 8.*

6. **MICC 19.08.020(F)(4):** As a condition of preliminary approval of a project, the city council in the case of a long subdivision, or the code official in the case of a short subdivision or lot line revision, may require the installation of plat improvements as provided in MICC 19.08.040 which shall be conditions precedent to final approval of the long subdivision, short subdivision, or lot line revision.

**Staff Analysis:** *Plat improvements meeting the standards in MICC 19.08.040 are required, and conditions of approval have been added to this decision requiring installation of the plat improvements prior to final plat approval.*

7. **MICC 19.08.020(F)(5)(b):** Once the preliminary plat for a short subdivision has been approved by the city, the applicant has one year to submit a final plat meeting all requirements of this chapter. A plat that has not been recorded within one year after its preliminary approval shall expire, becoming null and void. The city may grant a single one-year extension if the applicant submits the request in writing before the expiration of the preliminary approval.

**Staff Analysis:** *A condition of approval has been added to this decision requiring submittal of a final plat within one year of preliminary approval.*

8. **MICC 19.08.020(F)(6):** No construction of structures, utilities, storm drainage, grading, excavation, filling, or land clearing on any land within the proposed long subdivision, short subdivision, or lot line revision shall be allowed prior to preliminary approval of the application and until the applicant has secured the permits required under the Mercer Island City Code.

**Staff Analysis:** *A condition of approval has been added to this decision prohibiting construction prior to preliminary approval of this application and before the required permits have been secured.*

9. **MICC 19.08.030(A):** Compliance with Other Laws and Regulations. The proposed subdivision shall comply with arterial, capital facility, and land use elements of the comprehensive plan; all other chapters of the development code; the Shoreline Management Act; and other applicable legislation.

**Staff Analysis:** *The subject site is not adjacent to any arterial streets, as identified in the comprehensive plan. The subject does not contain nor is adjacent to any capital facilities, as identified in the comprehensive plan.*

*The land use element of the comprehensive plan includes the following policies:*

*“15.2 Residential densities in single family areas will generally continue to occur at 3 to 5 units per acre, commensurate with current zoning. However, some adjustments may be made to allow the development of innovative housing types, such as accessory dwelling units and compact courtyard homes at slightly higher densities as outlined in the Housing Element.”*

*The proposed short subdivision proposes 2 lots, providing space for 2 residential units on a 28,759 square foot (0.66 acre) site, resulting in a density of 3.0 units per acre. The proposed density is consistent with this comprehensive plan policy.*

*“16.2 Through zoning and land use regulations provide adequate development capacity to accommodate Mercer Island’s projected share of the King County population growth over the next 20 years.”*

*Subdivision of the subject site will provide one additional lot, providing additional capacity for residential development to accommodate population growth.*

*“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 proposed development will occur outside of critical areas, and the proposed subdivision will create residential lots at a density that is consistent with the comprehensive plan and surrounding development.*

*Analysis demonstrating compliance with the development code follows. The subject site is not within the shoreline jurisdiction, and therefore is not subject to the Shoreline Management Act.*

- 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 Analysis: 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 Analysis: The preliminary plat does not propose the dedication of a public park. 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 or lot line revision, shall require the applicant to adequately control such hazards or give adequate security for damages that may result from the project, or both.

*Staff Analysis: The applicant has provided a geotechnical report (Exhibit 4) and an addendum (Exhibit 5) verifying that no geologic hazards (e.g., critical slopes, unstable soils) are present on site. Other potential adverse impacts will be addressed through review of future approvals. Construction on site will be required to comply with all applicable drainage design, building and engineering standards. Additionally, a condition of approval has been added to this decision requiring damage to adjacent properties or public rights-of-way resulting from construction to be mitigated and repaired by the contractor.*

- 13. MICC 19.08.030(C)(2):** If there are soils or drainage problems, the city code official or 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 the criteria set out in MICC 15.09.030 and shall not increase likely damage to downstream or upstream facilities or properties.

**Staff Analysis:** *The geotechnical report (Exhibit 4) and addendum (Exhibit 5) provided by the applicant does not note any soils or drainage problems. A condition of approval has been added to this decision, requiring compliance with the stormwater management standards in MICC 15.09.*

- 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 Analysis:** *The application does not propose to construct a tightline system to Lake Washington (Exhibit 7). A condition of approval has been added to this decision, requiring the drainage system from the subject site to connect to the City drainage system and to provide supportive calculations for storm drainage detention for review.*

- 15. MICC 19.08.030(D)(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 Analysis:** *The subject site abuts SE 27<sup>th</sup> St, which is not designated as an arterial street in the City's comprehensive plan. No internal streets that would serve as arterials are proposed. 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 Analysis:** *No public rights-of-way are proposed to be dedicated as part of the proposed 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 Analysis:** *The proposed subdivision includes an improved private access road connecting the proposed building pads to SE 27<sup>th</sup> St (Exhibit 7). The private access road meets the applicable standards in MICC 19.09.040.*

- 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 Analysis:** *The proposed subdivision includes an improved private access road connecting the building pads to the existing improved SE 27<sup>th</sup> St (Exhibit 7), which is consistent with this standard.*

- 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 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 Analysis:** *The subject property is contained entirely within the R-9.6 zone. The standards for lot area, width, and depth are contained in MICC 19.02.020. The standards for the R-9.6 zone are an area of at least 9,600 square feet, lot width of at least 60 feet and lot depth of at least 80 feet.*

The lots created by the subdivision would have the following dimensions, which meet these standards (Exhibit 6):

	Lot Area	Lot Width	Lot Depth
Lot 1	10,709 sq ft	95 ft	130 ft
Lot 2	11,566 sq ft	86 ft	130 ft

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

**Staff analysis:** *The proposed side lot lines for Lots 1 and 2 are perpendicular to the private access road, consistent with this standard.*

- 21. 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 analysis:** *The subject site abuts SE 27<sup>th</sup> St, which is not designated as an arterial street in the City's comprehensive plan. This standard does not apply.*

- 22. MICC 19.08.030(F)(2):** Where critical areas meeting the criteria set out in Chapter 19.07 MICC are present within the subdivision, the code official or city council may: a. Require that certain portions of the long subdivision or short subdivision remain undeveloped with such restrictions shown on the official documents; b. Increase the usual building set-back requirements; and/or c. Require appropriate building techniques to reduce the impact of site development.

**Staff analysis:** *The subject site does not contain any mapped wetlands or watercourses per the Wetland/Stream Reconnaissance Memorandum (Exhibit 8). The geotechnical report (Exhibit 4) verified that no portion of the site meets the definition of a geologic hazard area.*

- 23. MICC 19.09.090(A):** Designation. New subdivisions must designate a building pad for each lot as follows: 1. The applicant must determine the location of a building pad by considering vegetation, topography, critical areas, and the relationship of the proposed building pad to existing/proposed homes. Access to the building pad must be consistent with the standards for driveway access contained in MICC 19.09.040. 2. Building pads shall not be located within yard setbacks, rights-of-way and critical areas or its buffers; provided, however, building pads may be located within landslide hazard areas when all of the following are met: (a) a qualified professional determines that the criteria of MICC 19.07.060(D), Site Development, is satisfied; (b) building pads are sited to minimize impacts to the extent reasonably feasible; and (c) building pads are not located in steep slopes or within 10 feet from the top of a steep slope, unless such slopes, as determined by a qualified professional, consist of soil types determined not to be landslide prone.

**Staff analysis:** *The subdivision has designated a building pad for both proposed lots to avoid the driplines of retained trees and uses reasonable best efforts to retain other on-site trees (Exhibit 9). The placement of the building pads allows for driveway access consistent with MICC 19.09.040. The proposed building pads are outside of yard setbacks, and rights-of-way (Exhibits 6 and 7). As conditioned, building pad designation criteria are met.*

**24. MICC 19.09.100 Preferred Practices:** The applicant must use reasonable best efforts to comply with the following preferred development practices: 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 used to maintain existing natural slopes in place of graded artificial slopes.

**Staff analysis:** *The short subdivision uses a common access drive. There are no critical areas on site, and existing natural slopes will generally be maintained without need for retaining walls.*

**25. Public Comment:** One public comment email was received during the public comment period. The comment requested to be a party of record for the application and provided no substantive comments regarding the proposed short subdivision. (Exhibits 10).

**26. SEPA Compliance:** The proposed short subdivision is exempt from SEPA review pursuant to WAC 197-11-800(6)(d).

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## II. CONCLUSIONS OF LAW

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Based on the above Findings of Facts, the following Conclusions of Law have been made:

1. The proposed short subdivision makes 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
2. The proposed short subdivision confirms to applicable zoning and land use regulations.
3. The public use and interest will be served by approval of the proposed short subdivision.

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## III. DECISION

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Based upon the above noted Findings of Fact and Conclusions of Law, short subdivision application SUB16-011, as depicted in Exhibits 6 and 7, is hereby preliminarily **APPROVED**. This decision is final, unless appealed in writing consistent with adopted appeal procedures, MICC 19.15.020(J), and all other applicable appeal regulations.

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## IV. CONDITIONS OF APPROVAL AND REGULATORY REQUIREMENTS

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The following conditions of approval and regulatory requirements shall be binding on the applicant, which includes owner or owners of the property, heirs, assigns, and successors (“Applicant”).

**General:**

1. The final plat shall be designed in substantial conformance with the preliminary plat submitted as part of this application, Exhibits 6 and 7.
2. The proposed and future development of this property shall comply with the underlying zoning district, or as amended, at the time of development.

3. No construction of structures, utilities, storm drainage, grading, excavation, filling, or land clearing on any land within the proposed long subdivision, short subdivision, or lot line revision shall be allowed prior to preliminary approval of the application and until the applicant has secured the permits required under the Mercer Island City Code.
4. A final short plat that meets all requirements of the Conditions of Approval shall be submitted and recorded within one (1) year of the date of this decision. A preliminary short plat that has not been recorded within one year after its preliminary approval shall expire, and a new application shall be required for preliminary approval.
5. School, traffic, and park impact fees will be due at the issuance of the building permits for lots created by the subdivision, or may be deferred in accordance with MICC 19.17, 19.18, and 19.19.
6. New single-family homes on lots resulting from the subdivision shall be located within the building pads designated on the site plans. Revision of the building pads requires a plat alteration or new preliminary plat application.

**Planning:**

7. Prior to Site Development Permit issuance, the Applicant shall prepare review a construction management plan, addressing construction worker parking, traffic, noise impacts, and communication with neighbors. This construction management plan shall be followed throughout the duration of plat construction. Any modifications to the plan shall be submitted to the City for review. The City shall maintain authority to reasonably reject the applicant's construction management plan or any modifications to the plan.

**Fire:**

8. Prior to recording final plat, the applicant shall add an addressing note pursuant to RCW 58.17.280, in a form prescribed by the City, to the face of the final plat.

**Trees:**

9. Except as authorized by the City in writing prior to removal, Trees 9, 10, 11, 13, 20, 29, and 30 shall be protected and retained throughout construction.
10. A list of tree protection specifications shall be included in the demolition permit, the site development permit and building permits. The specifications shall be consistent with Appendix D of the Arborist Report Summary Memo prepared by Tree Solutions, dated September 3, 2021 (Exhibit 9), unless otherwise approved by the City Arborist.
11. Only trees proposed for removal by the Arborist Report Summary Memo prepared by Tree Solutions, dated September 3, 2021 (Exhibit 9) may be removed during the site development or building processes. If additional trees are proposed for removal during future stages of plat development or building permit processes, removal may be proposed by the applicant and will be reviewed by the City Arborist at time of permitting.
12. The Applicant shall use reasonable best efforts to design the homes, driveways, utilities, and site improvements in a manner that provides for reasonable development while minimizing impacts to regulated trees on site and in the right of way. The applicant shall conduct all work in accordance with best construction practices to retain as many trees as possible.

13. Prior to any site disturbing activity, the Applicant shall mark limits of excavation on site development Permit plans, demonstrating protection of trees proposed for retention consistent with Project Arborist specifications. Limits of excavation shall be clearly marked in the field.
14. Six (6) inches of woodchips shall be placed within saved trees tree protection zone and shall be inspected by the City Arborist Prior to any site disturbing activities.
15. Any pruning of saved trees shall follow a pruning plan developed by the Project Arborist and performed by a Certified Arborist.
16. Any utility trenching shall not be permitted in the tree protection zone and dripline of retained trees. Trenchless technologies like drilling or boring shall be used to limit root impacts and shall be approved by the City Arborist.

**Civil Engineering:**

17. Easements for shared access, 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 for all shared usage and filed with the King County Recorder and noted on the final plat. The easement shall indicate whether it is public or private, existing or proposed.
18. All damage to adjacent properties or public rights-of-way resulting from construction (e.g., siltation, mud, water, runoff, roadway damage caused by construction equipment or hauling) shall be expeditiously mitigated and repaired by the contractor, at no expense to the City. Failure to mitigate and repair said damage, or to comply with the approved construction plans, the permits issued by the City, or the City requirement for corrective action shall be cause for the issuance of a "Stop Work" order, foreclosure on the plat bond/security, and/or other measures deemed appropriate by the City Engineer or Code Official to ensure construction consistent with the approved plans and protection of public safety.
19. The final plat shall be prepared in conformance with Title 58 RCW and Surveys shall comply with Chapter 332-130 WAC. Additionally, provide the final plat as a PDF and mylar hardcopy. Submit using Mercer Island's datum and tie the plat to at least two monuments.
20. 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 (SUB16-011).
21. Construction of all improvements for access, utilities, storm drainage, and site work shall comply with current City ordinances and the requirements of the City Engineer.
22. All utilities serving the plat shall be under grounded (MICC 19.09.040) and shall be designed and constructed in accordance with City of Mercer Island Ordinances.
23. Short plat improvement plans prepared by a Washington State licensed engineer shall be submitted for review and approval by the City Engineer. The improvement plans shall include:
  - a. Plat access road - Comply with the Fire Code Official Requirements and standards contained in MICC 19.09.040. Provide detail design for the access road.
  - b. Temporary Erosion Control measurements.
  - c. Grading Plan.

**d. Water main and appurtenances**

- Show the existing water main (location, size, and material) along the frontage of the property
- Show the locations and sizes of the proposed water meters and water services for all lots. The proposed water meters shall be located within the public right of way.
- Show the approximate locations of the driveways for each lot, so the water meters will not be located within the driveway areas.
- Abandon the existing water service tap at the city water mains. The location of the existing water service tap shall be located and shown on the plan.

**e. Sanitary sewer and appurtenances**

- Show the sanitary sewer stub outs with invert elevations and locations for all lots.
- Reuse the existing side sewer stub out for the city sewer main.

**f. Stormwater**

- Show the storm drainage stub outs for all lots with invert elevations and locations.
- Provide treatment of runoff from the street and any other pollution generating impervious surfaces (PGIS) in accordance with 2005 Department of Ecology's Stormwater Management Manual if the project will disturb greater than 1 acre of land or 1992 Department of Ecology's Stormwater Management Manual if the project will disturb less than 1 acre of land.
- Provide on-site detention system in accordance with the 2005 Department of Ecology's Stormwater Management Manual as amended by MICC 15.09 if the project including the building permits will disturb greater than 1 acre of land or 1992 Department of Ecology's Stormwater Management Manual if the project will disturb less than 1 acre of land. The pre-developed condition must be modeled as "2nd growth forest". The drainage report, detention system calculations and drainage plan shall be prepared by a civil engineer licensed by the State of Washington.
- The drainage system from the on-site detention system shall be connected to the city drainage system. The drainage design shall be acceptable to the City Engineer.

**g. Right of way**

- All existing improvements in the vicinity of the proposed work shall be restored to the satisfaction of the City Engineer. The actual limits and method of restoration shall be determined by the City engineer prior to final plat approval.

**h. Dry utilities**

- Show the dry (power, gas, etc.) utility corridor on the plan. Dry utilities shall not be located within the public utility easements except to the extent allowed by the City Engineer.

i. Easements

- Show all the existing and proposed easements. Clearly distinguish all public easements from private easements. Private utility easement and public utility easement shall not be combined.

24. All short plat improvements shall be completed prior to final approval and recording of the short plat documents. An accurately prepared as-built drawing that shows all utilities and short plat improvements shall be submitted to the City upon completion of the work. Provide one PDF file. Submit using Mercer Island's datum and tie the plat to at least two monuments.

***The following notes shall be placed on the final plat:***

25. 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.
26. The monitoring, cleaning, maintenance, and repair of storm drainage systems in accordance with City Ordinance No. 95C-118 and MICC 15.09 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.
27. All staging for construction shall occur on site and shall not be located in the public right-of-way.
28. 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, and an access and utility plan showing the location of existing trees.
29. No permanent landscaping, structures, or fences shall be placed on or within public utility, storm drainage, or pedestrian path easements without the written approval of the City Engineer.
30. 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.
31. 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 (MICC 19.06.060).

Approved this 21<sup>st</sup> day of March 2022:

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**Tim McHarg, AICP**  
**Principal Planner**  
**Community Planning & Development Department**  
**City of Mercer Island**

*Parties of record have the right to appeal this decision. If you desire to file an appeal, you must submit the appropriate form, available from the Development Services Group, and file it with the City Clerk within fourteen (14) days from the date this decision is signed. 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.*

# CITY OF MERCER ISLAND DEVELOPMENT SERVICES GROUP

9611 SE 36TH STREET | MERCER ISLAND, WA 98040  
PHONE: 206.275.7605 | [www.mercergov.org](http://www.mercergov.org)



CITY USE ONLY		
PERMIT #	RECEIPT #	FEE

Date Received: \_\_\_\_\_

## DEVELOPMENT APPLICATION

Received By: \_\_\_\_\_

STREET ADDRESS/LOCATION <b>7239 SE 27th Street</b>		ZONE <b>R-9.6</b>
COUNTY ASSESSOR PARCEL #'S <b>5315100695</b>		PARCEL SIZE (SQ. FT.) <b>27,655sf</b>
PROPERTY OWNER <b>7239 LLC</b>	ADDRESS <b>PO Box 809 Mercer Island, WA 98040</b>	CELL/OFFICE: <b>425-503-5292</b> E-MAIL: <b>davidyeh@fortuneus.net</b>
PROJECT CONTACT NAME <b>Mark Pendergraft</b>	ADDRESS <b>14711 NE 29th Pl, Suite 101 Bellevue, WA 98007</b>	CELL/OFFICE: <b>425-885-7877</b> E-MAIL: <b>mrp@coredesigninc.com</b>
TENANT NAME	ADDRESS	CELL PHONE: 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

*[Handwritten Signature]*

8/31/2016  
DATE

**PROPOSED APPLICATION(S) AND CLEAR DESCRIPTION OF PROPOSAL:**

Subdivide existing 27,655 SF parcel into 2 lots of approximately 11,000 SF each for the purpose of building  
2 single family homes.

(Please use additional paper if needed) ATTACH RESPONSE TO DECISION CRITERIA IF APPLICABLE

**CHECK TYPE OF USE PERMIT(S) REQUESTED (3% Technology Fee is included in fees below):**

APPEALS	DESIGN REVIEW Continued	SUBDIVISION SHORT PLAT Continued....
<input type="checkbox"/> Building (+cost of file preparation) \$896.16	<input type="checkbox"/> New Wireless Communications Facility \$6,153.22	<input type="checkbox"/> Four Lots \$7,692.04
<input type="checkbox"/> Land use (+cost of verbatim transcript) \$896.16	<b>DEVIATIONS</b>	<input type="checkbox"/> Deviation of Acreage Limitation \$ 927.00
<input type="checkbox"/> Code Interpretation \$896.16	<input type="checkbox"/> Changes to Antenna requirements \$1,854.00	<input type="checkbox"/> Short Plat Amendment \$5,383.81
<b>CRITICAL AREAS</b>	<input type="checkbox"/> Changes to Open Space \$1,854.00	<input type="checkbox"/> Final Short Plat Approval \$ 927.00
<input type="checkbox"/> Determination \$2,778.94	<input type="checkbox"/> Fence Height \$ 927.00	<input type="checkbox"/> Fire Review \$126.69/hr
<input type="checkbox"/> Reasonable Use Exception \$5,560.97	<input type="checkbox"/> Critical Areas Setback \$2,779.97	<b>VARIANCES (Plus Hearing Examiner Fee)</b>
<b>DESIGN REVIEW</b>	<input type="checkbox"/> Impervious Surface (5% Lot overage) \$2,779.97	<input type="checkbox"/> Type 1 \$3,706.97
<input type="checkbox"/> Administrative Review of sign & colors \$ 614.91	<input type="checkbox"/> Shoreline \$3,706.97	(includes all variances of any type or purpose in all zones other than a single family residential Zone B, C-O, PBZ, MF-2L, MF-3, TC, P)
<input type="checkbox"/> Administrative Review of other Sign & Colors \$ 742.63	<input type="checkbox"/> Wet Season Construction Moratorium \$ 966.14	<input type="checkbox"/> Type 2 \$1,979.66
<input type="checkbox"/> Administrative Review of Development Signs \$ 769.41	<b>ENVIRONMENTAL REVIEW (SEPA)</b>	(includes all variances of any type or purpose in single family residential zones: R-8.4, R9.6, R-12, R-15)
<input type="checkbox"/> Change to Final Design Approval \$ 742.63	<input type="checkbox"/> Checklist: Single Family Residential Use \$ 556.20	<b>OTHER LAND USE</b>
<input type="checkbox"/> Design Commission Study Session \$1,538.82	<input type="checkbox"/> Checklist: Non-Single Family Residential Use \$1,854.00	<input type="checkbox"/> Accessory Dwelling Unit \$ 186.43
<input type="checkbox"/> Design Review - Major	<input type="checkbox"/> Environmental Impact Statement \$2,779.97	<input type="checkbox"/> Code Interpretation Request (plus \$149..35/hr over 6 hours) \$ 922.88
<input type="checkbox"/> \$ 0-\$ 5,000 \$1538.82	<b>SHORELINE MANAGEMENT</b>	<input type="checkbox"/> Comprehensive Plan Amendment (CPA) \$4,263.17
<input type="checkbox"/> \$ 5,001-\$ 25,000 \$3,076.61	<input type="checkbox"/> Exemption \$ 449.08	<input type="checkbox"/> Conditional Use (CUP) \$7,413.94
<input type="checkbox"/> \$25,001-\$ 50,000 \$3,846.02	<input type="checkbox"/> Permit Revision \$ 741.60	<input type="checkbox"/> Lot Line Revision \$3,076.61
<input type="checkbox"/> \$50,001-\$100,000 \$4,615.43	<input type="checkbox"/> Semi-Private Recreation Tract (modification) \$ 741.60	<input type="checkbox"/> Lot Consolidation \$3,076.61
<input type="checkbox"/> Over \$100,000 Valuation \$7,692.04	<input type="checkbox"/> Semi-Private Recreation Tract (new) \$1,854.00	<input type="checkbox"/> Noise Exception - Type 1 \$1,230.85
<input type="checkbox"/> Design Review - Minor	<input type="checkbox"/> Substantial Dev. Permit \$2,779.97	<input type="checkbox"/> Noise Exception - Type 2 \$ 614.91
<input type="checkbox"/> \$ 0-\$ 5,000 \$1,031.03	<b>SUBDIVISION LONG PLAT</b>	<input type="checkbox"/> Noise Exception - Type 3 \$ 461.44
<input type="checkbox"/> \$ 5,001-\$ 25,000 \$2,061.03	<input type="checkbox"/> Long Plat \$19,229.07	<input type="checkbox"/> Reclassification of Property (Rezoning) \$4,633.97
<input type="checkbox"/> \$25,001-\$ 50,000 \$2,577.06	<input type="checkbox"/> Subdivision Alteration to Existing Plat \$ 4,633.97	<input type="checkbox"/> ROW Encroachment Agreement (requires separate ROW Use Permit) \$ 550.02
<input type="checkbox"/> \$50,001-\$100,000 \$3,092.06	<input type="checkbox"/> Final Subdivision Review \$ 4,615.43	<input type="checkbox"/> Sign Fee \$ 50.00
<input type="checkbox"/> Over \$100,000 Valuation \$5,461.06	<input type="checkbox"/> Fire Review \$126.69/hr	<input type="checkbox"/> Zoning Code Text Amendment \$4,263.17
<input type="checkbox"/> Wireless Communications Facilities - 6409 Exemption \$1,538.82	<b>SUBDIVISION SHORT PLAT</b>	
	<input checked="" type="checkbox"/> Two Lots \$5,383.81	
	<input type="checkbox"/> Three Lots \$6,461.19	

\* Includes all variances of any type or purpose in all zones other than single family residential zone: B, C-O, PBZ, MF-2, MF2L, MF-3, TC, P)  
\*\* Includes all variances of any type or purpose in single family residential zone: R-8.4, R9.6, R-12, R-15)

CITY USE ONLY		
SEPA Categorically Exempt:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Permit Fee:
SEPA Checklist Required:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Permit Fee:
		Total Fees:



---

**CITY OF MERCER ISLAND**

9611 SE 36<sup>th</sup> Street • Mercer Island, WA 98040-3732  
(206) 275-7605 • FAX (206) 275-7726  
www.mercergov.org

October 10, 2016

Mark Pendergraft (Core Design Inc.)  
14711 NE 29<sup>th</sup> Pl, Suite 101  
Bellevue, WA 98007

RE: Notice of Complete Application for File No. **SUB16-011**  
Application to subdivide existing 27,655 SF parcel into 2 lots and 1 access tract.  
7239 SE 27<sup>th</sup> Street, WA 98040; King County Tax Parcel #: 531510-0695

Dear Mark:

The City of Mercer Island has received an application for short plat to subdivide one existing parcel into two new lots and an access tract at 7239 SE 27<sup>th</sup> Street. Following a preliminary review of the submitted permit materials, City staff has determined that the application is complete pursuant to Mercer Island City Code (MICC) 19.15.020(C)(2).

The following items are not necessarily needed to deem the subject application complete, but are issues that were identified during the City's completeness check. You may choose to address them at this time, or wait for the City's substantive review of the proposal.

1. The provided short plat designates a building pad for proposed "Lot 1" and "Lot 2". MICC 19.09.090(A)(2) states, "Building pads shall not be located within yard setbacks, rights-of-way and critical areas or its buffers; provided, however, building pads may be located within landslide hazard areas when all of the following are met: (a) a qualified professional determines that the criteria of MICC 19.07.060(D), Site Development, is satisfied; (b) building pads are sited to minimize impacts to the extent reasonably feasible; and (c) building pads are not located in steep slopes or within 10 feet from the top of a steep slope, unless such slopes, as determined by a qualified professional, consist of soil types determined not to be landslide prone."

City maps indicate that the subject properties contain erosion hazards and potential slide hazards. The August 17, 2016 geotechnical report by Riley Group, Inc. discusses erosion hazards, stating that, "The soil erosion hazard is minimal if the geotechnical recommendations are incorporated into the project design and construction". As noted above, building pads shall not be located in critical areas (to include Erosion Hazard Areas). The geotechnical engineer's analysis must, using the definitions in MICC 19.16.010 (see below), demonstrate that the proposed building pad *will not be located* within the erosion hazard.

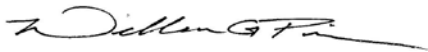
**MICC 19.16.010(E): Erosion Hazard Areas** – "Those areas greater than 15 percent slope and subject to a severe risk of erosion due to wind, rain, water, slope and other natural agents including those soil types and/or areas identified by the U.S. Department of Agriculture's Natural Resources Conservation Service as having a "severe" or "very severe" rill and inter-rill erosion hazard".

2. The short plat application materials do not include a Tree Location, Cutting/Land Clearing Plan. As noted in the project narrative, “the proposed time schedule for construction, and the type and size of trees to be removed will be deferred until final building footprints are submitted with the Building Permit Application once final footprints, construction type and layouts have been established.” In order to preserve large trees, and trees located inside environmentally sensitive areas, the City Arborist may require additional information (including limits of disturbance) concerning trees on site that might feasibly be removed as part of the short plat process. When possible, tree preservation recommendations and conditions will be reviewed at the time of preliminary short plat by the City Arborist.
3. The subject application has been assigned a project number. Please update the face of the short plat to “7239 SE 27<sup>th</sup> Street Short Plat No. SUB16-001”.

The substantive review of project number SUB16-011 is scheduled to continue. Pursuant to MICC 19.15.020(C)(3), within 14 days of the determination of completeness, the city shall issue a notice of application for all administrative, discretionary, and legislative actions listed in MICC 19.15.010(E). City staff will contact you within this time frame to arrange public notice for the project. **Please note, the planning department and other City reviewers may still request corrections to items submitted with this completed application.**

Please do not hesitate to contact me at 206-275-7720 or via e-mail at [will.piro@mercergov.org](mailto:will.piro@mercergov.org) if you have any questions.

Sincerely,



Will Piro, Planner  
City of Mercer Island Development Services Group

# PUBLIC NOTICE OF APPLICATION



**NOTICE IS HEREBY GIVEN** that the City of Mercer Island has received the application described below:

- File Nos.:** SUB16-011
- Description of Request:** A request for a short plat to subdivide an existing 27,655 square foot parcel into (2) new lots and (1) tract for access and utilities
- Applicant :** Mark Pendergraft
- Owner:** 7239 LLC.
- Location of Property:** 7239 SE 27<sup>th</sup> Street., Mercer Island, WA, 98040;  
Identified by King County Assessor tax parcel number 531510-0695
- SEPA Compliance:** Short subdivisions are categorically exempt pursuant to WAC 197-11-800(6)(d).
- 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 **on or before Monday, November 7, 2016 at 5:00 p.m.** either in person or mailed 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 **on or before Wednesday, November 7, 2016 at 5:00 p.m.** will be parties of record; and only parties of record will receive a notice of the decision and have the right to appeal.
- Public Hearing and Public Meeting:** Pursuant to MICC 19.15.010(E) and MICC 19.15.020(F)(1), a public hearing is not required for this proposal
- Applicable Development Regulations:** The application will be reviewed for consistency with the approval of criteria in Mercer island City Code (MICC) section 19.08- Subdivisions, 19.02 – Residential, 19.07 – Environment, 19.09 – Property Development, 19.10 – Trees, and 19.16 – Definitions. MICC 19.15.010(E) requires that the short plat application be processed as an Administrative Action with public notice. Processing requirements for Administrative Actions are further detailed in MICC 19.15.020.
- Other Associated Permits:** None at this time.

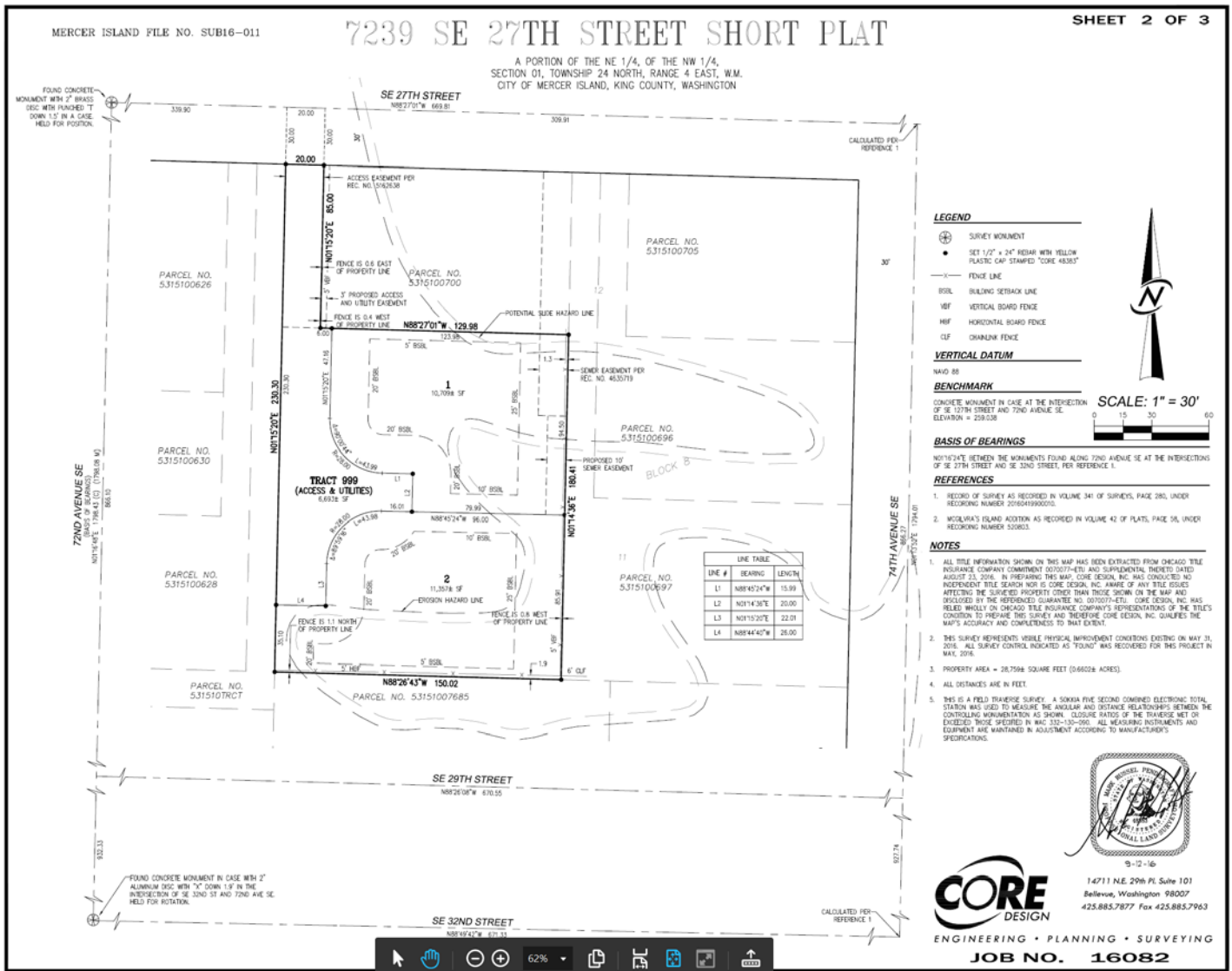
**Studies and/or  
Environmental  
Documents  
Requested:**

The application includes a geotechnical engineering report prepared by Riley Group, dated August 17, 2016.

The Short Plat application on file on this matter are available for review at the City of Mercer Island, Development Services Group, 9611 SE 36<sup>th</sup> Street, Mercer Island, Washington. Written comments and/or requests for additional information should be referred to:

Will Piro, Planner  
Development Services Group  
City of Mercer Island  
9611 SE 36th Street  
Mercer Island, WA 98040  
(206) 275-7720  
Will.Piro@mercergov.org

Date of Application (Impervious Surface Deviation): September 12, 2016  
Determined to Be Complete: October 10, 2016  
Bulletin Notice: October 24, 2016  
Date Mailed: October 24, 2016  
Date Posted on Site: October 24, 2016  
Comment Period Ends: 5:00PM on November 7, 2016



## FREQUENTLY ASKED QUESTIONS

### 1. WHY DID I RECEIVE THIS NOTICE?

Notice is sent to all property owners within 300-feet of the proposal, or to anyone who has requested to be a “party of record” for the application. The City sends the notices as neighbors may want to know about certain zoning applications that occur in the vicinity or may be aware of issues that affect the approval of an application.

### 2. IF I OBJECT TO THE APPLICATION, WILL IT BE DENIED?

There are criteria in the Mercer Island Municipal Code (MICC) for which the application is reviewed. If the application meets all existing code criteria found in MICC 19.02.030(B), the City must approve the permit. Approval by the neighbors is not one of the criteria in the Municipal Code. However, the notice is sent to property owners within 300-feet to inform the neighbors of the application, provide an opportunity to submit comments related to the criteria for approval, and ask questions prior to a decision on the permit application. Written comments should specifically address how the application does not meet one or more of the criteria in MICC 19.02.030(B).

### 3. WHAT ARE THE CRITERIA FOR APPROVAL OF A PERMIT?

The criteria for review of an Accessory Dwelling Unit are listed in section 19.02.030 of the Mercer Island City Code. There is a link to the code at [www.mercergov.org](http://www.mercergov.org). Please feel free to call the staff contact listed on the front of the notice, and we will be happy to discuss the legal language listed on the front of this notice.

### 4. WILL THERE BE A PUBLIC HEARING ON THIS APPLICATION?

No, this type of application does not require a public hearing. If you wish to comment on the proposal, please send written comments to the Planning contact listed on the first page of this notice. Comments must be received within the specified comment period.

### 5. WHAT IF I DISAGREE WITH THE PERMIT DECISION?

An appeal to a permit can be filed by anyone who has submitted written comments on an application during the comment period. Most concerns can be addressed prior to issuance of the permit. It is the City's goal to work with applicants and neighbors to resolve potential concerns.

**6. WHO CAN I CONTACT TO GET MORE INFORMATION?**

The planner assigned to this specific project is listed on the bottom left of the first page of this notice. You can also call the "Planner helpline" for zoning related questions at 206-275-7729. Additional resources available on-line include:

**[www.mercerergov.org](http://www.mercerergov.org)**: Staff directory, city regulations, and additional information about permits

**[www.mybuildingpermit.com](http://www.mybuildingpermit.com)**: Follow the status of a specific permit by address or permit number

**7. HOW DO I STOP RECEIVING THESE NOTICES OF APPLICATION?**

Washington State law requires the City to send the notice. You will only receive the notices for certain applications submitted to the City. We apologize for any inconvenience, appreciate your patience, and hope that this has been informative.

**8. I APPRECIATED RECEIVING THESE NOTICES. HOW DO I AUTOMATICALLY GET A COPY OF ALL PUBLIC NOTICE OF APPLICATIONS?**

Simply send us an e-mail a request and we will email a link to any future notice of applications that are published in the city's Weekly Permit Bulletin. Currently, the request can be sent to [will.piro@mercergov.org](mailto:will.piro@mercergov.org).



## **GEOTECHNICAL ENGINEERING REPORT**

**PREPARED BY:**

**THE RILEY GROUP, INC.  
17522 BOTHELL WAY NORTHEAST  
BOTHELL, WASHINGTON 98011**

**PREPARED FOR:**

**7239 LLC  
P.O. Box 809  
MERCER ISLAND, WASHINGTON 98040**

**RGI PROJECT NO. 2016-120**

**27TH STREET SHORT PLAT  
7239 SOUTHEAST 27TH STREET  
MERCER ISLAND, WASHINGTON 98040**

**AUGUST 17, 2016**

*Corporate Office  
17522 Bothell Way Northeast  
Bothell, Washington 98011  
Phone 425.415.0551 ♦ Fax 425.415.0311*

*[www.riley-group.com](http://www.riley-group.com)*



August 17, 2016

Mr. David Yeh  
7239 LLC  
P.O. Box 809  
Mercer Island, Washington 98040

**Subject: Geotechnical Engineering Report  
27th Street Short Plat  
7239 Southeast 27th Street  
Mercer Island, Washington 98040  
RGI Project No. 2016-120**

Dear Mr. Yeh:

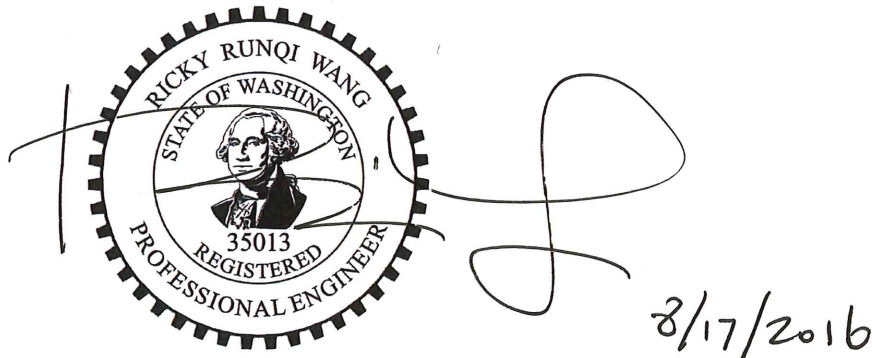
As requested, The Riley Group, Inc. (RGI) has prepared this Geotechnical Engineering Report (GER) for the above-referenced site. Our services were completed in accordance with our proposal PRP2016-217 dated July 13, 2016 and authorized by you on the same day. The information in this GER is based on our understanding of the proposed construction, and the soil and groundwater conditions encountered in the test borings completed by RGI at the site on August 2, 2016.

RGI recommends the project plans and specifications be submitted for a general review so that RGI may confirm that the recommendations in this GER are interpreted and implemented properly in the construction documents. RGI also recommends that a representative of our firm be present on site during portions of the project construction to confirm that the soil and groundwater conditions are consistent with those that form the basis for the engineering recommendations in this GER.

If you have any questions or require additional information, please contact us.

Respectfully submitted,

**THE RILEY GROUP, INC.**



Ricky R. Wang, PhD, PE  
Principal Engineer

KMW/RW

*Corporate Office*  
17522 Bothell Way Northeast  
Bothell, Washington 98011  
Phone 425.415.0551 ♦ Fax 425.415.0311

[www.riley-group.com](http://www.riley-group.com)

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## Executive Summary

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This Executive Summary should be used in conjunction with the entire GER for design and/or construction purposes. It should be recognized that specific details were not included or fully developed in this section, and this GER must be read in its entirety for a comprehensive understanding of the items contained herein. Section 7.0 should be read for an understanding of limitations.

RGI's geotechnical scope of work included the advancement of four test borings to depths up to 16.5 feet below ground surface (bgs).

Based on the information obtained from our subsurface exploration, the site is suitable for development of the proposed project. The following geotechnical considerations were identified.

**Soil Conditions:** The site is underlain by stiff to hard silt to sandy silt with trace of gravel with layers of medium dense silty fine sand.

**Groundwater:** Groundwater seepage was not encountered during our field exploration.

**Foundations:** Foundations for the proposed buildings can be supported on conventional continuous and spread footings bearing on competent native soil or new structural fill.

**Slab-on-grade:** Slab-on-grade floors for the proposed building can be similarly supported.

**Pavements:** The following pavement sections are recommended for driveways:

- **Flexible** : 2 inches of Hot mix asphalt (HMA) over 6 inches of crushed rock base (CRB) over compacted subgrade
- **Concrete**: 5 inches of concrete over 4 inches of CRB over compacted subgrade

## **1.0 Introduction**

---

This Geotechnical Engineering Report (GER) presents the results of the geotechnical engineering services provided for the proposed 27th Street Short Plat in Mercer Island, Washington. The purpose of this GER is to assess subsurface conditions and provide geotechnical recommendations for the construction of two single-family residences. Our scope of services included field explorations, laboratory testing, engineering analyses, and preparation of this GER.

The recommendations in the following sections of this GER are based upon our current understanding of the proposed site development as outlined below. If actual features vary or changes are made, RGI should review them in order to modify our recommendations as required. In addition, RGI requests to review the site grading plan, final design drawings and specifications when available to verify that our project understanding is correct and that our recommendations have been properly interpreted and incorporated into the project design and construction.

## **2.0 Project Description**

---

The site is located at 7239 Southeast 27th Street in Mercer Island, Washington. The approximate location of the site is shown on Figure 1. The site is currently occupied by a single-family residence in the middle portion of the site.

RGI understands that the client plans to demolish the existing residence and develop it into two single-family residential lots. Our understanding of the project is based on the preliminary project plans prepared by Core Design in May 2016.

Based on our experience with similar construction, RGI anticipates that the proposed buildings will be supported on perimeter walls with bearing loads of 2 to 3 kips per linear foot, and a series of columns with a maximum load up to 100 kips. Slab-on-grade floor loading of 250 pounds per square foot (psf) are expected. RGI also expects that site grading will be needed to reach the final grades.

## **3.0 Field Exploration and Laboratory Testing**

---

### **3.1 FIELD EXPLORATION**

On August 2, 2016, RGI observed the advancement of four test borings. Borings B-1 and B-2 were drilled in the proposed driveway and detention tank area and B-3 and B-4 were drilled in the proposed residential lots. The approximate exploration locations are shown on Figure 2.

Field logs of each exploration were prepared by the engineer who continuously observed the drilling. These logs included visual classifications of the materials encountered during

drilling as well as our interpretation of the subsurface conditions between samples. The boring logs included in Appendix A represent an interpretation of the field logs and include modifications based on laboratory observation and analysis of the samples.

### **3.2 LABORATORY TESTING**

During the field exploration, a representative portion of each recovered sample was sealed in containers and transported to our laboratory for further visual and laboratory examination. Samples retrieved from the borings were tested for moisture content to aid in soil classification and provide input for the recommendations provided in this GER. The results and descriptions of the laboratory tests are enclosed in Appendix A.

## **4.0 Site Conditions**

---

### **4.1 SURFACE**

The site is a rectangular-shaped parcel of land approximately 28,759 square feet in size. The site is bound to the north by Southeast 27th Street, to the east and west by private driveways, and to the south by residential property.

The middle portion of the site is occupied by a single-family residence. The site slopes down from the southwest corner to the northeast corner with an elevation different of about 20 feet or average slope gradient of 10 percent. The eastern edge of the property is mapped as erosion and slide hazard area.

### **4.2 GEOLOGY**

Review of the *Geologic Map of the Mercer Island, Washington* by Kathy G. Troost, etc, (2006) indicates that the soil in the project vicinity is mapped as Advance Outwash Deposits (Map Unit Qva) which is well-sorted sand and gravel deposited by stream from advancing ice sheet. The native soils encountered below the site appears to be different from what was described in the geology map.

### **4.3 SOILS**

The site is underlain by stiff to hard silt to sandy silt with trace of gravel with layers of medium dense silty fine sand.

More detailed descriptions of the subsurface conditions encountered are presented in the borings are included in Appendix A. Sieve analysis was performed on four selected soil samples. The grain-size distribution curves are included in Appendix A.

### **4.4 GROUNDWATER**

Groundwater seepage was not encountered during our field exploration to a maximum depth of 16.5 feet bgs.

It should be recognized that fluctuations of the groundwater table will occur due to seasonal variations in the amount of rainfall, runoff, and other factors not evident at the time the explorations were performed. In addition, perched water can develop within seams and layers contained in fill soils or higher permeability soils overlying less permeable soils following periods of heavy or prolonged precipitation.

#### 4.5 SEISMIC CONSIDERATIONS

Based on the 2012 International Building Code (IBC), RGI recommends the follow seismic parameters in Table 1 be used for design.

**Table 1 IBC Seismic Parameters**

2012 IBC Parameter	Value
Site Soil Class <sup>1</sup>	D <sup>2</sup>
Site Latitude	47.58745 N
Site Longitude	122.24748 W
Maximum considered earthquake spectral response acceleration parameters (g)	$S_s = 1.378, S_1 = 0.531$
Spectral response acceleration parameters adjusted for site class (g)	$S_{ms} = 1.378, S_{m1} = 0.796$
Design spectral response acceleration parameters (g)	$S_{ds} = 0.918, S_{d1} = 0.531$

1 Note: In general accordance with the USGS 2012 *International Building Code*. IBC Site Class is based on the average characteristics of the upper 100 feet of the subsurface profile.

2 Note: The 2012 *International Building Code* requires a site soil profile determination extending to a depth of 100 feet for seismic site classification. The current scope of our services does not include the required 100 foot soil profile determination. Test borings extended to a maximum depth of 16.5 feet, and this seismic site class definition considers that stiff soil continues below the maximum depth of the subsurface exploration.

Liquefaction is a phenomenon where there is a reduction or complete loss of soil strength due to an increase in water pressure induced by vibrations from a seismic event. Liquefaction mainly affects geologically recent deposits of fine-grained sands that are below the groundwater table. Soils of this nature derive their strength from intergranular friction. The generated water pressure or pore pressure essentially separates the soil grains and eliminates this intergranular friction, thus reducing or eliminating the soil's strength.

RGI reviewed the results of the field and laboratory testing and assessed the potential for liquefaction of the site's soil during an earthquake. Since the site is underlain by stiff to hard silt and the groundwater level is deeper than our explorations, RGI considers that the possibility of liquefaction during an earthquake is minimal.

## **4.6 GEOLOGIC HAZARD AREAS**

RGI reviewed the City of Mercer Island Municipal Codes (19.07.060 and 19.16). The review indicates that a narrow area along the eastern property line is mapped as geologic hazard area of both soil erosion and landslide.

On August 2, 2016, RGI performed a site reconnaissance to evaluate the area along the eastern property line. During our field observations, we did not find any steep slope or indications of landslide or history of ground movement.

Based on our observation, the potential of landslide along the eastern property line does not exist. The soil erosion hazard is minimal if the geotechnical recommendations are incorporated into the project design and construction. In our opinion, the proposed development will not have any impact to the site stability or increase the potential of soil erosion on the site or on adjacent sites. RGI recommends that this site not be considered a geologic hazard area.

## **5.0 Discussion and Recommendations**

---

### **5.1 GEOTECHNICAL CONSIDERATIONS**

Based on our observations, explorations and analysis, the site is suitable for the proposed construction from a geotechnical standpoint. RGI recommends that foundations for the proposed buildings be supported on conventional spread footings bearing on competent native soil or new structural fill if needed. Slab-on-grade floors and pavement sections can be similarly supported.

Detailed recommendations regarding the above issues and other geotechnical design considerations are provided in the following sections. These recommendations should be incorporated into the final design drawings and construction specifications.

#### **5.1.1 EROSION AND SEDIMENT CONTROL**

Potential sources or causes of erosion and sedimentation depend on construction methods, slope length and gradient, amount of soil exposed and/or disturbed, soil type, construction sequencing and weather. The impacts on erosion-prone areas can be reduced by implementing an erosion and sedimentation control plan. The plan should be designed in accordance with applicable city and/or county standards.

RGI recommends the following erosion control Best Management Practices (BMPs):

- Scheduling site preparation and grading for the drier summer and early fall months and undertaking activities that expose soil during periods of little or no rainfall
- Establishing a quarry spall construction entrance

- Installing siltation control fencing or anchored straw or coir wattles on the downhill side of work areas
- Covering soil stockpiles with anchored plastic sheeting
- Revegetating or mulching exposed soils with a minimum 3-inch thickness of straw if surfaces will be left undisturbed for more than one day during wet weather or one week in dry weather
- Directing runoff away from exposed soils and slopes
- Minimizing the length and steepness of slopes with exposed soils and cover excavation surfaces with anchored plastic sheeting (Graded and disturbed slopes should be tracked in place with the equipment running perpendicular to the slope contours so that the track marks provide a texture to help resist erosion and channeling. Some sloughing and raveling of slopes with exposed or disturbed soil should be expected.)
- Decreasing runoff velocities with check dams, straw bales or coir wattles
- Confining sediment to the project site
- Inspecting and maintaining erosion and sediment control measures frequently (The contractor should be aware that inspection and maintenance of erosion control BMPs is critical toward their satisfactory performance. Repair and/or replacement of dysfunctional erosion control elements should be anticipated.)

Permanent erosion protection should be provided by reestablishing vegetation using hydroseeding and/or landscape planting. Until the permanent erosion protection is established, site monitoring should be performed by qualified personnel to evaluate the effectiveness of the erosion control measures. Provisions for modifications to the erosion control system based on monitoring observations should be included in the erosion and sedimentation control plan.

#### **5.1.2 STRIPPING**

Stripping efforts should include removal of pavements, vegetation, organic materials, and deleterious debris from areas slated for building, pavement, and utility construction. The test borings encountered up to 6 inches of topsoil and rootmass. Deeper areas of stripping may be required.

#### **5.1.3 EXCAVATIONS**

All temporary cut slopes associated with the site and utility excavations should be adequately inclined to prevent sloughing and collapse. The site soils consist of silty soils. Accordingly, for excavations more than 4 feet but less than 20 feet in depth, the temporary side slopes should be laid back with a minimum slope inclination of 1H:1V (Horizontal:Vertical) in native soil. If there is insufficient room to complete the excavations in this manner, or excavations greater than 20 feet in depth are planned,

using temporary shoring to support the excavations should be considered. Shoring recommendations are provided in the following section of this GER.

For open cuts at the site, RGI recommends:

- No traffic, construction equipment, stockpiles or building supplies are allowed at the top of cut slopes within a distance of at least 5 feet from the top of the cut
- Exposed soil along the slope is protected from surface erosion using waterproof tarps and/or plastic sheeting
- Construction activities are scheduled so that the length of time the temporary cut is left open is minimized
- Surface water is diverted away from the excavation
- The general condition of slopes should be observed periodically by a geotechnical engineer to confirm adequate stability and erosion control measures

In all cases, however, appropriate inclinations will depend on the actual soil and groundwater conditions encountered during earthwork. Ultimately, the site contractor must be responsible for maintaining safe excavation slopes that comply with applicable OSHA or WISHA guidelines.

## **5.2 EARTHWORK**

After completion of the temporary cuts and removal of the soils to subgrade elevation, the site earthwork is expected to consist of excavating foundations, installing under slab utilities and preparing the slab subgrade. The earthwork should take place in the dry season (June through September).

### **5.2.1 SITE PREPARATION**

Subgrade soils that become disturbed due to elevated moisture conditions should be overexcavated to reveal firm, non-yielding, non-organic soils and backfilled with compacted structural fill. If earthwork is completed during the wet season (typically October through May), it will be necessary to take extra precautionary measures to protect subgrade soils. Wet season earthwork will require additional mitigative measures beyond that which would be expected during the drier summer and fall months.

### **5.2.2 STRUCTURAL FILL**

RGI recommends fill below the foundation and floor slab, behind retaining walls, and below pavement and hardscape surfaces be placed in accordance with the following recommendations for structural fill.

The suitability of excavated site soils and import soils for compacted structural fill use will depend on the gradation and moisture content of the soil when it is placed. As the amount of fines (that portion passing the U.S. No. 200 sieve) increases, soil becomes increasingly sensitive to small changes in moisture content and adequate compaction

becomes more difficult or impossible to achieve. Soils containing more than about 5 percent fines cannot be consistently compacted to a dense, non-yielding condition when the moisture content is more than 2 percent above or below optimum. Optimum moisture content is that moisture that results in the greatest compacted dry density with a specified compactive effort.

The native soil contains a large amount of fines and is generally not suitable to be used as structural fill. It is necessary to import clean, granular soils to complete site work that meet the grading requirements listed in Table 2 to be used as structural fill.

**Table 2 Structural Fill Gradation**

U.S. Sieve Size	Percent Passing
3 inches	100
No. 4 sieve	75 percent
No. 200 sieve	5 percent *

\*Based on minus 3/4 inch fraction.

Prior to use, an RGI representative should observe and test all materials imported to the site for use as structural fill. Structural fill materials should be placed in uniform loose layers not exceeding 12 inches and compacted as specified in Table 3. The soil's maximum density and optimum moisture should be determined by American Society of Testing and Materials D1557-09 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (ASTM D1557).

**Table 3 Structural Fill Compaction ASTM D1557**

Location	Material Type	Minimum Compaction Percentage	Moisture Content Range	
Foundations	On-site granular or approved imported fill soils:	95	+2	-2
Retaining Wall Backfill	On-site granular or approved imported fill soils:	92	+2	-2
Slab-on-grade	On-site granular or approved imported fill soils:	95	+2	-2
General Fill (non-structural areas)	On-site soils or approved imported fill soils:	90	+3	-2
Pavement – Subgrade and Base Course	On-site granular or approved imported fill soils:	95	+2	-2

Placement and compaction of structural fill should be observed by RGI. A representative number of in-place density tests should be performed as the fill is being placed to confirm that the recommended level of compaction is achieved.

### 5.2.3 WET WEATHER CONSTRUCTION CONSIDERATIONS

RGI recommends that preparation for site grading and construction include procedures intended to drain ponded water, control surface water runoff, and to collect shallow subsurface seepage zones in excavations where encountered. It will not be possible to successfully compact the subgrade or utilize on-site soils as structural fill if accumulated water is not drained prior to grading or if drainage is not controlled during construction. Attempting to grade the site without adequate drainage control measures will reduce the amount of on-site soil effectively available for use, increase the amount of select import fill materials required, and ultimately increase the cost of the earthwork phases of the project. Free water should not be allowed to pond on the subgrade soils. RGI anticipates that the use of berms and shallow drainage ditches, with sumps and pumps in utility trenches, will be required for surface water control during wet weather and/or wet site conditions.

### 5.3 FOUNDATIONS

Following site preparation and grading, the proposed building foundations can be supported on conventional spread footings bearing on competent native soil or new structural fill. Where loose or soft soils or other unsuitable soils are encountered in the proposed building footprint, they should be overexcavated and backfilled with structural fill.

**Table 4 Foundation Design**

Design Parameter	Value
Allowable Bearing Capacity	2,500 psf <sup>1</sup>
Friction Coefficient	0.30
Passive pressure (equivalent fluid pressure)	250 pcf <sup>2</sup>
Minimum foundation dimensions	Columns: 24 inches Walls: 16 inches

1. psf = pounds per square foot

2. pcf = pounds per cubic foot

The allowable foundation bearing pressures apply to dead loads plus design live load conditions. For short-term loads, such as wind and seismic, a 1/3 increase in this allowable capacity may be used. At perimeter locations, RGI recommends not including

the upper 12 inches of soil in the computation of passive pressures because it can be affected by weather or disturbed by future grading activity. The passive pressure value assumes the foundation will be constructed neat against competent soil or backfilled with structural fill as described in Section 5.2.2. The recommended base friction and passive resistance value includes a safety factor of about 1.5.

Perimeter foundations exposed to weather should be at a minimum depth of 18 inches below final exterior grades. Interior foundations can be constructed at any convenient depth below the floor slab. Finished grade is defined as the lowest adjacent grade within 5 feet of the foundation for perimeter (or exterior) footings and finished floor level for interior footings.

With spread-footing foundations designed in accordance with the recommendations in this section, maximum total and differential post-construction settlements of 1 inch and 1/2 inch, respectively, should be expected.

#### 5.4 RETAINING WALL

If retaining walls are needed for the basements or the detention structure, RGI recommends cast-in-place concrete walls be used. The magnitude of earth pressure development on retaining walls will partly depend on the quality of the wall backfill. RGI recommends placing and compacting wall backfill as structural fill. Wall drainage will be needed behind the wall face. A typical retaining wall drainage detail is shown on Figure 3.

With wall backfill placed and compacted as recommended, and drainage properly installed, RGI recommends using the values in the following table for design.

**Table 5 Retaining Wall Design**

Design Parameter	Value
Allowable Bearing Capacity	2,500 psf
Active Earth Pressure (unrestrained walls)	35 pcf
At-rest Earth Pressure (restrained walls)	50 pcf

For seismic design, an additional uniform load of 7 times the wall height (H) for unrestrained walls and 14H for restrained walls should be applied to the wall surface.

Friction at the base of foundations and passive earth pressure will provide resistance to these lateral loads. Values for these parameters are provided in Section 5.3.

## **5.5 SLAB-ON-GRADE CONSTRUCTION**

Once site preparation has been completed as described in Section 5.2, suitable support for slab-on-grade construction should be provided. Immediately below the floor slab, RGI recommends placing a 4-inch-thick capillary break layer of clean, free-draining pea gravel, washed rock, or crushed rock that has less than 5 percent passing the U.S. No. 200 sieve. This material will reduce the potential for upward capillary movement of water through the underlying soil and subsequent wetting of the floor slab. Where moisture by vapor transmission is undesirable, an 8- to 10-millimeter-thick plastic membrane should be placed on a 4-inch-thick layer of clean gravel or rock. For the anticipated floor slab loading, we estimate post-construction floor settlements of ¼- to ½-inch.

## **5.6 DRAINAGE**

### **5.6.1 SURFACE**

Final exterior grades should promote free and positive drainage away from the building area. Water must not be allowed to pond or collect adjacent to foundations or within the immediate building area. For non-pavement locations, RGI recommends providing a minimum drainage gradient of 3 percent for a minimum distance of 10 feet from the building perimeter. In paved locations, a minimum gradient of 1 percent should be provided unless provisions are included for collection and disposal of surface water adjacent to the structure.

### **5.6.2 SUBSURFACE**

RGI recommends installing perimeter foundation or retaining wall drains, details shown on Figures 3 and 4. The foundation or retaining wall drains and roof downspouts should be tightlined separately to an approved discharge facility. Subsurface drains must be laid with a gradient sufficient to promote positive flow to a controlled point of approved discharge.

## **5.7 UTILITIES**

Utility pipes should be bedded and backfilled in accordance with American Public Works Association (APWA) specifications. For site utilities located within the right-of-ways, bedding and backfill should be completed in accordance with City of Mercer Island specifications. At a minimum, trench backfill should be placed and compacted as structural fill, as described in Section 5.2.2. Where utilities occur below unimproved areas, the degree of compaction can be reduced to a minimum of 90 percent of the soil's maximum density as determined by ASTM D1557. The onsite excavated soil is generally not suitable for use as structural fill, imported structural fill may be required for trench backfill as recommended Table 2.

## 5.8 PAVEMENTS

Pavement subgrades should be prepared as described in Section 5.2 of this GER and as discussed below. Regardless of the relative compaction achieved, the subgrade must be firm and relatively unyielding before paving. This condition should be verified by proofrolling with heavy construction equipment to verify this condition.

With the pavement subgrade prepared as described above, RGI recommends the following pavement sections for parking and drive areas paved with flexible asphalt concrete surfacing.

- **For driveway areas:** 2 inches of hot mix asphalt (HMA) over 6 inches of crushed rock base (CRB) over compacted subgrade

The asphalt paving materials used should conform to the Washington State Department of Transportation (WSDOT) specifications for Hot Mix Asphalt Class 1/2 inch and CRB surfacing. If concrete drive way is preferred, the following section can be used.

- **For driveway areas:** 5 inches of concrete over 4 inches of CRB over compacted subgrade

Long-term pavement performance will depend on surface drainage. A poorly-drained pavement section will be subject to premature failure as a result of surface water infiltrating into the subgrade soils and reducing their supporting capability.

For optimum pavement performance, surface drainage gradients of no less than two percent are recommended. Also, some degree of longitudinal and transverse cracking of the pavement surface should be expected over time. Regular maintenance should be planned to seal cracks when they occur.

## 6.0 Additional Services

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RGI is available to provide further geotechnical consultation throughout the design phase of the project. RGI should review the final design and specifications in order to verify that earthwork and foundation recommendations have been properly interpreted and incorporated into project design and construction.

RGI is also available to provide geotechnical engineering and construction monitoring services during construction. The integrity of the earthwork and construction depends on proper site preparation and procedures. In addition, engineering decisions may arise in the field in the event that variations in subsurface conditions become apparent. Construction monitoring services are not part of this scope of work. If these services are desired, please let us know and we will prepare a proposal.

## 7.0 Limitations

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This GER is the property of RGI, 7239 LLC, and their designated agents. Within the limits of the scope and budget, this GER was prepared in accordance with generally accepted geotechnical engineering practices in the area at the time this report was issued. This GER is intended for specific application to the 27th Street Short Plat project at 7239 Southeast 27th Street in Mercer Island, Washington, and for the exclusive use of 7239 LLC and their authorized representatives. No other warranty, expressed or implied, is made. Site safety, excavation support, and dewatering requirements are the responsibility of others.

The scope of services for this project does not include either specifically or by implication any environmental or biological (for example, mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials, or conditions. If the owner is concerned about the potential for such contamination or pollution, we can provide a proposal for these services.

The analyses and recommendations presented in this GER are based upon data obtained from the test exploration performed on site. Variations in soil conditions can occur, the nature and extent of which may not become evident until construction. If variations appear evident, RGI should be requested to reevaluate the recommendations in this GER prior to proceeding with construction.

It is client's responsibility to see that all parties to the project, including the designers, contractors, subcontractors, are made aware of this GER in its entirety. The use of information contained in this GER for bidding purposes should be done at the contractor's option and risk.



USGS, 2014, Mercer Island, Washington  
 USGS, 2014, Seattle South, Washington  
 7.5-Minute Quadrangle

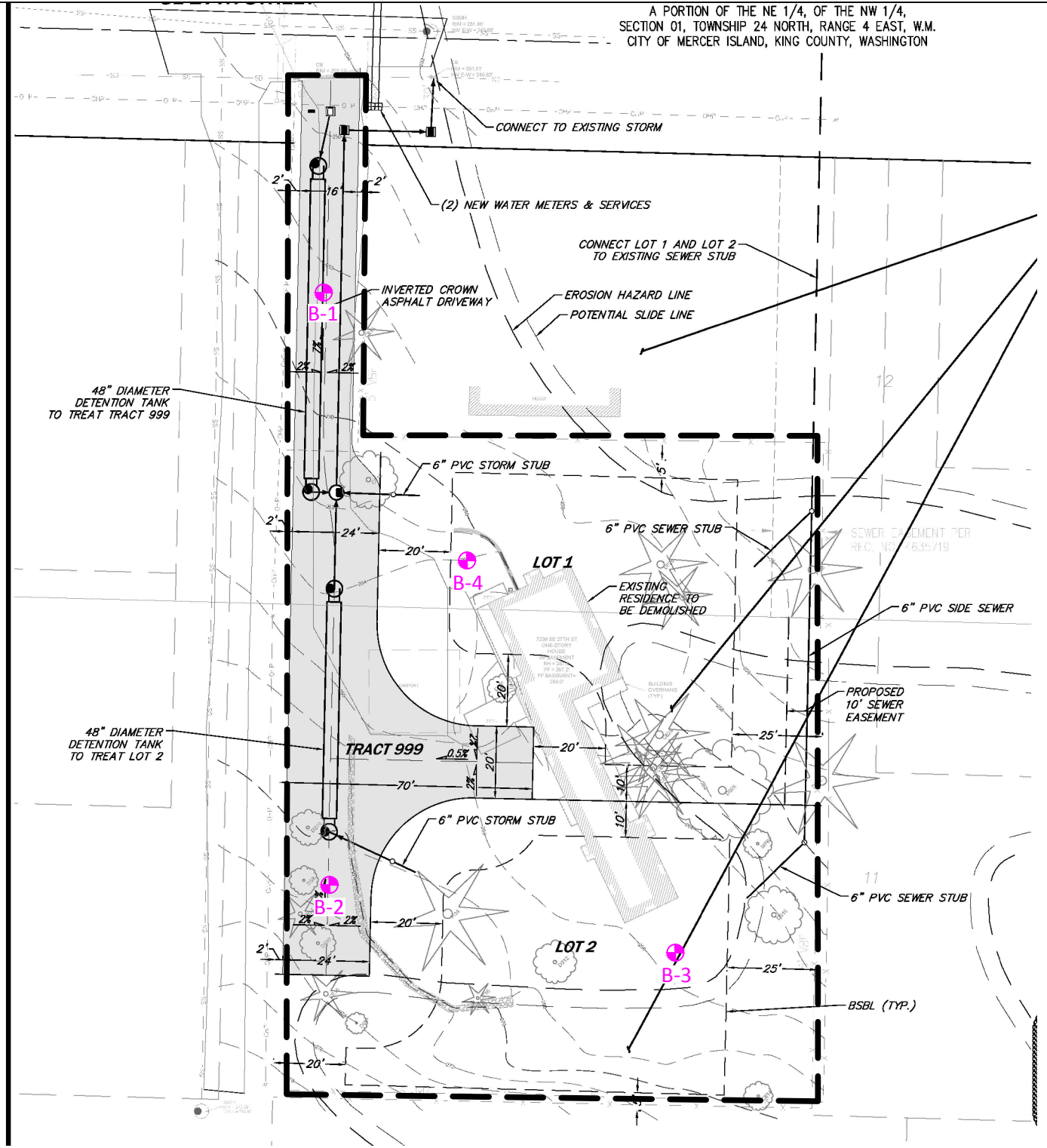
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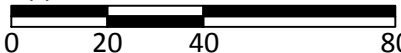

Corporate Office  
 17522 Bothell Way Northeast  
 Bothell, Washington 98011  
 Phone: 425.415.0551  
 Fax: 425.415.0311


27th Street Short Plat		Figure 1
RGI Project Number 2016-120	Site Vicinity Map	Date Drawn: 08/2016
Address: 7239 Southeast 27th Street, Mercer Island, Washington 98040		

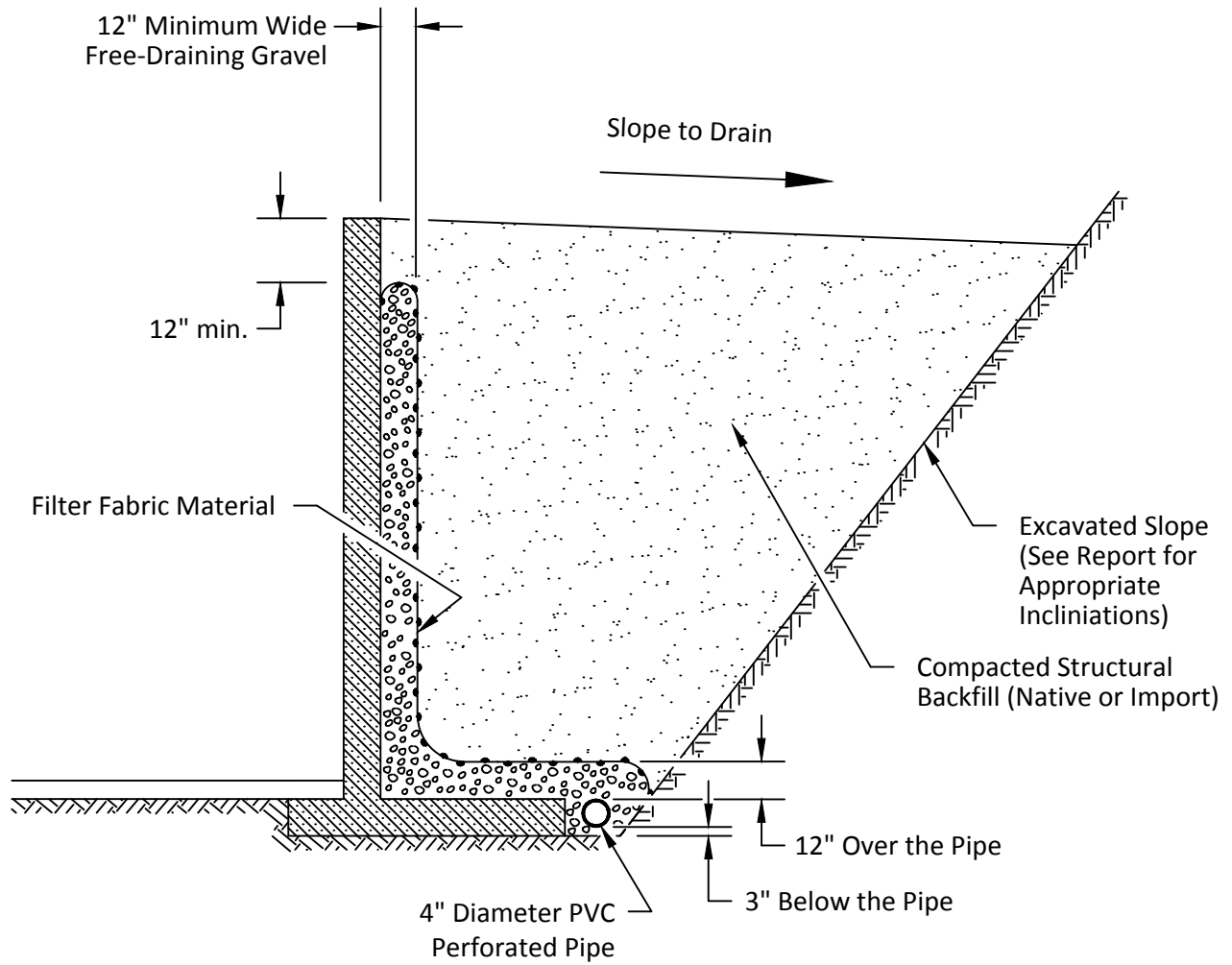
A PORTION OF THE NE 1/4, OF THE NW 1/4,  
SECTION 01, TOWNSHIP 24 NORTH, RANGE 4 EAST, W.M.  
CITY OF MERCER ISLAND, KING COUNTY, WASHINGTON




 = Boring location drilled by RGI August 2, 2016  
 = Site Boundary

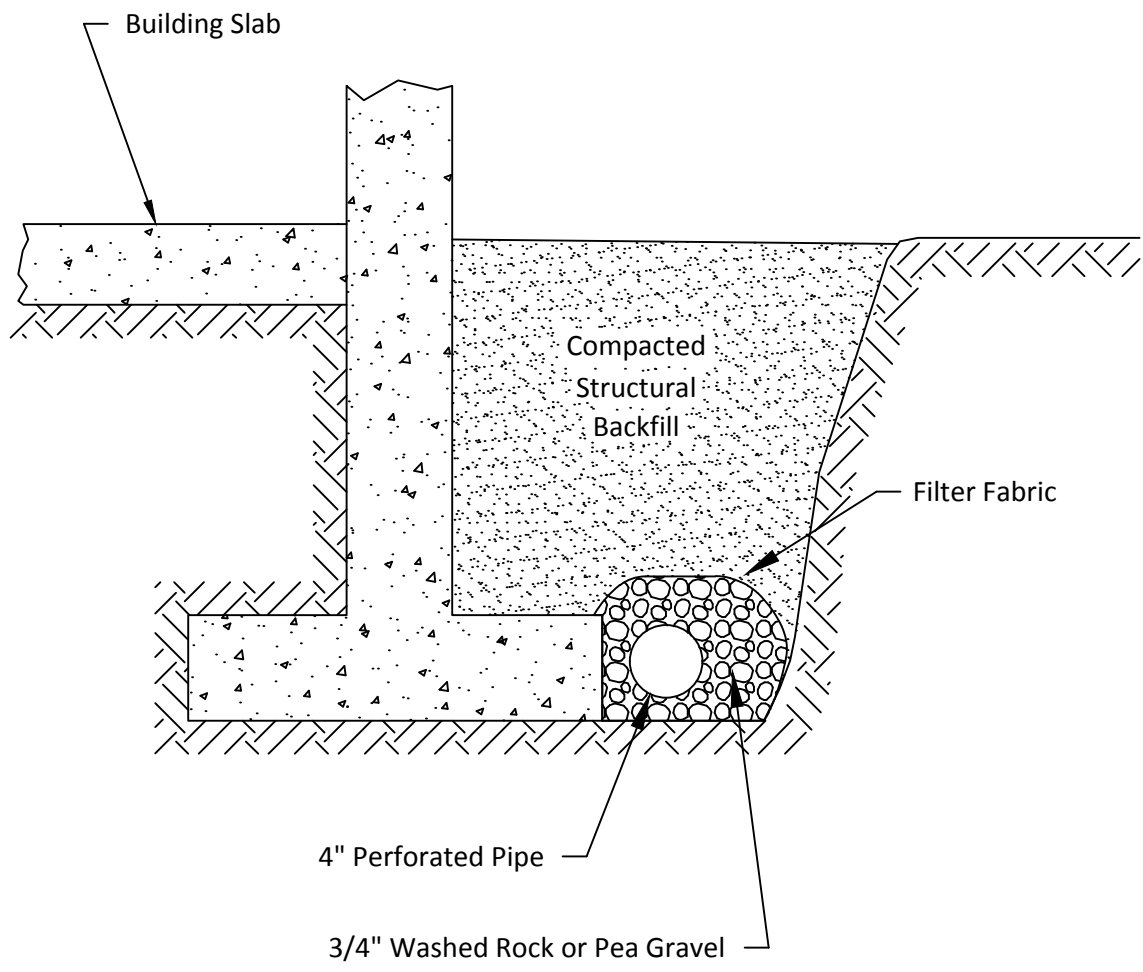
Approximate Scale: 1"=40'  
  


 Corporate Office 17522 Bothell Way Northeast Bothell, Washington 98011 Phone: 425.415.0551 Fax: 425.415.0311	27th Street Short Plat		Figure 2
	RGI Project Number 2016-120	Geotechnical Exploration Plan	
	Address: 7239 Southeast 27th Street, Mercer Island, Washington 98040		



Not to Scale

 <p>Corporate Office 17522 Bothell Way Northeast Bothell, Washington 98011 Phone: 425.415.0551 Fax: 425.415.0311</p>	27th Street Short Plat		Figure 3
	RGI Project Number 2016-120	Retaining Wall Drainage Detail	Date Drawn: 08/2016
	Address: 7239 Southeast 27th Street, Mercer Island, Washington 98040		



Not to Scale



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27th Street Short Plat		Figure 4
RGI Project Number 2016-120	Typical Footing Drain Detail	Date Drawn: 08/2016
Address: 7239 Southeast 27th Street, Mercer Island, Washington 98040		

## **APPENDIX A**

### **FIELD EXPLORATION AND LABORATORY TESTING**

On August 2, RGI explored the subsurface soil conditions at the site by observing the drilling of four test borings to a depth of 16.5 feet bgs. The test boring locations are shown on Figure 2. The test boring locations were approximately determined by measurements from existing property lines and paved roads.

A engineer from our office conducted the field exploration and classified the soil conditions encountered, maintained a log of each test exploration, obtained representative soil samples, and observed pertinent site features. All soil samples were visually classified in accordance with the Unified Soil Classification System (USCS).

Representative soil samples obtained from the explorations were placed in closed containers and taken to our laboratory for further examination and testing. As a part of the laboratory testing program, the soil samples were classified in our in house laboratory based on visual observation, texture, and the limited laboratory testing described below.

#### **Moisture Content Determinations**

Moisture content determinations were performed in accordance with the American Society of Testing and Materials D2216-10 Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass (ASTM D2216) on representative samples obtained from the exploration in order to aid in identification and correlation of soil types. The moisture content of typical sample was measured and is reported on the test boring logs.

#### **Grain Size Analysis**

A grain size analysis indicates the range in diameter of soil particles included in a particular sample. Grain size analyses for the greater than 75 micrometer portion of the samples were performed in accordance with American Society of Testing and Materials D422 Standard Test Method for Particle-Size Analysis of Soils (ASTM D422) on four of the samples, the results of which are attached in Appendix A.

Project Name: **27th Street Short Plat**

Project Number: **2016-120**

Client: **7239 LLC**



Boring No.: **B-1**

Sheet 1 of 1

Date(s) Drilled: <b>8/2/2016</b>	Logged By: <b>RW</b>	Surface Conditions: <b>Asphalt</b>
Drilling Method(s): <b>Hollow Stem Auger</b>	Drill Bit Size/Type: <b>8" auger</b>	Total Depth of Borehole: <b>16.5 feet bgs</b>
Drill Rig Type: <b>Tracked Drill Rig</b>	Drilling Contractor: <b>Boretac</b>	Approximate Surface Elevation: <b>260</b>
Groundwater Level and Date Measured: <b>Not Encountered</b>	Sampling Method(s): <b>SPT</b>	Hammer Data : <b>140 lb, 30" drop, rope and cathead</b>
Borehole Backfill: <b>Bentonite Chips</b>		Location: <b>7239 Southeast 27th Street, Mercer Island, Washington</b>

Elevation (feet)	Depth (feet)	Sample Type	Sample ID	Sampling Resistance, blows/ft	Recovery (%)	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	Moisture (%)
260	0					Asphalt ML		2" asphalt over crushed rock base	
				17				Brown sandy SILT with trace gravel, very stiff, moist	16
255	5			53				Becomes hard, 58% fines	15
250	10			70					14
245	15			68					
								Boring terminated at 16' 6"	
240	20								
235	25								
230	30								

Project Name: **27th Street Short Plat**

Project Number: **2016-120**

Client: **7239 LLC**



Boring No.: **B-2**

Sheet 1 of 1

Date(s) Drilled: <b>8/2/2016</b>	Logged By: <b>RW</b>	Surface Conditions: <b>Grass</b>
Drilling Method(s): <b>Hollow Stem Auger</b>	Drill Bit Size/Type: <b>8" auger</b>	Total Depth of Borehole: <b>16.5 feet bgs</b>
Drill Rig Type: <b>Tracked Drill Rig</b>	Drilling Contractor: <b>Boretac</b>	Approximate Surface Elevation: <b>272</b>
Groundwater Level and Date Measured: <b>Not Encountered</b>	Sampling Method(s): <b>SPT</b>	Hammer Data : <b>140 lb, 30" drop, rope and cathead</b>
Borehole Backfill: <b>Bentonite Chips</b>	Location: <b>7239 Southeast 27th Street, Mercer Island, Washington</b>	

Elevation (feet)	Depth (feet)	Sample Type	Sample ID	Sampling Resistance, blows/ft	Recovery (%)	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	Moisture (%)
272	0					ML		Brown SILT with trace sand, stiff, moist	
	5			14				85% fines	36
267	5			14					28
	10			21		SM		Gray silty fine SAND, medium dense, moist	31
262	10								
	15			19		ML		Gray sandy SILT, very stiff, moist to wet	41
257	15							Boring terminated at 16' 6"	
252	20								
247	25								
242	30								

Project Name: **27th Street Short Plat**

Project Number: **2016-120**

Client: **7239 LLC**



Boring No.: **B-3**

Sheet 1 of 1

Date(s) Drilled: <b>8/2/2016</b>	Logged By: <b>RW</b>	Surface Conditions: <b>Grass</b>
Drilling Method(s): <b>Hollow Stem Auger</b>	Drill Bit Size/Type: <b>8" auger</b>	Total Depth of Borehole: <b>16.5 feet bgs</b>
Drill Rig Type: <b>Tracked Drill Rig</b>	Drilling Contractor: <b>Boretac</b>	Approximate Surface Elevation: <b>268</b>
Groundwater Level and Date Measured: <b>Not Encountered</b>	Sampling Method(s): <b>SPT</b>	Hammer Data : <b>140 lb, 30" drop, rope and cathead</b>
Borehole Backfill: <b>Bentonite Chips</b>	Location: <b>7239 Southeast 27th Street, Mercer Island, Washington</b>	

Elevation (feet)	Depth (feet)	Sample Type	Sample ID	Sampling Resistance, blows/ft	Recovery (%)	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	Moisture (%)
268	0					ML		Brown SILT with trace sand, stiff, damp	
	5			14				Becomes stiff to very stiff, 86% fines	12
263	5			15				Becomes wet	33
	10			15					30
258	10			15					
253	15			13		SM		Brown silty fine SAND, medium dense, wet	31
	16' 6"							Boring terminated at 16' 6"	
248	20								
243	25								
238	30								

Project Name: **27th Street Short Plat**

Project Number: **2016-120**

Client: **7239 LLC**



Boring No.: **B-4**

Sheet 1 of 1

Date(s) Drilled: <b>8/2/2016</b>	Logged By: <b>RW</b>	Surface Conditions: <b>Grass</b>
Drilling Method(s): <b>Hollow Stem Auger</b>	Drill Bit Size/Type: <b>8" auger</b>	Total Depth of Borehole: <b>16.5 feet bgs</b>
Drill Rig Type: <b>Tracked Drill Rig</b>	Drilling Contractor: <b>Borettec</b>	Approximate Surface Elevation: <b>264</b>
Groundwater Level and Date Measured: <b>Not Encountered</b>	Sampling Method(s): <b>SPT</b>	Hammer Data : <b>140 lb, 30" drop, rope and cathead</b>
Borehole Backfill: <b>Bentonite Chips</b>	Location: <b>7239 Southeast 27th Street, Mercer Island, Washington</b>	

Elevation (feet)	Depth (feet)	Sample Type	Sample ID	Sampling Resistance, blows/ft	Recovery (%)	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	Moisture (%)
264	0					ML		Brown sandy SILT with trace gravel, medium stiff to stiff, damp	
	5			8				Becomes very stiff, 57% fines	12
259	10			17				Becomes hard, increase in gravel	14
254	15			44					12
249	16' 6"			13		ML		Brown sandy SILT, stiff, moist	32
								Boring terminated at 16' 6"	
244	20								
239	25								
234	30								

Project Name: **27th Street Short Plat**

Project Number: **2016-120**

Client: **7239 LLC**



Key to Log of Boring

Sheet 1 of 1

Elevation (feet)	Depth (feet)	Sample Type	Sample ID	Sampling Resistance, blows/ft	Recovery (%)	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	Moisture (%)
1	2	3	4	5	6	7	8	9	10

**COLUMN DESCRIPTIONS**

- 1** Elevation (feet): Elevation (MSL, feet).
- 2** Depth (feet): Depth in feet below the ground surface.
- 3** Sample Type: Type of soil sample collected at the depth interval shown.
- 4** Sample ID: Sample identification number.
- 5** Sampling Resistance, blows/ft: Number of blows to advance driven sampler one foot (or distance shown) beyond seating interval using the hammer identified on the boring log.
- 6** Recovery (%): Core Recovery Percentage is determined based on a ratio of the length of core sample recovered compared to the cored interval length.
- 7** USCS Symbol: USCS symbol of the subsurface material.
- 8** Graphic Log: Graphic depiction of the subsurface material encountered.
- 9** MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
- 10** Moisture (%): Moisture, expressed as a water content.









**FIELD AND LABORATORY TEST ABBREVIATIONS**

- CHEM: Chemical tests to assess corrosivity
- COMP: Compaction test
- CONS: One-dimensional consolidation test
- LL: Liquid Limit, percent
- PI: Plasticity Index, percent
- SA: Sieve analysis (percent passing No. 200 Sieve)
- UC: Unconfined compressive strength test, Qu, in ksf
- WA: Wash sieve (percent passing No. 200 Sieve)






**MATERIAL GRAPHIC SYMBOLS**

-  Asphaltic Concrete (AC)
-  SILT, SILT w/SAND, SANDY SILT (ML)
-  Silty SAND (SM)

**TYPICAL SAMPLER GRAPHIC SYMBOLS**

-  Auger sampler
-  Bulk Sample
-  3-inch-OD California w/ brass rings
-  CME Sampler
-  Continuous
-  Grab Sample
-  2.5-inch-OD Modified California w/ brass liners
-  Pitcher Sample

**OTHER GRAPHIC SYMBOLS**

-  Water level (at time of drilling, ATD)
-  Water level (after waiting)
-  Minor change in material properties within a stratum
-  Inferred/gradational contact between strata
-  Queried contact between strata

**GENERAL NOTES**

- 1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
- 2: Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

**GRAIN SIZE ANALYSIS**  
**ASTM D421, D422, D1140, D2487, D6913**

PROJECT TITLE	27th Street Short Plat	SAMPLE ID/TYPE	B-1
PROJECT NO.	2016-120	SAMPLE DEPTH	5
TECH/TEST DATE	AV 8/5/2016	DATE RECEIVED	8/3/2016

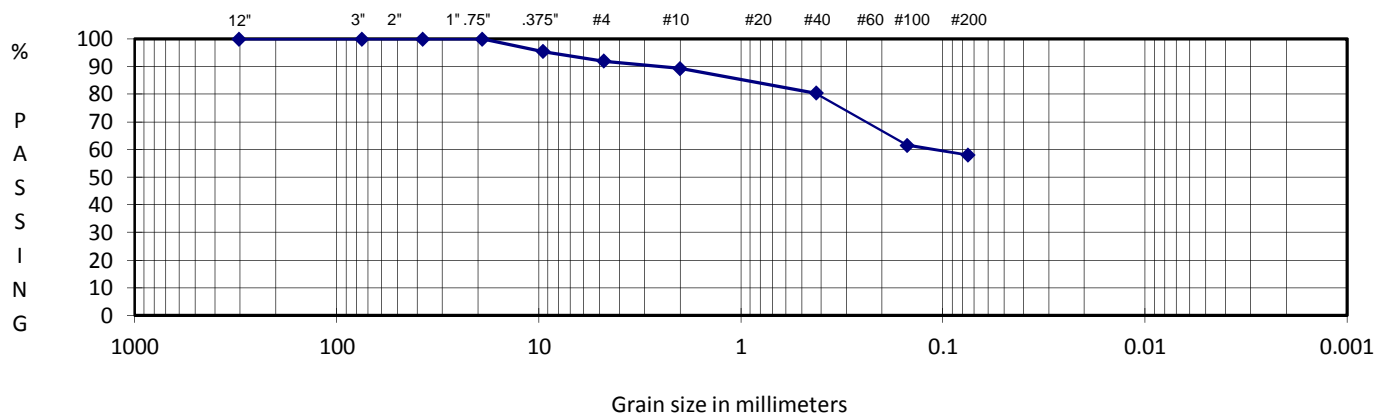
<b>WATER CONTENT (Delivered Moisture)</b>		Total Weight Of Sample Used For Sieve Corrected For Hygroscopic Moisture	
Wt Wet Soil & Tare (gm)	(w1) 736.3	Weight Of Sample (gm)	643.0
Wt Dry Soil & Tare (gm)	(w2) 643.0	Tare Weight (gm)	15.9
Weight of Tare (gm)	(w3) 15.9	(w6) Total Dry Weight (gm)	627.1

Weight of Water (gm)	(w4=w1-w2) 93.3	<b>SIEVE ANALYSIS</b>		
Weight of Dry Soil (gm)	(w5=w2-w3) 627.1			
Moisture Content (%)	(w4/w5)*100 15			

% COBBLES	0.0
% C GRAVEL	0.0
% F GRAVEL	8.0
% C SAND	2.8
% M SAND	8.8
% F SAND	22.5
% FINES	57.9
% TOTAL	100.0

D10 (mm)	
D30 (mm)	
D60 (mm)	
Cu	
Cc	

	Wt Ret +Tare	(Wt-Tare)	Cumulative {(wt ret/w6)*100}	% PASS (100-%ret)	
12.0"	15.9	0.00	0.00	100.00	cobbles
3.0"	15.9	0.00	0.00	100.00	coarse gravel
2.5"					coarse gravel
2.0"					coarse gravel
1.5"	15.9	0.00	0.00	100.00	coarse gravel
1.0"					coarse gravel
0.75"	15.9	0.00	0.00	100.00	fine gravel
0.50"					fine gravel
0.375"	44.8	28.90	4.61	95.39	fine gravel
#4	66.0	50.10	7.99	92.01	coarse sand
#10	83.3	67.40	10.75	89.25	medium sand
#20					medium sand
#40	138.7	122.80	19.58	80.42	fine sand
#60					fine sand
#100	257.4	241.50	38.51	61.49	fine sand
#200	279.7	263.80	42.07	57.93	finest
PAN	643.0	627.10	100.00	0.00	silt/clay



DESCRIPTION: Sandy SILT with trace gravel  
 USCS: ML

Prepared For: 7239 LLC      Reviewed By: KW



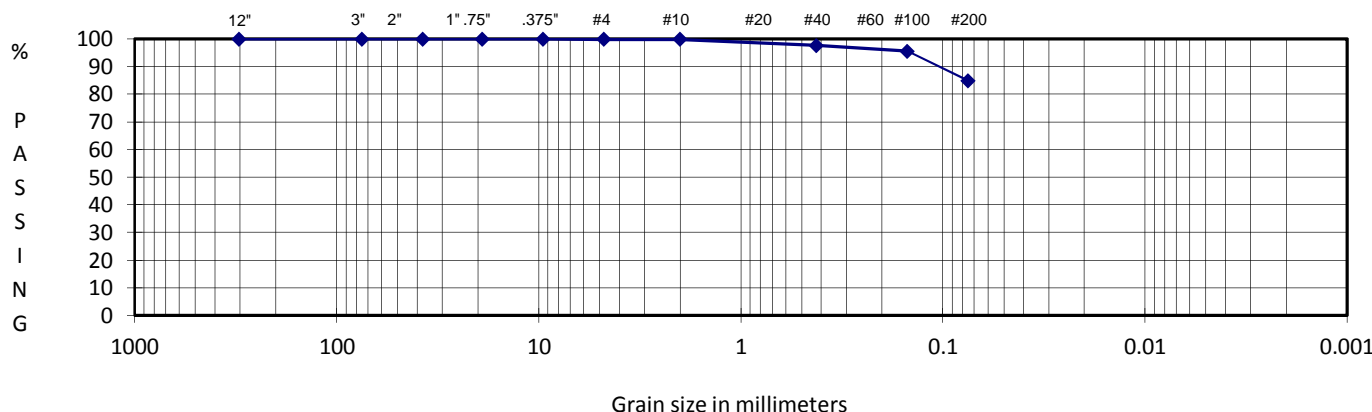
**GRAIN SIZE ANALYSIS**  
**ASTM D421, D422, D1140, D2487, D6913**

PROJECT TITLE	27th Street Short Plat	SAMPLE ID/TYPE	B-2
PROJECT NO.	2016-120	SAMPLE DEPTH	5
TECH/TEST DATE	AV 8/5/2016	DATE RECEIVED	8/3/2016

<b>WATER CONTENT (Delivered Moisture)</b>		Total Weight Of Sample Used For Sieve Corrected For Hygroscopic Moisture		
Wt Wet Soil & Tare (gm)	(w1)	472.8	Weight Of Sample (gm)	373.0
Wt Dry Soil & Tare (gm)	(w2)	373.0	Tare Weight (gm)	15.9
Weight of Tare (gm)	(w3)	15.9	(w6) Total Dry Weight (gm)	357.1

Weight of Water (gm)	(w4=w1-w2)	99.8	<b>SIEVE ANALYSIS</b>	
Weight of Dry Soil (gm)	(w5=w2-w3)	357.1	Cumulative	
Moisture Content (%)	(w4/w5)*100	28	Wt Ret	(Wt-Tare)
			+Tare	{(wt ret/w6)*100}
				% PASS
				(100-%ret)

% COBBLES	0.0	12.0"	15.9	0.00	0.00	100.00	cobbles
% C GRAVEL	0.0	3.0"	15.9	0.00	0.00	100.00	coarse gravel
% F GRAVEL	0.2	2.5"					coarse gravel
% C SAND	0.0	2.0"					coarse gravel
% M SAND	2.2	1.5"	15.9	0.00	0.00	100.00	coarse gravel
% F SAND	12.7	1.0"					coarse gravel
% FINES	84.9	0.75"	15.9	0.00	0.00	100.00	fine gravel
% TOTAL	100.0	0.50"					fine gravel
D10 (mm)		0.375"	15.9	0.00	0.00	100.00	fine gravel
D30 (mm)		#4	16.5	0.60	0.17	99.83	coarse sand
D60 (mm)		#10	16.6	0.70	0.20	99.80	medium sand
Cu		#20					medium sand
Cc		#40	24.3	8.40	2.35	97.65	fine sand
		#60					fine sand
		#100	31.9	16.00	4.48	95.52	fine sand
		#200	69.7	53.80	15.07	84.93	finest
		PAN	373.0	357.10	100.00	0.00	silt/clay



DESCRIPTION: SILT with trace sand  
 USCS: ML

Prepared For: 7239 LLC      Reviewed By: KW

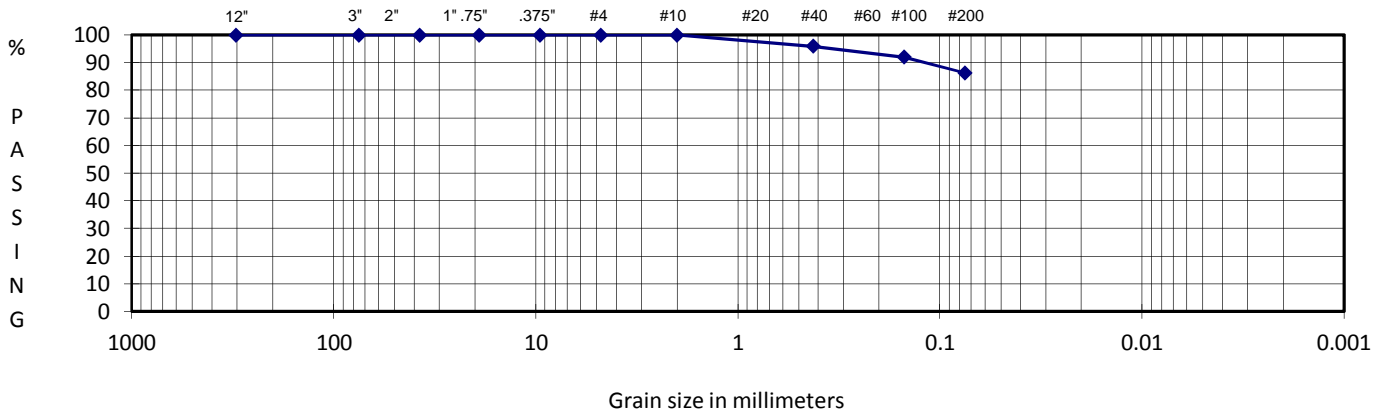


**GRAIN SIZE ANALYSIS**  
**ASTM D421, D422, D1140, D2487, D6913**

PROJECT TITLE	27th Street Short Plat	SAMPLE ID/TYPE	B-3
PROJECT NO.	2016-120	SAMPLE DEPTH	5
TECH/TEST DATE	AV 8/5/2016	DATE RECEIVED	8/3/2016

<b>WATER CONTENT (Delivered Moisture)</b>		Total Weight Of Sample Used For Sieve Corrected For Hygroscopic Moisture	
Wt Wet Soil & Tare (gm)	(w1)	523.2	Weight Of Sample (gm)
Wt Dry Soil & Tare (gm)	(w2)	396.8	Tare Weight (gm)
Weight of Tare (gm)	(w3)	15.6	(w6) Total Dry Weight (gm)
Weight of Water (gm)	(w4=w1-w2)	126.4	381.2
Weight of Dry Soil (gm)	(w5=w2-w3)	381.2	
Moisture Content (%)	(w4/w5)*100	33	

		<b>SIEVE ANALYSIS</b>					
		Wt Ret	(Wt-Tare)	Cumulative	% PASS		
		+Tare		{(wt ret/w6)*100}	(100-%ret)		
% COBBLES	0.0	12.0"	15.6	0.00	0.00	100.00	cobbles
% C GRAVEL	0.0	3.0"	15.6	0.00	0.00	100.00	coarse gravel
% F GRAVEL	0.0	2.5"					coarse gravel
% C SAND	0.1	2.0"					coarse gravel
% M SAND	4.0	1.5"	15.6	0.00	0.00	100.00	coarse gravel
% F SAND	9.6	1.0"					coarse gravel
% FINES	86.3	0.75"	15.6	0.00	0.00	100.00	fine gravel
% TOTAL	100.0	0.50"					fine gravel
D10 (mm)		0.375"	15.6	0.00	0.00	100.00	fine gravel
D30 (mm)		#4	15.6	0.00	0.00	100.00	coarse sand
D60 (mm)		#10	16.0	0.40	0.10	99.90	medium sand
Cu		#20					medium sand
Cc		#40	31.2	15.60	4.09	95.91	fine sand
		#60					fine sand
		#100	46.1	30.50	8.00	92.00	fine sand
		#200	67.9	52.30	13.72	86.28	finest
		PAN	396.8	381.20	100.00	0.00	silt/clay



DESCRIPTION: SILT with trace sand  
 USCS: ML

Prepared For: 7239 LLC      Reviewed By: KW



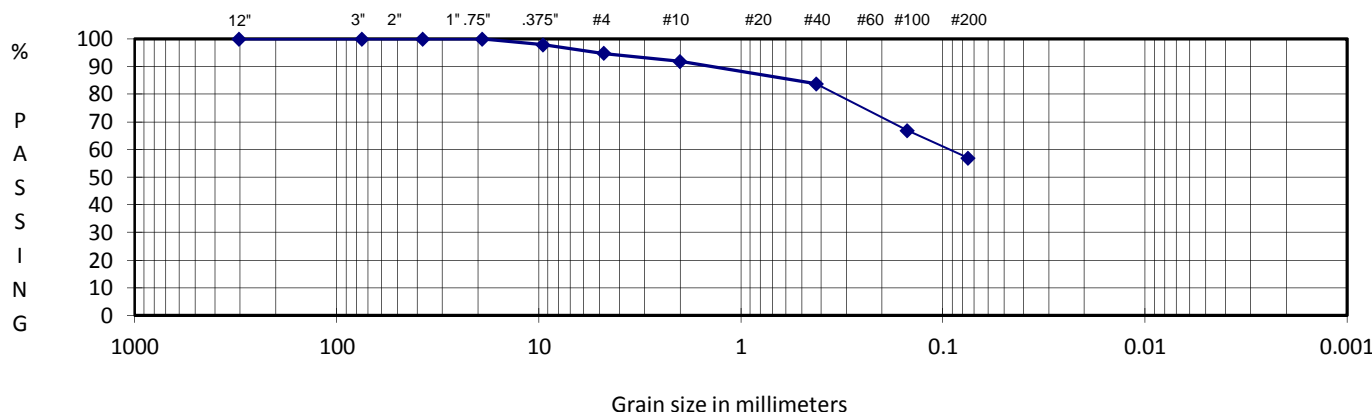
**GRAIN SIZE ANALYSIS**  
**ASTM D421, D422, D1140, D2487, D6913**

PROJECT TITLE	27th Street Short Plat	SAMPLE ID/TYPE	B-4
PROJECT NO.	2016-120	SAMPLE DEPTH	5
TECH/TEST DATE	AV 8/5/2016	DATE RECEIVED	8/3/2016

<b>WATER CONTENT (Delivered Moisture)</b>		Total Weight Of Sample Used For Sieve Corrected For Hygroscopic Moisture		
Wt Wet Soil & Tare (gm)	(w1)	540.0	Weight Of Sample (gm)	475.9
Wt Dry Soil & Tare (gm)	(w2)	475.9	Tare Weight (gm)	15.6
Weight of Tare (gm)	(w3)	15.6	(w6) Total Dry Weight (gm)	460.3

Weight of Water (gm)	(w4=w1-w2)	64.1	<b>SIEVE ANALYSIS</b>	
Weight of Dry Soil (gm)	(w5=w2-w3)	460.3	Cumulative	
Moisture Content (%)	(w4/w5)*100	14	Wt Ret	(Wt-Tare)

		Wt Ret	(Wt-Tare)	Cumulative	% PASS		
		+Tare		{(wt ret/w6)*100}	(100-%ret)		
% COBBLES	0.0	12.0"	15.6	0.00	0.00	100.00	cobbles
% C GRAVEL	0.0	3.0"	15.6	0.00	0.00	100.00	coarse gravel
% F GRAVEL	5.3	2.5"					coarse gravel
% C SAND	2.8	2.0"					coarse gravel
% M SAND	8.1	1.5"	15.6	0.00	0.00	100.00	coarse gravel
% F SAND	26.9	1.0"					coarse gravel
% FINES	56.9	0.75"	15.6	0.00	0.00	100.00	fine gravel
% TOTAL	100.0	0.50"					fine gravel
D10 (mm)		0.375"	25.7	10.10	2.19	97.81	fine gravel
D30 (mm)		#4	39.9	24.30	5.28	94.72	coarse sand
D60 (mm)		#10	53.0	37.40	8.13	91.87	medium sand
Cu		#20					medium sand
Cc		#40	90.2	74.60	16.21	83.79	fine sand
		#60					fine sand
		#100	168.5	152.90	33.22	66.78	fine sand
		#200	213.8	198.20	43.06	56.94	finest
		PAN	475.9	460.30	100.00	0.00	silt/clay



DESCRIPTION: Sandy SILT with trace gravel  
 USCS: ML

Prepared For: 7239 LLC      Reviewed By: KW





October 24, 2016

Mr. David Yeh  
7239 LLC  
P.O. Box 809  
Mercer Island, Washington 98040

**Subject: Report Addendum and Response to City's Comments  
27th Street Short Plat  
7239 Southeast 27th Street  
Mercer Island, Washington 98040  
RGI Project No. 2016-120**

References: 1. The Riley Group, Inc, Geotechnical Engineering Report, 27th Street Short Plat, dated August 17, 2016.  
2. Topographic Survey by Site Surveying, Inc. dated January 18, 2016  
3. Site Plans prepared by Core Design dated September 12, 2016

Dear Mr. Yeh:

As requested, The Riley Group, Inc. (RGI) is responding the review comments from the City of Mercer Island, prepared by Will Piro dated October 10, 2016.

**Question:** *The geotechnical engineer's analysis must, using the definitions in MICC 19.16.010, demonstrate that the proposed building pad will not be located within the erosion hazard area.*

**Answer:** RGI reviewed the City of Mercer Island Municipal Codes (MICC 19.16.010(E)). The review indicates that a narrow area along the eastern property line is mapped as geologic hazard area of both soil erosion and landslide.

On August 2, 2016, RGI performed a site reconnaissance to evaluate the area along the eastern property line. During our field observations, we did not find any steep slope or indications of landslide or history of ground movement. Based on our observation, the potential of landslide along the eastern property line does not exist.

RGI reviewed the Web Soil Survey by National Cooperative Soil Survey. The major portion of the site is mapped as Kitsap silt loam, 2 to 8 percent slope (KpB). Runoff is slow to medium, and erosion hazard is slight to moderate. The southwest corner of the site is mapped as Arent, Alderwood material, 6 to 15 percent slope (AmC). Runoff is medium and the erosion hazard to moderate to severe.

Based on our review the current design, our boring logs and the contours; only small portion of the building pad on the south side of Lot 2 exceeds 15 percent slope. Most of the site has a moderate erosion hazard. The erosion control measures provided in our referenced report, if incorporated into the project design should be adequate to control erosion on the site. Based on the soils encountered and the slopes on site, the development will not increase the potential of soil erosion on the site or on adjacent sites if the recommended erosion control measures are implemented during construction.

Please call us at (425) 415-0551 if you have any questions or need additional information.

Respectfully submitted,



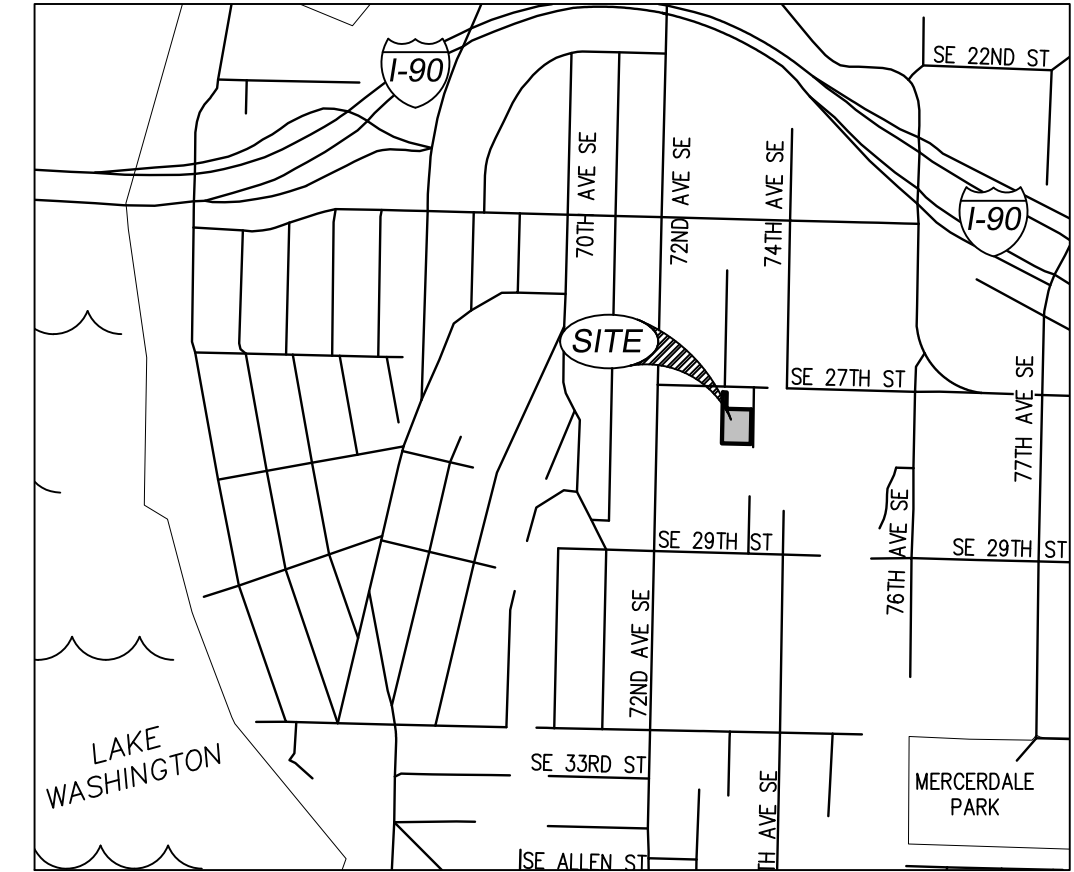
*[Handwritten signature]*  
10/24/2016

Ricky Wang, PE, PhD  
Principal Engineer

# 7239 SE 27TH STREET SHORT PLAT

NE 1/4, NW 1/4, SEC. 1, T. 24 N., R. 4 E., W.M.  
CITY OF MERCER ISLAND, KING COUNTY, WASHINGTON

**VICINITY MAP**  
SCALE: 1" = 1000'



## 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 THIS SHORT SUBDIVISION TO BE THE GRAPHIC REPRESENTATION OF THE SAME, AND THAT SAID SHORT SUBDIVISION IS MADE WITH THE FREE CONSENT AND IN ACCORDANCE WITH THE DESIRE OF THE OWNER(S)

IN WITNESS WHEREOF WE HAVE SET OUR HANDS AND SEALS.

7239 LLC, A LIMITED LIABILITY COMPANY

BY: \_\_\_\_\_

ITS: \_\_\_\_\_

## ACKNOWLEDGEMENTS

STATE OF WASHINGTON )  
 )SS  
COUNTY OF \_\_\_\_\_ )

I CERTIFY THAT I KNOW OR HAVE SATISFACTORY EVIDENCE THAT \_\_\_\_\_ IS THE PERSON WHO APPEARED BEFORE ME, AND SAID PERSON ACKNOWLEDGED THAT HE SIGNED THIS INSTRUMENT, ON OATH STATED THAT HE WAS AUTHORIZED TO EXECUTE THE INSTRUMENT AND ACKNOWLEDGED IT AS THE \_\_\_\_\_ OF 7239 LLC, A WASHINGTON LIMITED LIABILITY COMPANY, TO BE THE FREE AND VOLUNTARY ACT OF SUCH PARTY FOR THE USES AND PURPOSES MENTIONED IN THE INSTRUMENT.

DATED: \_\_\_\_\_, 20\_\_\_\_

PRINTED NAME: \_\_\_\_\_  
NOTARY PUBLIC IN AND FOR THE STATE OF WASHINGTON

RESIDING AT \_\_\_\_\_

MY APPOINTMENT EXPIRES \_\_\_\_\_

## SITE STATISTICS

ZONING: R-9.6 (RESIDENTIAL-MINIMAL 9,600 SF LOTS)  
SITE AREA: ±28,759 SF (±0.6602 ACRES)  
LOTS PROPOSED: 2  
LOT 1 SIZE: ±10,709 SF  
LOT 2 SIZE: ±11,566 SF  
AVERAGE LOT SIZE: ±11,138 SF  
TAX PARCEL: 531510-0695

### LOT SLOPE STATISTICS

LOT 1: 13.62%  
LOT 2: 11.65%

### OWNERS

7239 LLC  
7239 SE 27TH ST  
MERCER ISLAND, WA 98040  
EMAIL: DAVIDYEH@FORTUNEINDUSTRIESINTL.COM

### APPLICANT

DAVID YEH  
7239 LLC  
PO BOX 909

### ENGINEER

CORE DESIGN, INC.  
14711 NE 29TH PLACE, STE 101  
BELLEVUE, WA 98007  
MERCER ISLAND, WA.9804  
(425) 885-7877  
CONTACT: MICHAEL MOODY, PE  
EMAIL: MAM@COREDESIGNINC.COM

## SURVEYOR

MEAD GILMAN & ASSOCIATES  
PO BOX 289  
WOODINVILLE, WA 98072  
(425) 486-1252  
CONTACT: MARK PENDERGRAFT, PLS  
EMAIL: MARK@MEADGILMAN.COM

## RESTRICTIONS

- THIS SITE IS SUBJECT TO AN EASEMENT FOR SEWER AND THE TERMS AND CONDITIONS THEREOF RECORDED UNDER RECORDING NO. 4635719, AND IS SHOWN HEREON.
- THIS SITE IS SUBJECT TO AN EASEMENT FOR INGRESS AND EGRESS AND THE TERMS AND CONDITIONS THEREOF RECORDED UNDER RECORDING NO. 5162638, AND IS SHOWN HEREON.
- THIS SITE IS SUBJECT TO AN EASEMENT FOR ACCESS AND UTILITIES AND THE TERMS AND CONDITIONS THEREOF AS RECORDED UNDER RECORDING NO. 20181005000014, AND IS SHOWN HEREON.

## NOTES

- ALL LOTS IN THIS PLAT SHALL HAVE AN EQUAL AND UNDIVIDED SHARE IN TRACT 999, AND SHALL BE RESPONSIBLE FOR THE COST OF MAINTENANCE OF THE UTILITY SYSTEMS AND DRIVE WAY LYING WITHIN SAID TRACT.

## EXISTING LEGAL DESCRIPTION

WEST HALF OF LOTS 11 AND 12, BLOCK 8, MCGLIVRA'S ISLAND ADDITION, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 16 OF PLATS, PAGE 58, RECORDS OF KING COUNTY, WASHINGTON; EXCEPT THE NORTH 85 FEET OF SAID WEST HALF OF LOT 12;

TOGETHER WITH THE WEST 20 FEET OF THE NORTH 85 FEET OF SAID LOT 12.

SITUATE IN THE COUNTY OF KING STATE OF WASHINGTON.

## PROPOSED LEGAL DESCRIPTIONS

### LOT 1

THAT PORTION OF THE WEST HALF OF LOTS 11 AND 12, BLOCK 8, MCGLIVRA'S ISLAND ADDITION, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 16 OF PLATS, PAGE 58, RECORDS OF KING COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF SAID LOT 12;  
THENCE S88°27'01"E, ALONG THE NORTH LINE THEREOF, 20.00 FEET TO THE EAST LINE OF THE WEST 20 FEET OF SAID LOT 12;  
THENCE S01°15'20"W, ALONG SAID EAST LINE, 85.00 FEET TO THE SOUTH LINE OF THE NORTH 85 FEET OF SAID LOT 12;  
THENCE S88°27'01"E, ALONG SAID SOUTH LINE, 6.00 FEET TO THE EAST LINE OF THE WEST 26 FEET OF SAID LOTS 11 AND 12 AND THE POINT OF BEGINNING;  
THENCE S01°15'20"W, ALONG SAID EAST LINE, 47.16 FEET TO A POINT OF TANGENCY WITH A 28.00-FOOT RADIUS CURVE TO THE LEFT;  
THENCE SOUTHERLY, ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 90°00'44", A DISTANCE OF 43.99 FEET TO A POINT OF TANGENCY;  
THENCE S88°45'24"E 15.99 FEET;  
THENCE S01°14'36"W 20.00 FEET;  
THENCE S88°45'24"E 79.99 FEET TO THE EAST LINE OF THE WEST HALF OF SAID LOTS 11 AND 12;  
THENCE N01°14'36"E, ALONG SAID EAST LINE, 94.50 FEET TO THE SOUTH LINE OF THE NORTH 85 FEET OF SAID LOT 12;  
THENCE N88°27'01"W, ALONG SAID SOUTH LINE, 123.98 FEET TO THE POINT OF BEGINNING;

### LOT 2

THAT PORTION OF THE WEST HALF OF LOTS 11 AND 12, BLOCK 8, MCGLIVRA'S ISLAND ADDITION, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 16 OF PLATS, PAGE 58, RECORDS OF KING COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF SAID LOT 12;  
THENCE S88°27'01"E, ALONG THE NORTH LINE THEREOF, 20.00 FEET TO THE EAST LINE OF THE WEST 20 FEET OF SAID LOT 12;  
THENCE S01°15'20"W, ALONG SAID EAST LINE, 85.00 FEET TO THE SOUTH LINE OF THE NORTH 85 FEET OF SAID LOT 12;  
THENCE S88°27'01"E, ALONG SAID SOUTH LINE, 6.00 FEET TO THE EAST LINE OF THE WEST 26 FEET OF SAID LOTS 11 AND 12;  
THENCE S01°15'20"W, ALONG SAID EAST LINE, 47.16 FEET TO A POINT OF TANGENCY WITH A 28.00-FOOT RADIUS CURVE TO THE LEFT;  
THENCE SOUTHERLY, ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 90°00'44", A DISTANCE OF 43.99 FEET TO A POINT OF TANGENCY;  
THENCE S88°45'24"E 15.99 FEET;  
THENCE S01°14'36"W 20.00 FEET TO THE POINT OF BEGINNING;  
THENCE N88°45'24"W 16.01 FEET TO A POINT OF TANGENCY WITH A 28.00-FOOT RADIUS CURVE TO THE LEFT;  
THENCE SOUTHWESTERLY, ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 89°59'16", A DISTANCE OF 43.98 FEET TO A POINT OF TANGENCY;  
THENCE S01°15'20"W 13.99 FEET;  
THENCE N88°44'40"W 26.00 FEET TO THE WEST LINE OF SAID LOT 11;  
THENCE S01°15'14"W, ALONG SAID WEST LINE, 43.11 FEET TO THE SOUTHWEST CORNER OF SAID LOT 11;  
THENCE S88°26'43"E, ALONG THE SOUTH LINE THEREOF, 150.02 FEET TO THE EAST LINE OF THE WEST HALF OF SAID LOT 11;  
THENCE N01°14'36"E, ALONG THE WEST LINE OF THE EAST HALF OF SAID LOTS 11 AND 12, A DISTANCE OF 85.91 FEET;  
THENCE N88°45'24"W 79.99 FEET TO THE POINT OF BEGINNING;

### TRACT 999

THAT PORTION OF THE WEST HALF OF LOTS 11 AND 12, BLOCK 8, MCGLIVRA'S ISLAND ADDITION, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 16 OF PLATS, PAGE 58, RECORDS OF KING COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHWEST CORNER OF SAID LOT 12;  
THENCE S88°27'01"E, ALONG THE NORTH LINE THEREOF, 20.00 FEET TO THE EAST LINE OF THE WEST 20 FEET OF SAID LOT 12;  
THENCE S01°15'20"W, ALONG SAID EAST LINE, 85.00 FEET TO THE SOUTH LINE OF THE NORTH 85 FEET OF SAID LOT 12;  
THENCE S88°27'01"E, ALONG SAID SOUTH LINE, 6.00 FEET TO THE EAST LINE OF THE WEST 26 FEET OF SAID LOTS 11 AND 12;  
THENCE S01°15'20"W, ALONG SAID EAST LINE, 47.16 FEET TO A POINT OF TANGENCY WITH A 28.00-FOOT RADIUS CURVE TO THE LEFT;  
THENCE SOUTHERLY, ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 90°00'44", A DISTANCE OF 43.99 FEET TO A POINT OF TANGENCY;  
THENCE S88°45'24"E 15.99 FEET;  
THENCE S01°14'36"W 20.00 FEET;  
THENCE N88°45'24"W 16.01 FEET TO A POINT OF TANGENCY WITH A 28.00-FOOT RADIUS CURVE TO THE LEFT;  
THENCE SOUTHWESTERLY, ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 89°59'16", A DISTANCE OF 43.98 FEET TO A POINT OF TANGENCY;  
THENCE S01°15'20"W 13.99 FEET;  
THENCE N88°44'40"W 26.00 FEET TO THE WEST LINE OF SAID LOT 11;  
THENCE N01°15'21"E, ALONG THE WEST LINE OF SAID LOTS 11 AND 12, A DISTANCE OF 222.28 FEET TO THE POINT OF BEGINNING;

## CITY OF MERCER ISLAND APPROVALS

EXAMINED AND APPROVED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_

CODE OFFICIAL

EXAMINED AND APPROVED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_

CITY ENGINEER

## KING COUNTY DEPARTMENT OF ASSESSMENTS

EXAMINED AND APPROVED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_

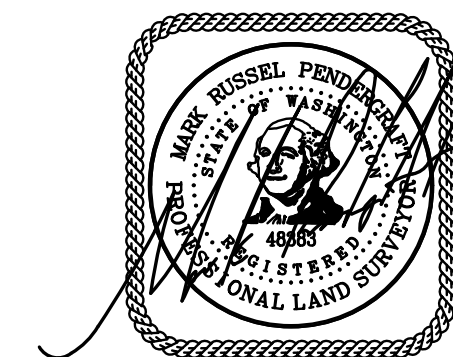
TAX ACCOUNT NUMBERS:

ASSESSOR

DEPUTY ASSESSOR

## SURVEYOR'S CERTIFICATE

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE SURVEY RECORDING ACT AT THE REQUEST OF DAVID YEH IN \_\_\_\_\_, 20\_\_\_\_.



1/3/2022

*Mark Pendergraft*  
MARK PENDERGRAFT, P.L.S.  
PROFESSIONAL LAND SURVEYOR  
CERTIFICATE NO. 48383

## RECORDING CERTIFICATE

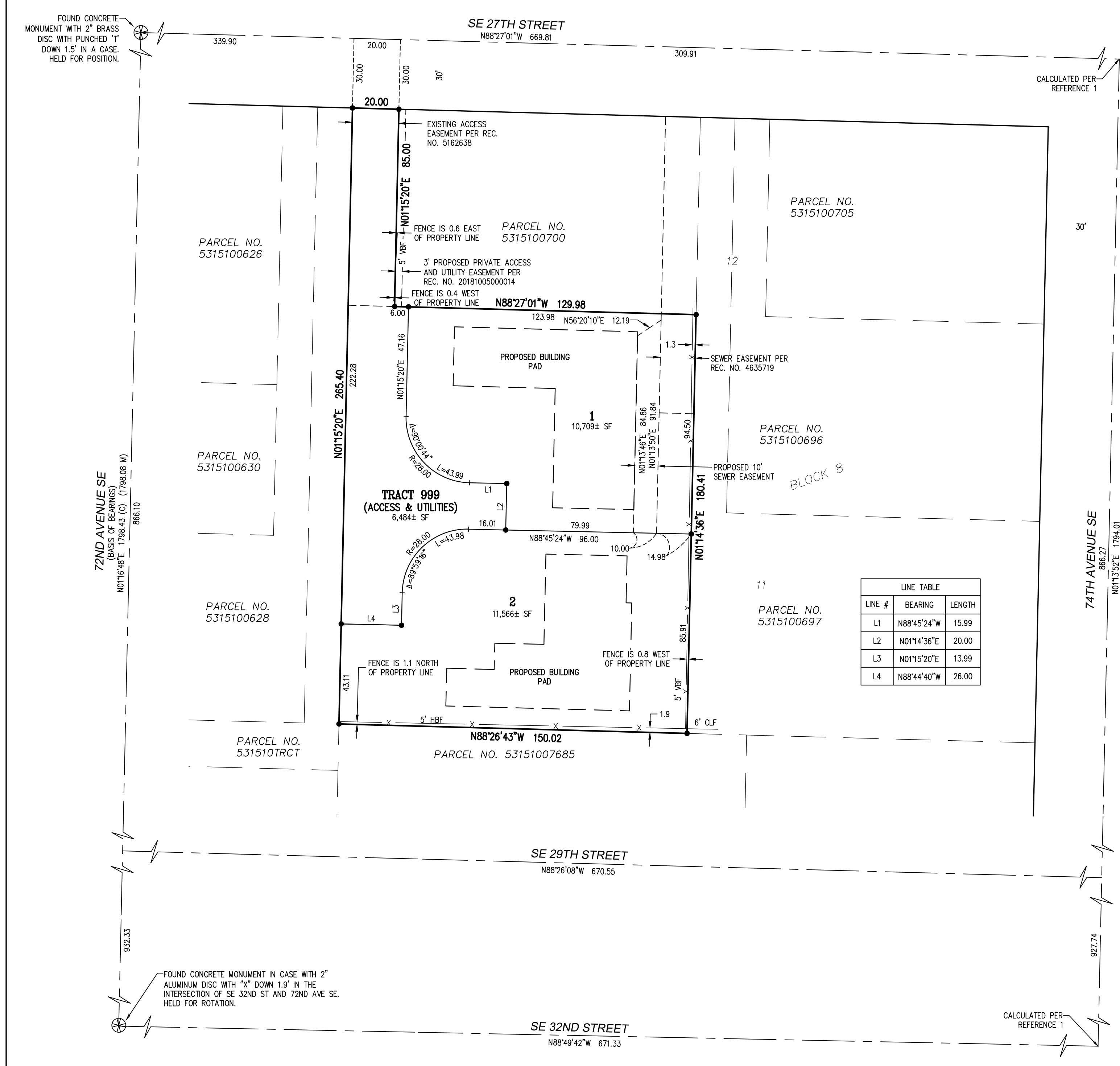
FILED FOR RECORD THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_  
AT \_\_\_\_\_ M, AT THE REQUEST OF \_\_\_\_\_

VOLUME: \_\_\_\_\_  
PAGES: \_\_\_\_\_ TO \_\_\_\_\_  
DIRECTOR OF RECORDS

**MG** | MEAD GILMAN  
LAND SURVEYORS  
P.O. BOX 289, WOODINVILLE, WA 98072  
425.486.1252 (TEL) 425.486.6108 (FAX)  
PROJ. NO. 17032 SHEET 1 OF 3

# 7239 SE 27TH STREET SHORT PLAT

NE 1/4, NW 1/4, SEC. 1, T. 24 N., R. 4 E., W.M.  
CITY OF MERCER ISLAND, KING COUNTY, WASHINGTON



**LEGEND**

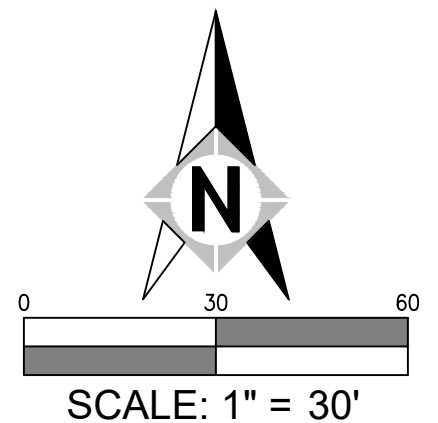
- SURVEY MONUMENT
- SET 1/2" x 24" REBAR WITH YELLOW PLASTIC CAP STAMPED "CORE 48383"
- FENCE LINE
- BSBL BUILDING SETBACK LINE
- VBF VERTICAL BOARD FENCE
- HBF HORIZONTAL BOARD FENCE
- CLF CHAINLINK FENCE

**VERTICAL DATUM**

NAVD 88

**BENCHMARK**

CONCRETE MONUMENT IN CASE AT THE INTERSECTION OF SE 12TH STREET AND 72ND AVENUE SE. ELEVATION = 259.038



**BASIS OF BEARINGS**

N01°16'24"E BETWEEN THE MONUMENTS FOUND ALONG 72ND AVENUE SE AT THE INTERSECTIONS OF SE 27TH STREET AND SE 32ND STREET, PER REFERENCE 1.

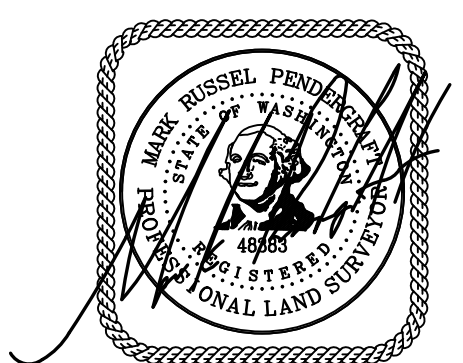
**REFERENCES**

1. RECORD OF SURVEY AS RECORDED IN VOLUME 341 OF SURVEYS, PAGE 280, UNDER RECORDING NUMBER 20160419900010.
2. MCGILVRA'S ISLAND ADDITION AS RECORDED IN VOLUME 42 OF PLATS, PAGE 58, UNDER RECORDING NUMBER 520803.

**NOTES**

1. ALL TITLE INFORMATION SHOWN ON THIS MAP HAS BEEN EXTRACTED FROM CHICAGO TITLE INSURANCE COMPANY COMMITMENT 0070077-ETU AND SUPPLEMENTAL THERETO DATED AUGUST 23, 2016. IN PREPARING THIS MAP, MEAD GILMAN HAS CONDUCTED NO INDEPENDENT TITLE SEARCH NOR IS MEAD GILMAN AWARE OF ANY TITLE ISSUES AFFECTING THE SURVEYED PROPERTY OTHER THAN THOSE SHOWN ON THE MAP AND DISCLOSED BY THE REFERENCED GUARANTEE NO. 0070077-ETU. MEAD GILMAN HAS RELIED WHOLLY ON CHICAGO TITLE INSURANCE COMPANY'S REPRESENTATIONS OF THE TITLE'S CONDITION TO PREPARE THIS SURVEY AND THEREFORE MEAD GILMAN QUALIFIES THE MAP'S ACCURACY AND COMPLETENESS TO THAT EXTENT.
2. THIS SURVEY REPRESENTS VISIBLE PHYSICAL IMPROVEMENT CONDITIONS EXISTING ON MAY 31, 2016. ALL SURVEY CONTROL INDICATED AS "FOUND" WAS RECOVERED FOR THIS PROJECT IN MAY, 2016.
3. PROPERTY AREA = 28,759± SQUARE FEET (0.6602± ACRES).
4. ALL DISTANCES ARE IN FEET.
5. THIS IS A FIELD TRAVERSE SURVEY. A FIVE SECOND COMBINED ELECTRONIC TOTAL STATION WAS USED TO MEASURE THE ANGULAR AND DISTANCE RELATIONSHIPS BETWEEN THE CONTROLLING MONUMENTATION AS SHOWN. CLOSURE RATIOS OF THE TRAVERSE MET OR EXCEEDED THOSE SPECIFIED IN WAC 332-130-090. ALL MEASURING INSTRUMENTS AND EQUIPMENT ARE MAINTAINED IN ADJUSTMENT ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

LINE TABLE		
LINE #	BEARING	LENGTH
L1	N88°45'24"W	15.99
L2	N01°14'36"E	20.00
L3	N01°15'20"E	13.99
L4	N88°44'40"W	26.00



1/3/2022

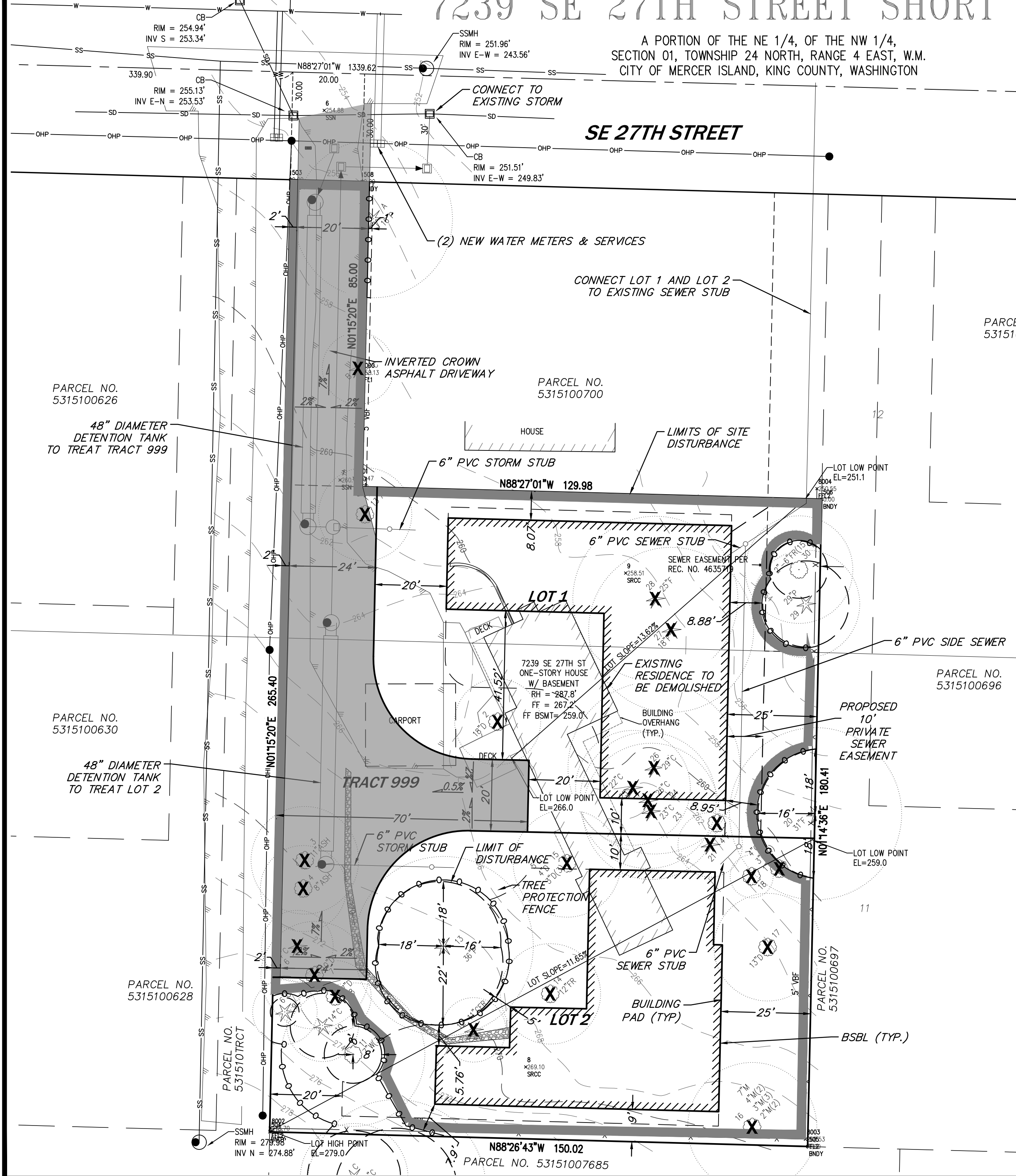
**MG** | MEAD GILMAN  
LAND SURVEYORS

P.O. BOX 289, WOODINVILLE, WA 98072  
425.486.1252 (TEL) 425.486.6108 (FAX)

PROJ. NO. 17032 SHEET 2 OF 3

# 7239 SE 27TH STREET SHORT PLAT

A PORTION OF THE NE 1/4, OF THE NW 1/4,  
SECTION 01, TOWNSHIP 24 NORTH, RANGE 4 EAST, W.M.  
CITY OF MERCER ISLAND, KING COUNTY, WASHINGTON



### LEGEND

- SURVEY MONUMENT
- SET 1/2" x 24" REBAR WITH YELLOW PLASTIC CAP STAMPED "CORE 48383"
- FENCE LINE
- VERTICAL BOARD FENCE
- HORIZONTAL BOARD FENCE
- CHAINLINK FENCE
- POWER POLE
- FIRE HYDRANT
- WATER METER
- SEWER MANHOLE
- CATCH BASIN
- EVERGREEN TREE
- DECIDUOUS TREE
- STORM LINE
- SEWER LINE
- OVERHEAD POWER
- CLEARING LIMITS
- TREE PROTECTION FENCE

### VERTICAL DATUM

NAVD 88

### BENCHMARK

CONCRETE MONUMENT IN CASE AT THE INTERSECTION OF SE 127TH STREET AND 72ND AVENUE SE.

ELEVATION = 259.038

### BASIS OF BEARINGS

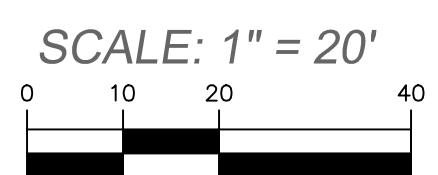
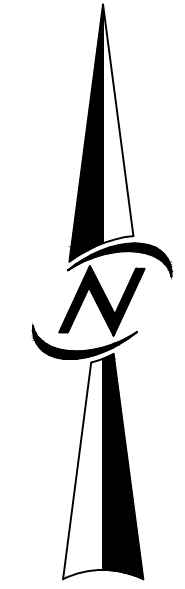
N01°16'24"E BETWEEN THE MONUMENTS FOUND ALONG 72ND AVENUE SE AT THE INTERSECTIONS OF SE 27TH STREET AND SE 32ND STREET, PER REFERENCE 1.

### REFERENCES

1. RECORD OF SURVEY AS RECORDED IN VOLUME 341 OF SURVEYS, PAGE 280, UNDER RECORDING NUMBER 20160419900010.
2. MCGILVRA'S ISLAND ADDITION AS RECORDED IN VOLUME 42 OF PLATS, PAGE 58, UNDER RECORDING NUMBER 520803.

### NOTES

1. ALL TITLE INFORMATION SHOWN ON THIS MAP HAS BEEN EXTRACTED FROM CHICAGO TITLE INSURANCE COMPANY. IN PREPARING THIS MAP, CORE DESIGN, INC. HAS CONDUCTED NO INDEPENDENT TITLE SEARCH NOR IS CORE DESIGN, INC. AWARE OF ANY TITLE ISSUES AFFECTING THE SURVEYED PROPERTY OTHER THAN THOSE SHOWN ON THE MAP AND DISCLOSED BY THE REFERENCED GUARANTEE NO. 0070077-ETU. CORE DESIGN, INC. HAS RELIED WHOLLY ON CHICAGO TITLE INSURANCE COMPANY'S REPRESENTATIONS OF THE TITLE'S CONDITION TO PREPARE THIS SURVEY AND THEREFORE CORE DESIGN, INC. QUALIFIES THE MAP'S ACCURACY AND COMPLETENESS TO THAT EXTENT.
2. THIS SURVEY REPRESENTS VISIBLE PHYSICAL IMPROVEMENT CONDITIONS EXISTING ON MAY 31, 2016. ALL SURVEY CONTROL INDICATED AS "FOUND" WAS RECOVERED FOR THIS PROJECT IN MAY, 2016.
3. PROPERTY AREA = 28,759± SQUARE FEET (0.6602± ACRES).
4. ALL DISTANCES ARE IN FEET.
5. THIS IS A FIELD TRAVERSE SURVEY. A SOKKIA FIVE SECOND COMBINED ELECTRONIC TOTAL STATION WAS USED TO MEASURE THE ANGULAR AND DISTANCE RELATIONSHIPS BETWEEN THE CONTROLLING MONUMENTATION AS SHOWN. CLOSURE RATIOS OF THE TRAVERSE MET OR EXCEEDED THOSE SPECIFIED IN WAC 332-130-090. ALL MEASURING INSTRUMENTS AND EQUIPMENT ARE MAINTAINED IN ADJUSTMENT ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
6. TOPOGRAPHIC INFORMATION SHOWN HEREON WAS PROVIDED BY SITE SURVEYING, INCORPORATED. CORE DESIGN DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF SAID INFORMATION.



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ENGINEERING • PLANNING • SURVEYING  
JOB NO. 16082

**C. Gary Schulz**

**Wetland/Forest Ecologist**

7700 S. Lakeridge Drive  
Seattle, Washington 98178-3135  
206/772/6514 ~ 206/920/5489 cell

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May 17, 2017

Mr. David Yeh  
P.O. Box 809  
Mercer Island, WA 98040

**Re: Wetland / Stream Reconnaissance on the Mercer Island - Short Plat Property  
(Parcel #1224049034): City of Mercer Island, WA # SUB 16-011.**

Dear Mr. Yeh:

Per your request, I conducted a wetland and stream reconnaissance on your Mercer Island Property. The Property is 0.63 acres located at 7239 S.E. 27<sup>th</sup> Street in the City of Mercer Island (Parcel # 5315100695). The site has been developed with one house and a detached carport.

The City issued a letter dated March 14, 2017 requesting a critical area review from a qualified professional. The City's IGS (Information & Geographic Services) website map does not depict wetlands or watercourses on the Property but this mapping requires on-site verification. The Washington State Wetland Rating System for Western Washington (Ecology Pub. # 04-06-025) is currently used to rate wetlands per the City's code definitions.

### **Purpose**

The primary purpose of this report is to respond to the City's request (3/14/17 Letter – Robin Proebsting, Senior Planner). An on-site reconnaissance is to confirm the absence or presence of wetland or stream (watercourse) areas and/or associated buffers. Wetland and/or stream ratings and associated buffers are provided per the City's critical areas code (Mercer Island Municipal Code - Chapter 19.07).

### **Methodology**

The wetland method used the Corps of Engineers Wetland Delineation Manual (1987), as required, for wetland identification. In addition, the Regional Supplement to the Corps of Engineers Wetland Delineation Manual (Regional Supplement-May 2010) is used specifically for Western Mountains, Valleys, and Coast Region. Wetland determination criteria (vegetation, soils, and hydrology) observed on-site was used to support the reconnaissance investigation findings. If stream channels were present the Ordinary High Water Mark (OHWM) would be flagged to map those areas.

Mr. David Yeh, Mercer Island (Parcel # 5315100695)  
May 17, 2017  
Page 2

Wetland Data Plots # 1 and # 2 are attached to this letter report. Figures 1 and 2 are attached as the City's IGS (GIS) Watercourse local mapping and the Topographic Survey for 7239 SE 27<sup>th</sup> Street (Site Surveying Inc. 1/18/16). The Survey may be reviewed as the full-size and scaled version submitted with the application materials. Several photographs from the reconnaissance are also attached to this letter report.

### **Wetland / Stream Reconnaissance**

The Reconnaissance was conducted on April 7, 2017 to review the potential presence of wetland area or a stream (watercourse) channel on the subject Property. The site is one lot described as developed land with scattered tree cover. Formal landscaping and maintained lawn areas cover most of the property adjacent to the existing house and carport.

Douglas fir (*Pseudotsuga menziesii*) and mountain ash (*Sorbus spp.*) trees are present along the east property boundary. Groups of Western red cedar (*Thuja plicata*) are present on the upper west side of the Property and include a pine (*Pinus spp.*) tree. Some Western hazelnut (*Corylus cornuta*) shrub cover was observed. The past grading and construction of an old retaining wall have disturbed the south boundary area. This area is bordered by dense Himalayan blackberry (*Rubus discolor*) but includes sword fern (*Polystichum munitum*) groundcover. The Property is predominantly a landscaped site.

The site's topography is gently sloping to the east and drops towards a natural area that is located just off-site (Figure 1 & 2). There are no visible signs of erosion from surface water runoff or related watercourse / stream channels on the Property. Recent rainfall combined with compacted soil caused mowed lawn areas to be wet at the time of this investigation.

A wet area was observed next to the Property's south boundary at the toe of an old retaining wall. Groundwater seepage can also be attributed to the cut slope area where the wall was constructed. This was the only area that needed wetland data plots to confirm wetland or non-wetland conditions on the Property. Abnormally wet conditions were expected as the rainfall data from the Sea-Tac Airport Climate Summary for March 2017 recorded above normal rainfall since January 1, 2017.

The wetland data plots (Plots # 1 & 2) were installed adjacent to the retaining wall and graded area on the south side of the Property. The area is compacted and has significant shrub cover of Himalayan blackberry. The dominant groundcover is hydrophytic (wetland) due to the presence of creeping buttercup (*Ranunculus repens*) and bluegrass (*Poa spp.*) However, the observed soil conditions indicate upland area with gravelly sandy loam soil. Also the hydrology observed in the excavated soil pits was absent or very limited and did not indicate wetland conditions.

Mr. David Yeh, Mercer Island (Parcel # 5315100695)  
May 17, 2017  
Page 3

In summary, the Reconnaissance did not observe wetland area or a watercourse / stream channel on the Property. Please contact me if you require more information or have questions.

Sincerely,

  
C. Gary Schulz  
Wetland/Forest Ecologist



### Legend

- Eagle Nest
- Eagle Nest Buffer
  - 330 Ft
  - 660 Ft
- Watercourse
  - 1-Potential Fish Use
  - 2-Perennial
  - 3-Seasonal
- Bridge
- Paved Road
- Streets
- SideWalk
- Paved Driveway
- Paved Parking Area
- 12345 Address
- Building
- Parcels
- Docks
- Parks

1:2,669



444.8      0      222.39      444.8 Feet



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

### Notes

Figure 1



View: South central portion of Lot.  
Wetland Data Plot 1 is near the toe of an old rockery.



View: Southeast corner of Lot.  
Wetland Data Plot 2 is also in a lawn area near the old rockery.



View: Wetland Data Plot 2 soil pit. The soil pit was dry - non-hydric soil and no wetland hydrology.

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

Project Site: SE 27<sup>th</sup> Street Mercer Island City/County: Mercer Island/King Sampling Date: 4/7/17  
 Applicant/Owner: David Yeh State: WA Sampling Point: 1  
 Investigator(s): Gary Schulz Section, Township, Range: 12, 24N, 4E  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 2  
 Subregion (LRR): A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Alderwood (AgC) NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Remarks: <b>Plot is located along south boundary adjacent to old retaining wall - rockery. Area is gently sloping to the east. Higher than normal rainfall.</b>					

### VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>to 100<sup>th</sup> acre</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test Worksheet:</b>	
1. _____	_____	<u>n/a*</u>	<u>=</u>	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>3</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u> (A/B)
4. _____	_____	_____	_____		
50% = _____, 20% = _____	_____	= Total Cover			
Sapling/Shrub Stratum (Plot size: <u>100<sup>th</sup> acre</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Prevalence Index worksheet:</b>	
1. <u>Rubus discolor</u>	<u>5</u>	<u>no</u>	<u>FAC</u>	<u>Total % Cover of:</u>	<u>Multiply by:</u>
2. _____	_____	<u>n/a*</u>	_____	OBL species _____	x1 = _____
3. _____	_____	_____	_____	FACW species _____	x2 = _____
4. _____	_____	_____	_____	FAC species _____	x3 = _____
5. _____	_____	_____	_____	FACU species _____	x4 = _____
50% = _____, 20% = _____	<u>5</u>	= Total Cover		UPL species _____	x5 = _____
Herb Stratum (Plot size: <u>100<sup>th</sup> acre</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Column Totals: _____ (A)	_____ (B)
1. <u>Ranunculus repens</u>	<u>30</u>	<u>yes</u>	<u>FACW</u>	Prevalence Index = B/A = _____	
2. <u>Poa sp.</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b>	
3. <u>Hypochaeris sp.</u>	<u>I</u>	<u>no</u>	<u>FACU</u>		
4. <u>moss sp.</u>	<u>50</u>	<u>yes</u>	<u>FAC</u>		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
50% = _____, 20% = _____	<u>100</u>	= Total Cover			
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
50% = _____, 20% = _____	_____	= Total Cover			
% Bare Ground in Herb Stratum _____					
Remarks: <u>Mowed lawn.</u>					

**SOIL**

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<u>8</u>	<u>10YR4/2</u>	<u>100</u>	_____	_____	_____	_____	<u>sandy loam</u>	<u>very moist</u>
<u>16</u>	<u>2.5Y5/1</u>	<u>50</u>	_____	_____	_____	_____	<u>sandy loam</u>	<u>saturated</u>
_____	_____	_____	<u>10YR5/6</u>	<u>50</u>	<u>C</u>	<u>M</u>	<u>sandy loam</u>	<u>saturated</u>
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils <sup>3</sup> :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(except MLRA 1)</b>	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soils Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
--	--

Remarks: Groundwater present but upper soil layer lacks redox features with high value color.

**HYDROLOGY**

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)
<input type="checkbox"/> High Water Table (A2)	<b>(except MLRA 1, 2, 4A, and 4B)</b>
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stresses Plants (D1) <b>(LRR A)</b>
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9)
	<b>(MLRA 1, 2, 4A, and 4B)</b>
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Raised Ant Mounds (D6) <b>(LRR A)</b>
	<input type="checkbox"/> Frost-Heave Hummocks (D7)

<b>Field Observations:</b> Surface Water Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>0</u> Water Table Present?      Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>16</u> Saturation Present?        Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>13</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Above normal rainfall recorded at Sea Tac for March 2017.

Remarks: Water in soil pit seeping in at 16 inches. Saturation is below 12 inches.

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

Project Site: SE 27<sup>th</sup> Street Mercer Island City/County: Mercer Island/King Sampling Date: 4/7/17  
 Applicant/Owner: David Yeh State: WA Sampling Point: 2  
 Investigator(s): Gary Schulz Section, Township, Range: 12, 24N, 4E  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 1  
 Subregion (LRR): A Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Alderwood (AgC) NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology , significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology , naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b>	
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks: <b>Plot is located along south boundary approximately 30 feet east of DP-1. Area is gently sloping to the east. Higher than normal rainfall.</b>			

### VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>to 100<sup>th</sup> acre</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:																
1. _____	_____	<u>n/a*</u>	<u>=</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
50% = _____, 20% = _____	_____	= Total Cover		<b>Prevalence Index worksheet:</b>  <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;"><u>Total % Cover of:</u></td> <td style="text-align: center;"><u>Multiply by:</u></td> </tr> <tr> <td>OBL species _____</td> <td>x1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x5 = _____</td> </tr> <tr> <td>Column Totals: _____ (A)</td> <td>_____ (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = _____</td> </tr> </table>	<u>Total % Cover of:</u>	<u>Multiply by:</u>	OBL species _____	x1 = _____	FACW species _____	x2 = _____	FAC species _____	x3 = _____	FACU species _____	x4 = _____	UPL species _____	x5 = _____	Column Totals: _____ (A)	_____ (B)	Prevalence Index = B/A = _____	
<u>Total % Cover of:</u>	<u>Multiply by:</u>																			
OBL species _____	x1 = _____																			
FACW species _____	x2 = _____																			
FAC species _____	x3 = _____																			
FACU species _____	x4 = _____																			
UPL species _____	x5 = _____																			
Column Totals: _____ (A)	_____ (B)																			
Prevalence Index = B/A = _____																				
<u>Sapling/Shrub Stratum (Plot size: 100<sup>th</sup> acre)</u>																				
1. <u>Rubus discolor</u>	<u>15</u>	<u>no</u>	<u>FAC</u>																	
2. _____	_____	<u>n/a*</u>	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
50% = _____, 20% = _____	<u>15</u>	= Total Cover																		
<u>Herb Stratum (Plot size: 100<sup>th</sup> acre)</u>																				
1. <u>Ranunculus repens</u>	<u>30</u>	<u>yes</u>	<u>FACW</u>																	
2. <u>Poa sp.</u>	<u>30</u>	<u>yes</u>	<u>FAC</u>																	
3. <u>Poa compressa</u>	<u>10</u>	<u>no</u>	<u>FAC</u>																	
4. <u>Taraxicum officinale</u>	<u>10</u>	<u>no</u>	<u>FAC</u>																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
50% = _____, 20% = _____	<u>80</u>	= Total Cover																		
<u>Woody Vine Stratum (Plot size: _____)</u>																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
50% = _____, 20% = _____	_____	= Total Cover																		
% Bare Ground in Herb Stratum _____																				
<table style="width: 100%; border: none;"> <tr> <td style="width: 35%;"><b>Hydrophytic Vegetation Present?</b></td> <td style="width: 15%;">Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></td> <td style="width: 30%;"></td> <td style="width: 20%;"></td> </tr> </table>				<b>Hydrophytic Vegetation Present?</b>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>															
<b>Hydrophytic Vegetation Present?</b>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																			
Remarks: <u>Lawn area.</u>																				

**SOIL**

Sampling Point: 2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
13	10YR3/2	100	_____	_____	_____	_____	sandy loam	gravelly, dry
18	10YR5/2	70	_____	_____	_____	_____	sandy loam	gravelly, dry
_____	10YR5/3	30	_____	_____	_____	_____	sandy loam	gravelly, dry
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

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

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

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

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

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

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soils Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

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

Secondary Indicators (2 or more required)

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

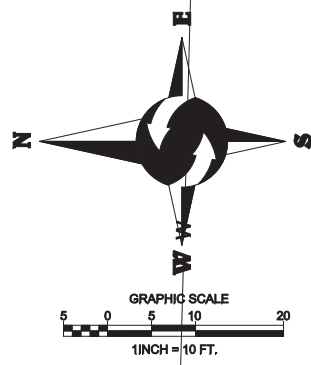
**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): 0  
 Water Table Present? Yes  No  Depth (inches): 0  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): 0

**Wetland Hydrology Present?** Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Above normal rainfall recorded at Sea Tac for March 2017.

Remarks:



**GENERAL NOTES**

1. THIS SURVEY WAS COMPLETED WITHOUT BENEFIT OF A CURRENT TITLE REPORT. EASEMENTS AND OTHER ENCUMBRANCES MAY EXIST ON THIS PROPERTY THAT ARE NOT SHOWN HEREON.
2. INSTRUMENTATION FOR THIS SURVEY WAS A 3-SECOND NIKON NIVO 5.C TOTAL STATION. PROCEDURES USED IN THIS SURVEY MEET OR EXCEED STANDARDS SET BY WAC 332-130-090.
3. THE INFORMATION ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY MADE IN JANUARY 2016 AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.
4. UTILITIES SHOWN ON THIS SURVEY ARE BASED UPON ABOVE GROUND OBSERVATIONS AND AS-BUILT PLANS WHERE AVAILABLE. ACTUAL LOCATIONS OF UNDERGROUND UTILITIES MAY VARY AND UTILITIES NOT SHOWN ON THIS SURVEY MAY EXIST ON THIS SITE.
5. ALL MONUMENTS WERE LOCATED DURING THIS SURVEY UNLESS OTHERWISE NOTED.

**LEGAL DESCRIPTION**

WEST HALF OF LOTS 11 AND 12, BLOCK 8, MCGIVRA'S ISLAND ADDITION, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 18 OF PLATS, PAGE 58, IN KING COUNTY, WASHINGTON, EXCEPT THE NORTH 85 FEET OF SAID WEST HALF OF LOT 12 TOGETHER WITH THE WEST 20 FEET OF THE NORTH 85 FEET OF SAID LOT 12. SITUATE IN THE CITY OF MERCER ISLAND, COUNTY OF KING, STATE OF WASHINGTON.

**PROJECT INFORMATION**

**SURVEYOR:** SITE SURVEYING, INC.  
21223 NE 11TH ST  
SAMMAMISH, WA 98074  
PHONE: 425.296.4412

**PROPERTY OWNER:** 7239 LLC  
PO BOX 809  
MERCER ISLAND, WA 98040

**TAX PARCEL NUMBER:** 531510-0865

**PROJECT ADDRESS:** 7239 SE 27TH STREET  
MERCER ISLAND, WA 98040

**ZONING:** R-4-B

**JURISDICTION:** CITY OF MERCER ISLAND

**PARCEL ACREAGE:** 28,794 S.F. (± 0.660 ACRES)  
AS SURVEYED

**VERTICAL DATUM & CONTOUR INTERVAL**

ELEVATIONS SHOWN ON THIS DRAWING WERE DERIVED FROM INFORMATION PROVIDED BY THE WGS SURVEY DATA WAREHOUSE.

POINT ID NO. 8240  
CONCRETE MONUMENT IN CASE AT THE INTERSECTION OF SE 127TH STREET AND 72ND AVENUE SE.

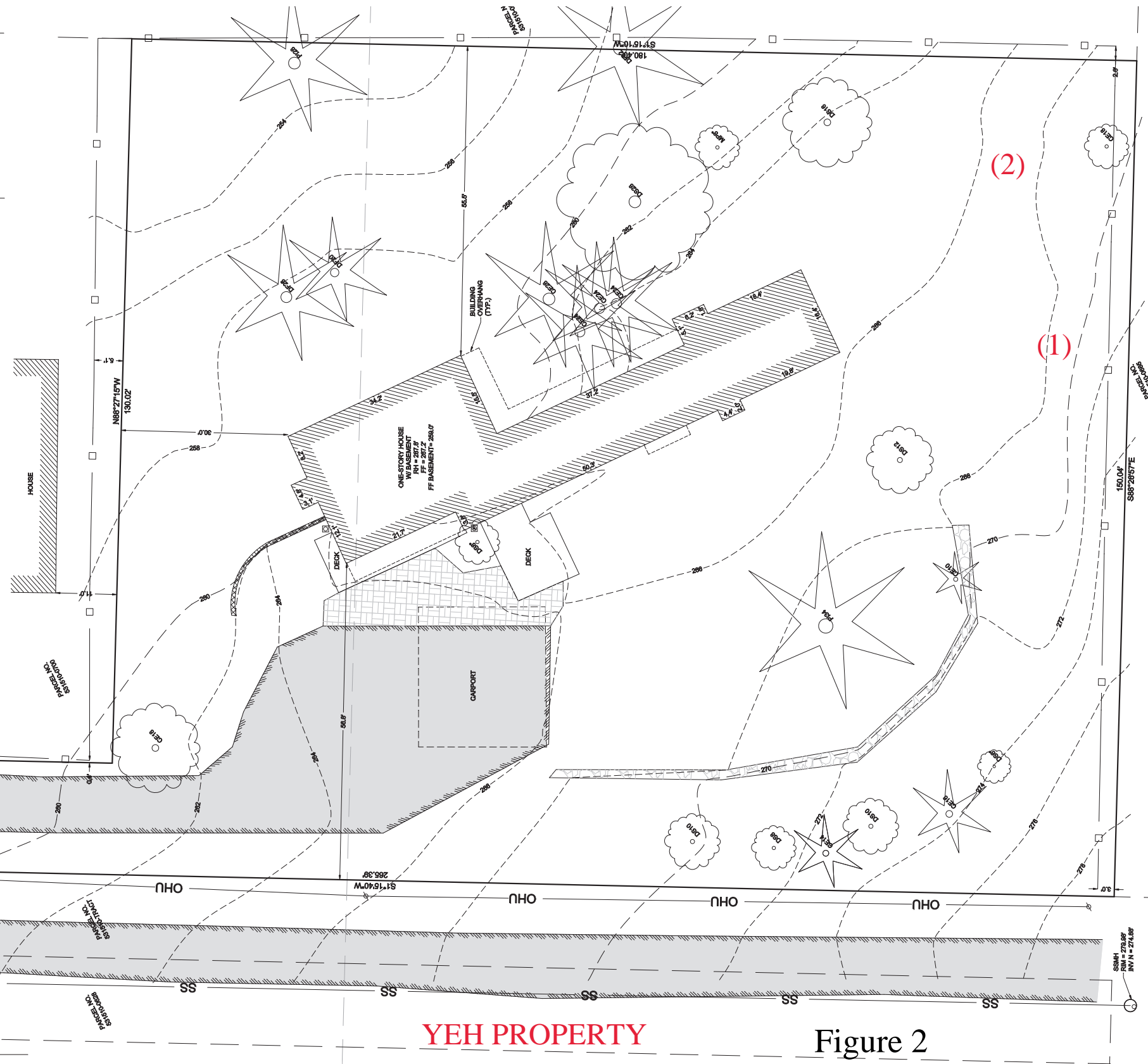
ELEVATION: 259.038 FEET NAVD 88

2.0' CONTOUR INTERVAL - THE EXPECTED VERTICAL ACCURACY IS EQUAL TO 1/2 THE CONTOUR INTERVAL OR PLUS / MINUS 1.0' FOR THIS PROJECT.



**LEGEND**

- SET 5/8" X 24" IRON ROD WITH YELLOW PLASTIC CAP
- ⊠ POWER METER
- ⊙ UTILITY POLE
- ⊠ GAS METER
- ⊠ SANITARY SEWER CLEANOUT
- ⊠ SANITARY SEWER MANHOLE
- ⊠ WATER VALVE
- ⊠ FIRE HYDRANT
- ⊠ WATER METER
- ⊠ SIGN
- SS- APPROXIMATE LOCATION SANITARY SEWER LINE
- SD- APPROXIMATE LOCATION STORM DRAIN LINE
- OHU- OVERHEAD POWER
- X- OVERHEAD UTILITIES
- WOOD FENCE
- ▨ CONCRETE WALL
- ⊠ ROCKERY
- ▨ ASPHALT SURFACE
- ▨ CONCRETE SURFACE
- CE CEDAR
- DB DECIDUOUS
- DF DOUGLAS FIR
- MP MAPLE
- PI PINE
- \* INDICATES MULTI-TRUNK



Wetland Data Plots - (1) (approximate location)

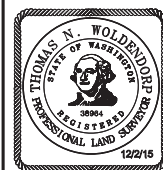
Figure 2

NE 1/4, NW 1/4, SEC 12, TWP 24N, RNG 4E, W.M.

**TOPOGRAPHIC SURVEY**  
7239 LLC  
7239 SE 27TH STREET  
MERCER ISLAND, WA 98040

PROJECT NO. 15-538  
DRAWN BY: EFJ  
CHECKED BY: TNW  
DATE: 1/18/16  
SHEET 1 OF 1

DATE	REVISION	DRN



## Arborist Summary Memo

To: David Yeh

Site: 7239 SE 27th Street, Mercer Island, WA

Re: Summary of arborist reports over last 5 years

Date: September 3, 2021

Project Arborist: Holly Iosso, Registered Consulting Arborist # 567  
ISA Certified Arborist PN- 6298A  
ISA Qualified Tree Risk Assessor

Referenced Docs: Arborist Report (Taylor/Hogan, Tree Solutions Inc., revised 10/11/2019)  
Tree Limits of Disturbance (Greenforest Inc., 12/27/2017)  
Arborist Monitoring Report (Dugan, Tree Solutions inc., 7/10/2019)  
Arborist Monitoring Memo (McDermott, Tree Solutions Inc., 1/5/2021)

Attached: "7239 SE 27<sup>th</sup> St Short Plat" (Core Design, undated see attached site plan)

This project has been underway for over 5 years, and there have been multiple arborists, site visits and tree reports related to this site. This memo intends to provide clarity for the reviewer by summarizing these visits and providing a final assessment of trees as they relate to current development plans.

The current development plan I have reviewed is used as Appendix A: Site Map.

Trees proposed for retention are:

	Species	DSH <sup>2</sup>	Health	Exploratory excavation	Revised LOD <sup>1</sup>			
					N	E	S	W
<b>9</b>	Western redcedar	5.7"	Good	--	4	--	--	--
<b>10</b>	Western redcedar	13.8"	Good	--	10	10	--	--
<b>11</b>	Willow	7.4, 6.7, 6.7"	Good	--	8	8	--	--
<b>13</b>	Ponderosa Pine	36"	Good	Yes – all 4 sides	18	16	22	18
<b>20</b>	Douglas-fir	31"	Good	Yes – on east side only	--	--	--	16
<b>29</b>	Ponderosa Pine	28"	Good	--	--	--	--	14
<b>30</b>	Flowering plum	Multi-stem*	Good	--	--	--	--	8

\* Multi-stem measurements (rounded to the nearest inch) were 6, 6, 5, 5, 5, 4, 4, 4, 4, 4, 2, 2, 2, 2, 2, 2

<sup>1</sup> LOD: Limits of Disturbance is distance (ft) to trunk where no impact (excavation, compaction, material storage, or pedestrian/machinery access may occur)

<sup>2</sup> DSH: Diameter at Standard Height

It is my professional opinion that, if strict tree protection requirements are followed during demolition, regrading, construction and landscaping, all of the retained trees will remain stable. A list of tree protection specifications should be included in the demolition permit as well as the construction permit. These specifications are listed in Appendix D.

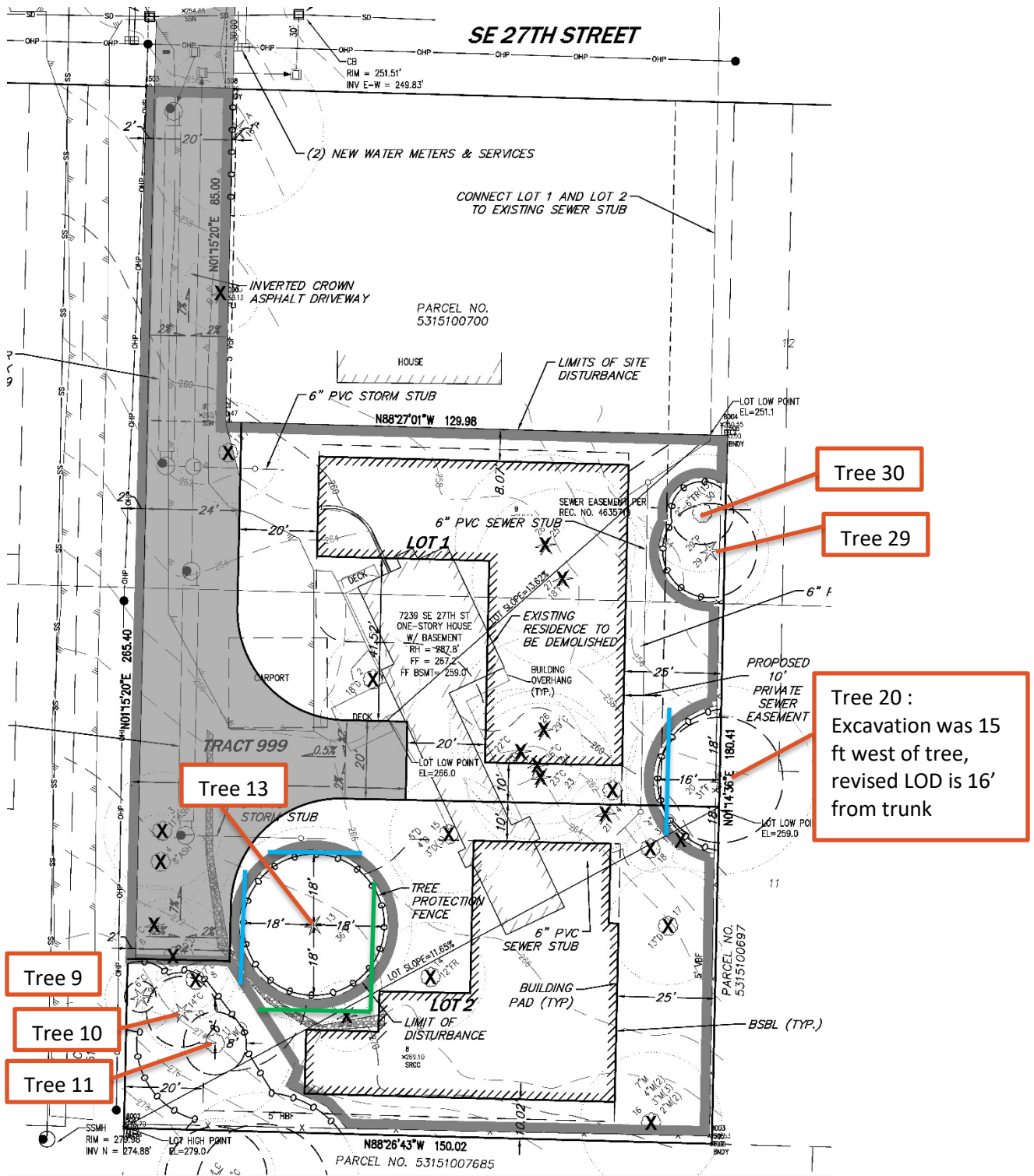
If these trees are all provided supplemental irrigation before, during, and (up to 3 years) after construction, the trees should also remain viable for future years.

Please contact me if you have more questions.

Respectfully submitted,

Holly Iosso,  
Principal, Senior Arborist

### Appendix A Site Map



**Site Map.** Approximate locations of exploratory excavation. Green lines indicate 2019 trenches (22 ft south, 16 ft east). Blue lines indicate 2021 trenches (18 ft north, 18 ft west). Base map is most recent development plan provided to me by Core Design in July 2021.

## Appendix B Photographs



**Photograph 1.** Northern and western trenches of Tree 13 (2021)



**Photograph 2.** Trenches from 2019 (S / E)



**Photograph 3.** View looking east towards Tree 20 (2021)



**Photograph 4.** Trench on west side of Tree 20 (2021)

## Appendix C Assumptions & Limiting Conditions

- 1 Consultant assumes that the site and its use do not violate, and is in compliance with, all applicable codes, ordinances, statutes or regulations.
- 2 The consultant may provide a report or recommendation based on published municipal regulations. The consultant assumes that the municipal regulations published on the date of the report are current municipal regulations and assumes no obligation related to unpublished city regulation information.
- 3 Any report by the consultant and any values expressed therein represent the opinion of the consultant, and the consultant's fee is in no way contingent upon the reporting of a specific value, a stipulated result, the occurrence of a subsequent event, or upon any finding to be reported.
- 4 All photographs included in this report were taken by Tree Solutions, Inc. during the documented site visit, unless otherwise noted. Sketches, drawings and photographs (included in, and attached to, this report) are intended as visual aids and are not necessarily to scale. They should not be construed as engineering drawings, architectural reports or surveys. The reproduction of any information generated by architects, engineers or other consultants and any sketches, drawings or photographs is for the express purpose of coordination and ease of reference only. Inclusion of such information on any drawings or other documents does not constitute a representation by the consultant as to the sufficiency or accuracy of the information.
- 5 Unless otherwise agreed, (1) information contained in any report by consultant covers only the items examined and reflects the condition of those items at the time of inspection; and (2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, climbing, or coring.
- 6 These findings are based on the observations and opinions of the authoring arborist, and do not provide guarantees regarding the future performance, health, vigor, structural stability or safety of the plants described and assessed.
- 7 Measurements are subject to typical margins of error, considering the oval or asymmetrical cross-section of most trunks and canopies.
- 8 Tree Solutions did not review any reports or perform any tests related to the soil located on the subject property unless outlined in the scope of services. Tree Solutions staff are not and do not claim to be soils experts. An independent inventory and evaluation of the site's soil should be obtained by a qualified professional if an additional understanding of the site's characteristics is needed to make an informed decision.
- 9 Our assessments are made in conformity with acceptable evaluation/diagnostic reporting techniques and procedures, as recommended by the International Society of Arboriculture.

## Appendix D Tree Protection Specifications

*The following is a list of protection measures that must be employed before, during and after construction to ensure the long-term viability of retained trees.*

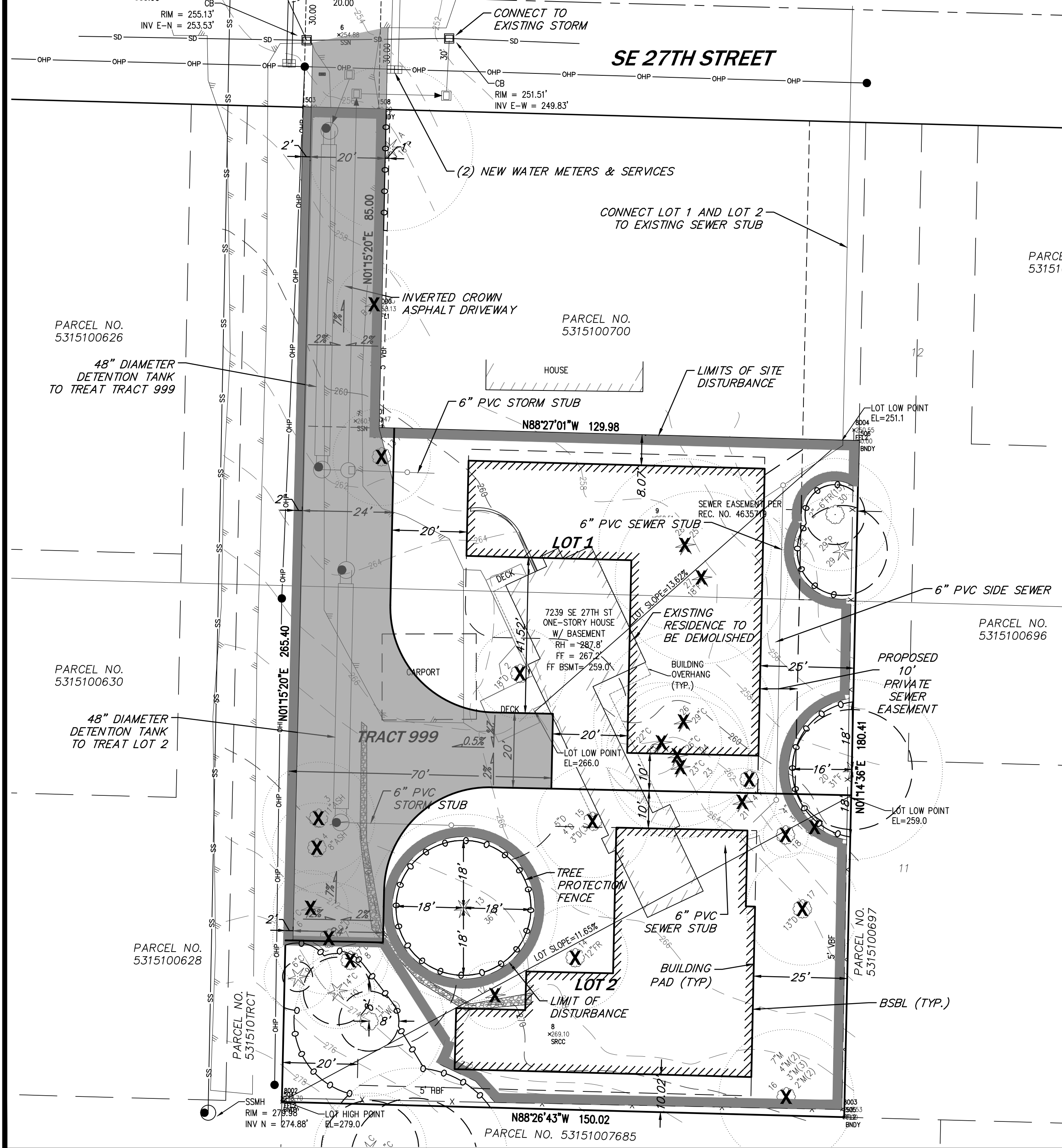
1. **Project Arborist:** The project arborists shall at minimum have an International Society of Arboriculture (ISA) Certification and ISA Tree Risk Assessment Qualification.
2. **Tree Protection Area (TPA):** TPA is the area within the dripline of all retained trees. The TPA for non-exceptional trees may be reduced to within the dripline based on the recommendation of the project arborist. The TPA for exceptional trees may be reduced to within the dripline based on the recommendation of the project arborist and approval by the City of Seattle.
3. **Tree Protection Fencing:** Tree protection fencing shall consist of 6-foot tall chain-link fencing installed at the edge of the TPA as approved by the project arborist. Fence posts shall be anchored into the ground or bolted to existing hardscape surfaces.
  - a. Where trees are being retained as a group the fencing shall encompass the entire area including all landscape beds or lawn areas associated with the group.
  - b. Per arborist approval, TPA fencing may be placed at the edge of existing hardscape within the TPA to allow for staging and traffic.
  - c. Where work is planned within the TPA, install fencing at edge of TPA and move to limits of disturbance at the time that the work within the TPA is planned to occur. This ensures that work within the TPA is completed to specification.
  - d. Where trees are protected at the edge of the project boundary, construction limits fencing shall be incorporated as the boundary of tree protection fencing.
4. **Access Beyond Tree Protection Fencing:** In areas where work such as installation of utilities is required within the TPA, a locking gate will be installed in the fencing to facilitate access. The project manager or project arborist shall be present when tree protection areas are accessed.
5. **Tree Protection Signage:** Tree protection signage shall be affixed to fencing every 20 feet. Signage shall be fluorescent, at least 2' x 2' in size. Signage must include all information in the PDF located here: <http://www.seattle.gov/Documents/Departments/SDCI/Codes/TreeProtectionAreaSign.pdf> in addition to the contact information for the project manager and instructions for gaining access to the area.
6. **Filter / Silt Fencing:** Filter / silt fencing within, or at the edge of the TPA of retained trees shall be installed in a manner that does not sever roots. Install so that filter / silt fencing sits on the ground and is weighed in place by sandbags or gravel. Do not trench to insert filter / silt fencing into the ground.
7. **Monitoring:** The project arborist shall monitor all ground disturbance at the edge of or within the TPA.
8. **Soil Protection:** Retain existing paved surfaces within or at the edge of the TPA for as long as possible. No parking, foot traffic, materials storage, or dumping (including excavated soils) are allowed within the TPA. Heavy machinery shall remain outside of the TPA. Access to the tree protection area will be granted under the supervision of the project arborist. If project arborist allows, heavy machinery can enter the area if soils are protected from the load. Acceptable methods of soil protection include placing 3/4-inch plywood over 4 to 6 inches of wood chip mulch, or use of AlturnaMats® (or equivalent product approved by the project arborist). Compaction of soils within the TPA must not occur.
9. **Soil Remediation:** Soil compacted within the TPA of retained trees shall be remediated using pneumatic air excavation according to a specification produced by the project arborist.

10. **Canopy Protection:** Where fencing is installed at the limits of disturbance within the TPA, canopy management (pruning or tying back) shall be conducted to ensure that vehicular traffic does not damage canopy parts. Exhaust from machinery shall be located 5 feet outside the dripline of retained trees. No exhaust shall come in contact with foliage for prolonged periods of time.
11. **Duff/Mulch:** Apply 6 inches of arborist wood chip mulch or hog fuel over bare soil within the TPA to prevent compaction and evaporation. TPA shall be free of invasive weeds to facilitate mulch application. Keep mulch 1 foot away from the base of trees and 6 inches from retained understory vegetation. Retain and protect as much of the existing duff and understory vegetation as possible.
12. **Excavation:** Excavation done within the TPA shall use alternative methods such as pneumatic air excavation or hand digging. If heavy machinery is used, use flat front buckets with the project arborist spotting for roots. When roots are encountered, stop excavation and cleanly sever roots. The project arborist shall monitor all excavation done within the TPA.
13. **Fill:** Limit fill to 1 foot of uncompacted well-draining soil, within the TPA of retained trees. In areas where additional fill is required, consult with the project arborist. Fill must be kept at least 1 foot from the trunks of trees.
14. **Root Pruning:** Limit root pruning to the extent possible. All roots shall be pruned with a sharp saw making clean cuts. Do not fracture or break roots with excavation equipment.
15. **Root Moisture:** Root cuts and exposed roots shall be immediately covered with soil, mulch, or clear polyethylene sheeting and kept moist. Water to maintain moist condition until the area is back filled. Do not allow exposed roots to dry out before replacing permanent back fill.
16. **Hardscape Removal:** Retain hardscape surfaces for as long as practical. Remove hardscape in a manner that does not require machinery to traverse newly exposed soil within the TPA. Where equipment must traverse the newly exposed soil, apply soil protection as described in section 8. Replace fencing at edge of TPA if soil exposed by hardscape removal will remain for any period of time.
17. **Tree Removal:** All trees to be removed that are located within the TPA of retained trees shall not be ripped, pulled, or pushed over. The tree should be cut to the base and the stump either left or ground out. A flat front bucket can also be used to sever roots around all sides of the stump, or the roots can be exposed using hydro or air excavation and then cut before removing the stump.
18. **Irrigation:** Retained trees with soil disturbance within the TPA will require supplemental water from June through September. Acceptable methods of irrigation include drip, sprinkler, or watering truck. Trees shall be watered three times per month during this time.
19. **Pruning:** Pruning required for construction and safety clearance shall be done with a pruning specification provided by the project arborist in accordance with American National Standards Institute ANSI-A300 2017 Standard Practices for Pruning. Pruning shall be conducted or monitored by an arborist with an ISA Certification.
20. **Plan Updates:** All plan updates or field modification that result in impacts within the TPA or change the retained status of trees shall be reviewed by the senior project manager and project arborist prior to conducting the work.
21. **Materials:** Contractor shall have the following materials on-site and available for use during work in the TPA:
  - **Sharp and clean bypass hand pruners**
  - **Sharp and clean bypass loppers**
  - **Sharp hand-held root saw**
  - **Reciprocating saw with new blades**
  - **Shovels**
  - **Trowels**
  - **Clear polyethylene sheeting**
  - **Burlap**
  - **Water**

# 7239 SE 27TH STREET SHORT PLAT

Plan provided to Tree Solutions as 'final plan' by Core Design June 30, 2021

A PORTION OF THE NE 1/4, OF THE NW 1/4, SECTION 01, TOWNSHIP 24 NORTH, RANGE 4 EAST, W.M. CITY OF MERCER ISLAND, KING COUNTY, WASHINGTON



**LEGEND**

	SURVEY MONUMENT
	SET 1/2" x 24" REBAR WITH YELLOW PLASTIC CAP STAMPED "CORE 48383"
	FENCE LINE
	VERTICAL BOARD FENCE
	HORIZONTAL BOARD FENCE
	CHAINLINK FENCE
	POWER POLE
	FIRE HYDRANT
	WATER METER
	SEWER MANHOLE
	CATCH BASIN
	EVERGREEN TREE
	DECIDUOUS TREE
	STORM LINE
	SEWER LINE
	OVERHEAD POWER
	CLEARING LIMITS
	TREE PROTECTION FENCE

**VERTICAL DATUM**

NAVD 88

**BENCHMARK**

CONCRETE MONUMENT IN CASE AT THE INTERSECTION OF SE 127TH STREET AND 72ND AVENUE SE.

ELEVATION = 259.038

**BASIS OF BEARINGS**

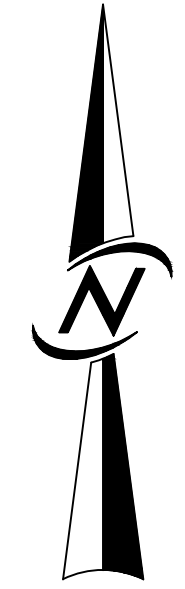
N01°16'24"E BETWEEN THE MONUMENTS FOUND ALONG 72ND AVENUE SE AT THE INTERSECTIONS OF SE 27TH STREET AND SE 32ND STREET, PER REFERENCE 1.

**REFERENCES**

- RECORD OF SURVEY AS RECORDED IN VOLUME 341 OF SURVEYS, PAGE 280, UNDER RECORDING NUMBER 20160419900010.
- MCGILVRA'S ISLAND ADDITION AS RECORDED IN VOLUME 42 OF PLATS, PAGE 58, UNDER RECORDING NUMBER 520803.

**NOTES**

- ALL TITLE INFORMATION SHOWN ON THIS MAP HAS BEEN EXTRACTED FROM CHICAGO TITLE INSURANCE COMPANY. IN PREPARING THIS MAP, CORE DESIGN, INC. HAS CONDUCTED NO INDEPENDENT TITLE SEARCH NOR IS CORE DESIGN, INC. AWARE OF ANY TITLE ISSUES AFFECTING THE SURVEYED PROPERTY OTHER THAN THOSE SHOWN ON THE MAP AND DISCLOSED BY THE REFERENCED GUARANTEE NO. 0070077-ETU. CORE DESIGN, INC. HAS RELIED WHOLLY ON CHICAGO TITLE INSURANCE COMPANY'S REPRESENTATIONS OF THE TITLE'S CONDITION TO PREPARE THIS SURVEY AND THEREFORE CORE DESIGN, INC. QUALIFIES THE MAP'S ACCURACY AND COMPLETENESS TO THAT EXTENT.
- THIS SURVEY REPRESENTS VISIBLE PHYSICAL IMPROVEMENT CONDITIONS EXISTING ON MAY 31, 2016. ALL SURVEY CONTROL INDICATED AS "FOUND" WAS RECOVERED FOR THIS PROJECT IN MAY, 2016.
- PROPERTY AREA = 28,759± SQUARE FEET (0.6602± ACRES).
- ALL DISTANCES ARE IN FEET.
- THIS IS A FIELD TRAVERSE SURVEY. A SOKKIA FIVE SECOND COMBINED ELECTRONIC TOTAL STATION WAS USED TO MEASURE THE ANGULAR AND DISTANCE RELATIONSHIPS BETWEEN THE CONTROLLING MONUMENTATION AS SHOWN. CLOSURE RATIOS OF THE TRAVERSE MET OR EXCEEDED THOSE SPECIFIED IN WAC 332-130-090. ALL MEASURING INSTRUMENTS AND EQUIPMENT ARE MAINTAINED IN ADJUSTMENT ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
- TOPOGRAPHIC INFORMATION SHOWN HEREON WAS PROVIDED BY SITE SURVEYING, INCORPORATED. CORE DESIGN DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF SAID INFORMATION.



14711 N.E. 29th Pl. Suite 101  
 Bellevue, Washington 98007  
 425.885.7877 Fax 425.885.7963

ENGINEERING • PLANNING • SURVEYING  
**JOB NO. 16082**

## Memorandum

To: David Yeh  
Site: 7239 SE 27th Street, Mercer Island, WA  
Re: Monitoring Report of Air Spade near Trees 13, 20  
Date: January 5, 2021  
Project Arborist: Connor McDermott ,  
ISA Certified Arborist PN- 8704A  
ISA Qualified Tree Risk Assessor  
Reviewed By: Holly Iosso , Registered Consulting Arborist # 567  
ISA Certified Arborist PN- 6298A  
ISA Qualified Tree Risk Assessor

---

This memo documents my site visit to the above referenced site on December 23, 2020. I was asked by David Yeh, owner of the parcel, to be present during exploratory air excavation near two trees: Tree 13 (36" Ponderosa pine) and Tree 20 (31" Douglas-fir).

This exploration was requested by Robin Proebsting, Senior Planner with the City of Mercer Island. She requested that limits of disturbance (LOD) for each retained tree be drawn on development plans based on measurements from a previous arborist report (Greenforest Incorporated dated 12/27/2017) – using either the dripline radius or LOD noted in that report, whichever is greater. If development is proposed within these limits, air excavation is required for an arborist to assess the extent of the tree root system and discuss implications of construction in these areas.

### Tree 13

I observed the air excavation of trenches 18 feet north and 18 feet west of Tree 13. Both trenches were 20 feet long (see Photo 1). Excavation exposed mostly fine roots, less than 1 inch in diameter, and three structural roots along the trenches.

The three structural roots exposed on the north trench measured three inches in diameter or less (see Photo 2); the largest of which can be seen in Photo 3. In my opinion, the LOD can be modified and set along this trench line (see red lines shown in Appendix A). I believe cutting roots along this line, and not allowing disturbance (including landscape work) within the area closer to the tree, will allow the tree to be viable long-term, and there will be minimal impact on the tree's structural integrity.

Tree 20

I observed excavation of a trench 15 feet west of Tree 20. The trench was 30 feet long (Photo 4). Mostly fine roots were exposed, in addition to four structural roots (Photo 5).

The largest root measured 4.5 inches in diameter (Photo 6) and the others measured under 3 inches. The largest root grows parallel to the trench and should be retained. Excavation should stay 16 feet away from the base of the tree to avoid this root.

In my opinion, the smaller roots can be pruned along this trench line (no closer than 16 feet from the base of the tree) without having a negative impact on the tree's structure.

Site

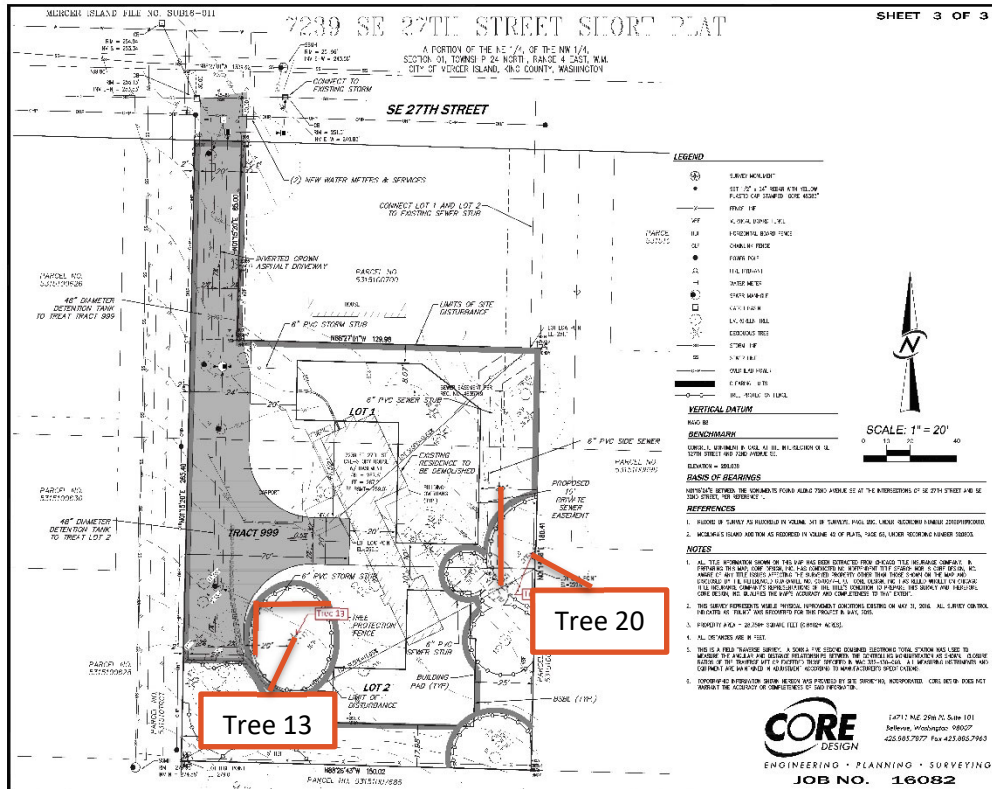
Any roots cut on site should be cleanly cut using hand tools only and not torn using a backhoe.

I recommend that a 3 to 5-inch layer of woodchip mulch be placed on the ground within the driplines of all retained trees to improve growing conditions, retain soil moisture, and protect the trees during site development.

Respectfully submitted,

Connor McDermott,  
Consulting Arborist

### Appendix A Site Map



**Site Map.** Approximate locations of trenches and modified LOD's shown as red lines. Base map is "Site Drainage and Utility Plan, 27<sup>th</sup> Street Short Plat" (Core Design, May 2016). This plan is used as a base map only. More recent development plans are available.

## Appendix B Photographs



**Photograph 1.** Northern and western trenches of Tree 13.



**Photograph 2.** Tree 13 trench with some structural roots encountered, although most roots were fine roots, or less than 1 inch in diameter.



**Photograph 3.** Tree 13: Largest root exposed was 2.5 inch diameter, approximately 18 feet away from trunk on north side of tree.



**Photograph 4.** View looking east towards Tree 20 with ivy growing on the trunk.



**Photograph 5.** Trench on west side of Tree 20. A 2-inch diameter root is in foreground and mostly fine roots exposed.



**Photograph 6.** Largest root encountered on site. Root measured 4.5 inches and grows horizontally along trench. Root should be preserved and excavation should not occur within 16 feet of the trunk of Tree 13.

## Appendix C Assumptions & Limiting Conditions

- 1 Consultant assumes that the site and its use do not violate, and is in compliance with, all applicable codes, ordinances, statutes or regulations.
- 2 The consultant may provide a report or recommendation based on published municipal regulations. The consultant assumes that the municipal regulations published on the date of the report are current municipal regulations and assumes no obligation related to unpublished city regulation information.
- 3 Any report by the consultant and any values expressed therein represent the opinion of the consultant, and the consultant's fee is in no way contingent upon the reporting of a specific value, a stipulated result, the occurrence of a subsequent event, or upon any finding to be reported.
- 4 All photographs included in this report were taken by Tree Solutions, Inc. during the documented site visit, unless otherwise noted. Sketches, drawings and photographs (included in, and attached to, this report) are intended as visual aids and are not necessarily to scale. They should not be construed as engineering drawings, architectural reports or surveys. The reproduction of any information generated by architects, engineers or other consultants and any sketches, drawings or photographs is for the express purpose of coordination and ease of reference only. Inclusion of such information on any drawings or other documents does not constitute a representation by the consultant as to the sufficiency or accuracy of the information.
- 5 Unless otherwise agreed, (1) information contained in any report by consultant covers only the items examined and reflects the condition of those items at the time of inspection; and (2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, climbing, or coring.
- 6 These findings are based on the observations and opinions of the authoring arborist, and do not provide guarantees regarding the future performance, health, vigor, structural stability or safety of the plants described and assessed.
- 7 Measurements are subject to typical margins of error, considering the oval or asymmetrical cross-section of most trunks and canopies.
- 8 Tree Solutions did not review any reports or perform any tests related to the soil located on the subject property unless outlined in the scope of services. Tree Solutions staff are not and do not claim to be soils experts. An independent inventory and evaluation of the site's soil should be obtained by a qualified professional if an additional understanding of the site's characteristics is needed to make an informed decision.
- 9 Our assessments are made in conformity with acceptable evaluation/diagnostic reporting techniques and procedures, as recommended by the International Society of Arboriculture.

**Arborist Report**

TO: David Yeh  
SITE: 7239 SE 27<sup>th</sup> Street, Mercer Island, WA  
RE: Monitoring Report  
DATE: July 10, 2019  
PROJECT ARBORIST: Sean Dugan, ISA BCMA#5459B, TRAQ, RCA 457

I observed the air excavation of a trench 22 feet south and 16 feet east of tree 13 at the above site address (see Photos 1a and 1b). Excavation exposed a low density of roots. Five structural roots were exposed east of the tree measuring less than three inches in diameter (see Photo 2). The largest root can be seen in photo 3.

Based on my knowledge, training and experience it is my opinion that these roots can be removed without having a negative impact on the tree's health or structure. The roots should be cleanly cut using hand tools only and not torn using a backhoe. It is recommended to add a three to five-inch layer of woodchip mulch below the canopy of the tree to improve growing conditions and protect the tree during site development.



Photos 1a (left) & 1b (right). These photos show the trench excavated by Root Cause.



Photo 2. View looking to the north along the east trench. This view shows the low density of structural roots encountered.



Photo 3. View of largest root exposed approximately 16 feet away from the tree.

Please contact me with any questions regarding this information.

Respectfully,

Sean Dugan, Principal  
Tree Solutions Inc.

## **Appendix C - Assumptions & Limiting Conditions**

1. Consultant assumes that any legal description provided to Consultant is correct and that title to property is good and marketable. Consultant assumes no responsibility for legal matters. Consultant assumes all property appraised or evaluated is free and clear, and is under responsible ownership and competent management.
2. Consultant assumes that the property and its use do not violate applicable codes, ordinances, statutes or regulations.
3. Although Consultant has taken care to obtain all information from reliable sources and to verify the data insofar as possible, Consultant does not guarantee and is not responsible for the accuracy of information provided by others.
4. Client may not require Consultant to testify or attend court by reason of any report unless mutually satisfactory contractual arrangements are made, including payment of an additional fee for such Services as described in the Consulting Arborist Agreement.
5. Unless otherwise required by law, possession of this report does not imply right of publication or use for any purpose by any person other than the person to whom it is addressed, without the prior express written consent of the Consultant.
6. Unless otherwise required by law, no part of this report shall be conveyed by any person, including the Client, the public through advertising, public relations, news, sales or other media without the Consultant's prior express written consent.
7. This report and any values expressed herein represent the opinion of the Consultant, and the Consultant's fee is in no way contingent upon the reporting of a specific value, a stipulated result, the occurrence of a subsequent event or upon any finding to be reported.
8. All photographs included in this report were taken by Tree Solutions Inc. during the documented site visit, unless otherwise noted.
9. Sketches, drawings and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys. The reproduction of any information generated by architects, engineers or other consultants and any sketches, drawings or photographs is for the express purpose of coordination and ease of reference only. Inclusion of such information on any drawings or other documents does not constitute a representation by Consultant as to the sufficiency or accuracy of the information.
10. Unless otherwise agreed, (1) information contained in this report covers only the items examined and reflects the condition of the those items at the time of inspection; and (2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, climbing, or coring. Consultant makes no warranty or guarantee, express or implied, that the problems or deficiencies of the plans or property in question may not arise in the future.
11. Loss or alteration of any part of this Agreement invalidates the entire report.



# Greenforest Incorporated

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TO: David Yeh

REFERENCE: Tree Limits of Disturbance

SITE ADDRESS: 7239 SE 27th Street, Mercer Island WA 98040

DATE: 12/27/2017

PREPARED BY: Favero Greenforest, ISA Certified Arborist # PN -0143A  
ISA Tree Risk Assessment Qualified  
ASCA Registered Consulting Arborist® #379

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You contacted me and contracted my services as a consulting arborist. My assignment is to provide limits of disturbance for all the regulated trees on the site, plus 4 offsite trees. I visited the site 12/7/17 and visually assessed the trees.

Subsequent to my site visit and contract, you provided me a RFI (for File No. Sub16-011) dated 3/14/17, authored by Robin Proebsting, Senior Planner for the City of Mercer Island. This RFI requests limits of disturbance (LOD) specifically for 5 trees total, plus an additional full root zone analysis with an air excavation tool.

This report provides specific LOD for the 5 trees identified by City, and generic LOD for all trees (in order to fulfill my initial contracted assignment). Air excavation is not included in this scope of work.

The City's RFI identifies Five 5 on page 2, item 1. Trees. They include 13, 29, 32, C, D. The tree listed as 32 appears to be a error, and is likely tree 20 (shown on sheets as a 32 Fir, and in one instance as tree #15). Tree numbered 20 (rather than 32) is used in this report.

## LIMITS OF DISTURBANCE

Limits of Disturbance (LOD) are calculated for all the regulated trees. They are determined using rootplate<sup>1</sup> and trunk diameter,<sup>2,3</sup> and ISA Best Management Practices.<sup>4</sup> These are the minimum distances from the trees for any soil disturbance, and represent the area to be protected during construction.

The following table lists the 5 subject trees by number, common name, DBH, Dripline radius and LOD: first as the radius for a generic circular LOD surrounding the tree, then by cardinal direction based on the preferred use of the site. In all cases, the area delineated by the cardinal LODs provide, by far, more undisturbed area around each tree, though disturbance encroaches closer than the circular LOD on one side of the tree.

Tree ID	Common Name	DBH	Dripline Radius	Limits of Disturbance					Area (SF)	
				Circle	North	East	South	West	Circle	Cardinal
13	<i>Ponderosa pine</i>	35.8"	25'	18'	22'	16'	22'	16'	254	352
29	<i>Ponderosa pine</i>	28.5"	15'	15'	18'	ND	18'	13'	176	234
20	<i>Pseudotsuga menzeisii</i>	31"	15'	16'	18'	ND	18'	14'	200	252
C	<i>Western red-cedar</i>	40"	15'		5' BSBL	DL	ND	DL		
D	<i>Scarlet oak</i>	25"	25'		PL	DL	ND	DL		

The data for the offsite trees is based on my observations, as I did not enter the adjoining parcel to touch the trees.

As I understand the RFI, these LOD must now be marked in the field, and, using an air excavation tool, verify that no structural roots will be impacted by these established LOD.

<sup>1</sup> Coder, Kim D. 2005. *Tree Biomechanics Series*. University of Georgia School of Forest Resources.

<sup>2</sup> Smiley, E. Thomas, Ph. D. *Assessing the Failure Potential of Tree Roots, Shade Tree Technical Report*. Bartlett Tree Research Laboratories.

<sup>3</sup> Fite, Kelby and E. Thomas Smiley. 2009. *Managing Trees During construction; Part Two*. Arborist News. ISA.

<sup>4</sup> Companion publication to the ANSI A300 Series, Part 5: *Managing Trees During Construction*. 2008. ISA.



David Yeh

RE: Tree Limits of Disturbance, 7239 SE 27th Street, Mercer Island WA 98040

12/27/2017

Page 3 of 5

Attachments:

1. Assumptions and Limiting Conditions
2. Certification of Performance
3. Generic LOD for all regulated trees.

Assumptions & Limiting Conditions

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- 1) A field examination of the site was made 12/7/2017. My observations and conclusions are as of that date.
- 2) Care has been taken to obtain all information from reliable sources. Tree identification, size (DBH) and condition are used from Tree Solutions Inc., report dated 8/31/2106.
- 3) Unless stated other wise: 1) information contained in this report covers only those trees that were examined and reflects the condition of those trees at the time of inspection; and 2) the inspection is limited to visual examination of the subject trees without dissection, excavation, probing, or coring. There is no warranty or guarantee, expressed or implied that problems or deficiencies of the subject tree may not arise in the future.
- 4) All trees possess the risk of failure. Trees can fail at any time, with or without obvious defects, and with or without applied stress. A complete evaluation of the potential for this (a) tree to fail requires excavation and examination of the base of the subject tree.
- 5) The consultant/appraiser shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made.
- 6) Construction activities can impact trees in unpredictable ways. All retained trees should be inspected at the completion of construction, and regularly thereafter as part of ongoing maintenance.



David Yeh

RE: Tree Limits of Disturbance, 7239 SE 27th Street, Mercer Island WA 98040

12/27/2017

Page 4 of 5

Attachment No. 2 - Certification of Performance

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I, Favero Greenforest, certify that:

- I have personally inspected the trees and the property referred to in this report and have stated my findings accurately.
- I have no current or prospective interest in the vegetation or the property that is the subject of this report and have no personal interest or bias with respect to the parties involved.
- The analysis, opinion, and conclusions stated herein are my own and are based on current scientific procedures and facts.
- My analysis, opinion, and conclusions were developed and this report has been prepared according to commonly accepted arboricultural practices.
- No one provided significant professional assistance to me, except as indicated within the report.
- My compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client of any other party nor upon the results of the assessment, the attainment of stipulated results, or the occurrence of any subsequent events.

I further certify that I am a member in good standing of International Society of Arboriculture (ISA), and the ISA PNW Chapter, I am an ISA Certified Arborist (#PN-0143A) and am Tree Risk Assessment Qualified, and am a Registered Consulting Arborist® (#379) with American Society of Consulting Arborists. I have worked as an independent consulting arborist since 1989.

Signed:

  
GREENFOREST, Inc.

By Favero Greenforest, M. S.

**Favero Greenforest**

Digitally signed by Favero Greenforest  
DN: cn=Favero Greenforest, o, ou,  
email=greenforestinc@mindspring.com, c=US  
Date: 2017.12.27 11:24:51 -08'00'

Date: December 27, 2017

---

Greenforest



Registered Consulting Arborist

David Yeh

RE: Tree Limits of Disturbance, 7239 SE 27th Street, Mercer Island WA 98040

12/27/2017

Page 5 of 5

Attachment No. 3 – Circular LOD for Regulated Trees

Tree ID	Common Name	DBH (inches)	Dripline Radius	LOD
1	Apple	13	13'	7'
2	Fraser photinia	17.5	12'	5'
3	Oregon ash	10.8	15'	5'
4	Oregon ash	8	12'	5'
5	Oregon ash	8.7	15'	5'
6	Western red-cedar	14	10'	7'
7	Common hawthorn	9.8	15'	6'
8	Common hawthorn	7	10'	5'
9	Western red-cedar	5.7	9'	5'
10	Western red-cedar	13.8	10'	7'
11	Willow	7.4, 6.7, 6.7	20'	6'
12	Arizona cypress	10.6	9'	5'
13	Ponderosa pine	35.8	25'	18'
14	Common plum	11.5	14'	6'
15	Privet	5.1, 2.5, 2.5, 3, 3.5	15'	5'
16	Bigleaf maple	3.5, 3, 3, 2, 2, 3, 4, 7	18'	5'
17	Common hawthorn	13.3	15'	7'
18	Excelsa cedar	3, 3, 1, 4	6'	6'
19	European mountain ash	8.3, 9, 7.8, 7, 7	14'	9'
20	Douglas-fir	31	24'	16'
21	Douglas-fir	3.7	9'	4'
22	European mountain ash	26.4	16'	13'
23	Western red-cedar	23.4	19'	13'
24	Western red-cedar	25.5	19'	13'
25	Western red-cedar	21.5	16'	13'
26	Western red-cedar	29.4	24'	15'
27	Douglas-fir	18.4	23'	10'
28	Douglas-fir	24.5	23'	12'
29	Ponderosa pine	28.5	15'	15'
30	Plum	(15) 2-6	15'	8'
A	Japanese red pine	15.8	22'	8'
B	Western red-cedar	16.8	10'	8'
C	Western red-cedar	40	15'	20'
D	Scarlet oak	25	25'	13'



**Arborist Report**

TO: David Yeh  
SITE: 7239 SE 27<sup>th</sup> Street, Mercer Island, WA  
RE: Inventory report  
DATE: **October 7, 2016, revised October 11, 2019**  
PROJECT ARBORIST: Katherine Taylor,  
ISA Certified Arborist #PN-8022A  
ISA Qualified Tree Risk Assessor  
  
Katie Hogan  
ISA Certified Arborist PN-8078A  
ISA Qualified Tree Risk Assessor

---

**Summary**

There are thirty (30) large trees at the above addressed property, none of which are designated Landmark trees by the City of Mercer Island. Six (6) trees are located inside an Environmentally Sensitive Area (ESA) for erosion hazard along the eastern edge of the property according to King County iMap.

There are four (4) trees, lettered A to D, on adjacent properties with overhanging canopies. These trees should be retained and protected throughout the project.

The site is proposed to be divided into two lots. The attached table of trees show which tree is located on each of the proposed lots.

Based on the latest proposed plans provided to us, as well as conversations with the developer, nine (9) trees on Lot 1 and fourteen (14) trees on Lot 2 are proposed for removal. Five (5) trees were previously planned for retention however have been granted removal by the City due to being low value trees (16, 17, 18, 19, 21).

Trees 29 and 30 are currently shown on the site plan as removed; however, based on the proposed plans it appears these trees can be retained. Careful protection will be required in order to safely retain tree 29, a large diameter pine tree. See recommendations below for more details.

Limits of Disturbance (LOD) are listed in the attached table of trees. These distances represent the number of feet, from the outer edge of the tree trunk, that should be protected to safely retain trees. Tree protection fencing shall be placed at the LOD unless otherwise approved by the City and project arborist. LOD's represent distances of 5, 6, or 8 times the subject trees trunk diameters depending on the proposed work and existing conditions.

## Recommendations

- Retain and protect trees on adjacent properties (Trees A, B, C, D) that overhang the site throughout the duration of the construction project.
- Update site plans to reflect proposed action for site trees (i.e. remove/retain) based on information provided in the Table of Trees dated October 11, 2019.
- Mark the limits of disturbance (LOD) for Trees 29 and 30. Install tree protection at this limit prior to beginning excavation. For any work conducted within the LOD of Tree 29 (12 feet from trunk) Tree Solutions shall be present to oversee potential root cuts.
- Install 6-foot-tall chain-link fencing at the LOD for all retained trees prior to beginning site work (Trees 9, 10, 11, 13, 20, 29, 30). See attached Table of Trees for limits of disturbances.
- Obtain all necessary permits prior to any tree removal and commencement of any construction activities (Trees 1 through 7, 8, 12, 14 through 19, 21 through 28).

## Assignment & Scope of Report

This report outlines the site inspection by Katherine Taylor and Jake Dancer of Tree Solutions Inc, on August 17, 2016. Included are observations and data collected at the above address site. David Yeh, the owner of the property, requested these services to acquire information for project planning.

We were asked to inventory all large trees at the above address, and provide a formal report including findings and management recommendations.

The tree size, species, health and structural condition, and related notes can be found in the attached [Table of Trees](#). A [Site Map](#) with tree locations is also attached. Photographs, Glossary, and References are below the written report. Limits of assignment can be found in [Appendix A](#). Methods can be found in [Appendix B](#). Additional assumptions and limiting conditions can be found in [Appendix C](#).

## Observations and Discussion

### The Site

The 27,655 square foot site is located on Mercer Island and includes a small side road that leads from SE 27<sup>th</sup> street, along the house numbered 7237, to the bulk of the property. There is one two-story building and a carport located onsite (see [Photo 1](#)).

According to the King County iMap, the eastern margin of the property is an Environmentally Sensitive Area (ESA) for erosion hazard (see [Figure 1](#)). There are 6 significant trees in this area.

On the southeastern end of the property there is a thick cover of invasive Himalayan blackberry (*Rubus bifrons*) growing around and into surrounding trees. On the western side of the property there is mature invasive ivy (*Hedera* sp.) growing up the trunks of trees.

### The Trees

Mercer Island classifies any conifer that is 6 feet or higher, and any deciduous tree that is 6 inches or greater diameter at standard height (DSH) as a “large tree.” They also identify any tree that is 36 inches or greater DSH can be nominated as a landmark tree by the landowner, but it is not required to do so.

The city maintains a register of landmark trees and landmark groves. The city arborist, John Kenney, confirmed that no landmark trees or groves are on this property.

There are 30 trees total onsite located throughout the property. Tree health and structure condition ranged from good to poor. Tree species found onsite include: western redcedar (*Thuja plicata*), common hawthorn (*Crataegus monogyna*), Oregon ash (*Fraxinus latifolia*), Frasier photinia (*Photinia x fraseri*), apple (*Malus domestica*), willow (*Salix* sp.), Arizona cypress (*Cupressus glabra*), ponderosa pine (*Pinus ponderosa*), plum (*Prunus domestica*), privet (*Ligustrum* sp.), bigleaf maple (*Acer macrophyllum*), rocky mountain juniper (*Juniperus scopulorum*), European mountain ash (*Sorbus aucuparia*), Douglas-fir (*Pseudotsuga menziesii*), and cherry plum (*Prunus cerasifera*).

The ESA for erosion hazard on the east side of the property includes trees 16, 17, 19, 20, 29, and 30. This area is designated by King County to define areas where soils may experience severe soil erosion (see [Figure 1](#)).

Along the west side of the property, trees 3 through 11 have invasive ivy growing at the base or into the canopy. If these trees are to be retained it would be advisable to remove the ivy for longterm health of the trees. In this group, tree 5, an Oregon ash is in fair health and poor structural condition. This tree has a significant lean which appears to be from a previous partial failure. This tree is not a viable long-term tree for the site.

Trees 19 and 22 are both European mountain ash trees in poor health and structural condition. Both trees have multiple stems and extensive decay at the base. These are not good long-term trees for the site.

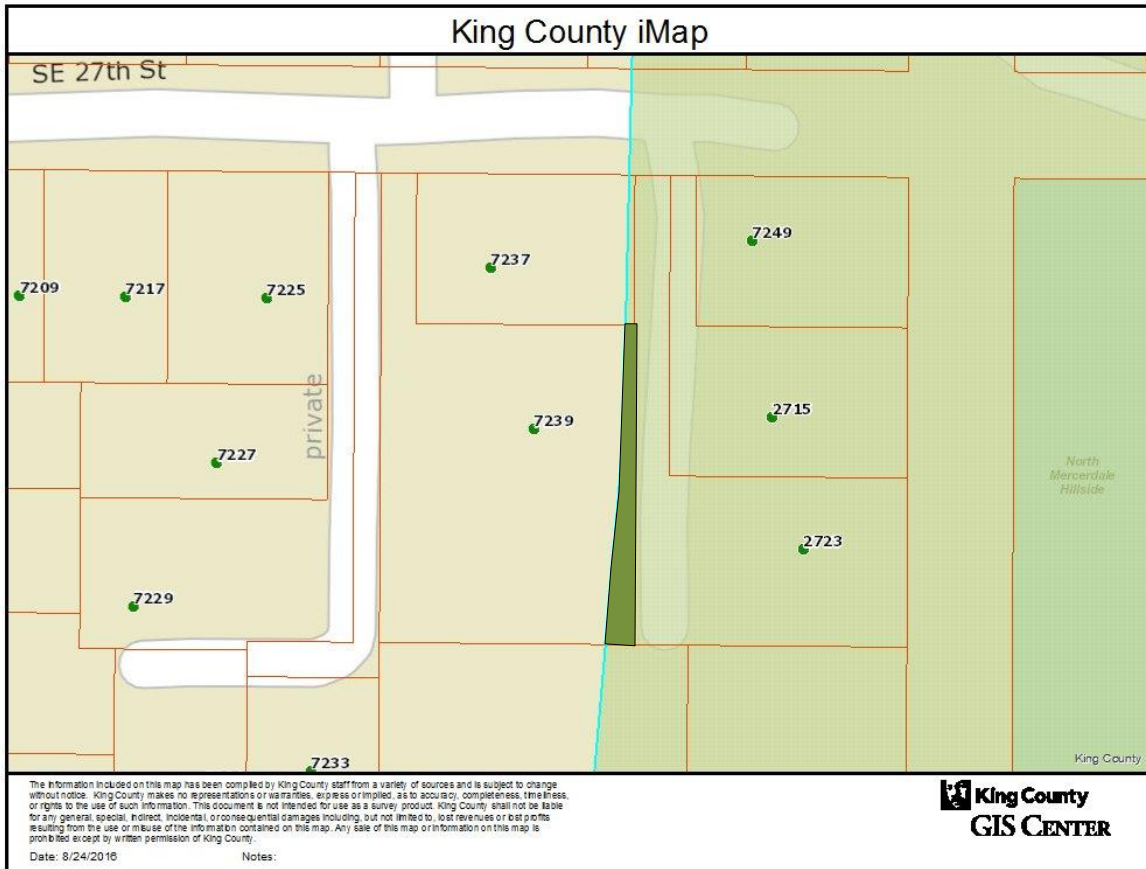
There are several large coniferous trees in good health and structural condition onsite, including trees 13, 20, and 23 through 29. The DSH of these trees range from 18.4 inches to 35.8 inches and species include western redcedar, Douglas-fir, and ponderosa pine (see [Photo 1](#)). Trees 13, 20, and 29 are currently proposed for retention throughout this project.

Tree 20 appears to fall on the property line meaning that the tree is shared with the adjacent property owner.

There are 4 trees, lettered A through D, on adjacent properties with canopies overhanging the site. Trees A and B are located adjacent the entry driveway and with DSHs respectively of 15.8 inches and 16.8 inches. Trees C and D are on the adjacent property to the south and are a scarlet oak (*Quercus coccinea*) with a DSH greater than 25 inches, and a western redcedar with a DSH of approximately 20 inches. The trees are in good condition and should be retained and protected throughout development.

## Site Map and Plans

Figure 1: Site Map with erosion hazard area outlined (The dark green shaded area shows property that is inside the erosion hazard area).



## Photographs



**Photo 1:** A view of some of the large coniferous trees and the two structures found onsite

## Glossary

**ANSI A300:** American National Standards Institute (ANSI) standards for tree care

**basic assessment:** detailed visual inspection of a tree and surrounding site that may include the use of simple tools. It requires that a tree risk assessor walk completely around the tree trunk looking at the site, aboveground roots, trunk, and branches (ISA 2013)

**chlorotic:** foliage with whitish or yellowish discoloration caused by lack of chlorophyll

**codominant stems:** stems or branches of nearly equal diameter, often weakly attached (Matheny *et al.* 1998)

**cracks:** defects in trees that, if severe, may pose a risk of tree or branch failure (Lilly 2001)

**crown:** the aboveground portions of a tree (Lilly 2001)

**crown cleaning:** selective pruning to remove one or more of the following parts: dead, diseased, and/or broken branches (ANSI A300)

**DBH or DSH:** diameter at breast or standard height; the diameter of the trunk measured 54 inches (4.5 feet) above grade (Matheny *et al.* 1998)

**deciduous:** tree or other plant that loses its leaves sometime during the year and stays leafless generally during the cold season (Lilly 2001)

**evergreen:** tree or plant that keeps its needles or leaves year-round; this means for more than one growing season (Lilly 2001)

**force:** any action or influence causing an object to accelerate/decelerate. Calculated as mass multiplied by acceleration. Is a vector quantity (ISA 2013)

**ISA:** International Society of Arboriculture

**included bark:** bark that becomes embedded in a crotch between branch and trunk or between codominant stems and causes a weak structure (Lilly 2001)

**lateral:** secondary or subordinate branch (Lilly 2001)

**level(s) of assessment:** categorization of the breadth and depth of analysis used in an assessment (ISA 2013)

**limited visual assessment:** a visual assessment from a specified perspective such as foot, vehicle, or aerial (airborne) patrol of an individual tree or a population of trees near specified targets to identify specified conditions or obvious defects (ISA 2013)

**mitigation:** process of reducing damages or risk (Lilly 2001)

**moment:** a turning, bending, or twisting force exerted by a lever, defined as the force (acting perpendicular to the lever) multiplied by the length of the lever (ISA 2013)

**monitoring:** keeping a close watch; performing regular checks or inspections (Lilly 2001)

**owner/manager:** the person or entity responsible for tree management or the controlling authority that regulates tree management (ISA 2013)

**pathogen:** causal agent of disease (Lilly 2001)

**phototropic growth:** growth toward light source or stimulant (Harris *et al.* 1999)

**retain and monitor:** the recommendation to keep a tree and conduct follow-up assessments after a stated inspection interval (ISA 2013)

**structural defects:** flaws, decay, or other faults in the trunk, branches, or root collar of a tree, which may lead to failure (Lilly 2001)

**Visual Tree Assessment (VTA):** method of evaluating structural defects and stability in trees by noting the pattern of growth. Developed by Claus Mattheck (Harris, *et al.* 1999)

## References

ANSI A300 (Part 1) – 2008 American National Standards Institute. American National Standard for Tree Care Operations: Tree, Shrub, and Other Woody Plant Maintenance: Standard Practices (Pruning). New York: Tree Care Industry Association, 2008.

Dunster & Associates Environmental Consultants Ltd. Assessing Trees in Urban Areas and the Urban-Rural Interface, US Release 1.0. Silverton: Pacific Northwest Chapter ISA, 2006.

Lilly, Sharon. Arborists' Certification Study Guide. Champaign, IL: The International Society of Arboriculture, 2001.

Matheny, Nelda and James R. Clark. Trees and Development: A Technical Guide to Preservation of Trees During Land Development. Champaign, IL: International Society of Arboriculture, 1998.

Mattheck, Claus and Helge Breloer, The Body Language of Trees.: A Handbook for Failure Analysis. London: HMSO, 1994.

## **Appendix A - Limits of Assignment**

Unless stated otherwise: 1) information contained in this report covers only those trees that were examined and reflects the condition of those trees at the time of inspection; and 2) the inspection is limited to visual examination of the subject trees without dissection, excavation, probing, climbing, or coring unless explicitly specified. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject trees may not arise in the future.

Tree Solutions did not review any reports or perform any tests related to the soil located on the subject property unless outlined in the scope of services. Tree Solutions staff are not and do not claim to be soils experts. An independent inventory and evaluation of the soils on site should be obtained by a qualified professional if an additional understanding of site characteristics is needed to make an informed decision.

## Appendix B - Methods

I evaluated tree health and structure utilizing **visual tree assessment (VTA)** methods. The basis behind VTA is the identification of symptoms, which trees produce in reaction to weak spots or areas of mechanical stress. Trees react to mechanical and physiological stresses by growing more vigorously to re-enforce weak areas, while depriving less stressed parts (Mattheck & Breloer 1994). Understanding uniform stress allows me to make informed judgments about the condition of a tree.

I measured the diameter of each tree at 54 inches above grade, **diameter at standard height (DSH)**. Where a tree had multiple stems, I measured each stem individually at standard height and determined a single-stem equivalent diameter by using the method outlined in the Guide for Plant Appraisal, 9<sup>th</sup> Edition, published by the Council of Tree and Landscape Appraisers.

Tree health considers crown indicators including foliar density, size, color, stem shoot extensions, decay, and damage. We have adapted our ratings based on the Purdue University Extension Formula Values for health condition. These values are a general representation used to assist in arborists in assigning ratings. Tree health needs to be evaluated on an individual basis and may not always fall entirely into a single category; however, a single condition rating must be assigned.

Excellent - Perfect specimen with excellent form and vigor, well-balanced crown. Normal to exceeding shoot length on new growth. Leaf size and color normal. Trunk is sound and solid. Root zone undisturbed. No apparent pest problems. Long safe useful life expectancy for the species.

Good - Imperfect canopy density in few parts of the tree, up to 10% of the canopy. Normal to less than  $\frac{3}{4}$  typical growth rate of shoots and minor deficiency in typical leaf development. Few pest issues or damage, and if they exist, they are controllable or tree is reacting appropriately. Normal branch and stem development with healthy growth. Safe useful life expectancy typical for the species.

Fair - Crown decline and dieback up to 30% of the canopy. Leaf color is somewhat chlorotic/necrotic with smaller leaves and “off” coloration. Shoot extensions indicate some stunting and stressed growing conditions. Stress cone crop clearly visible. Obvious signs of pest problems contributing to lesser condition, control might be possible. Some decay areas found in main stem and branches. Below average safe useful life expectancy

Poor - Lacking full crown, more than 50% decline and dieback, especially affecting larger branches. Stunting of shoots is obvious with little evidence of growth on smaller stems. Leaf size and color reveals overall stress in the plant. Insect or disease infestation may be severe and uncontrollable. Extensive decay or hollows in branches and trunk. Short safe useful life expectancy.

*Tree health condition ratings have been adapted from the Purdue University Extension bulletin FNR-473-W - Tree Appraisal.*

## Appendix C - Assumptions & Limiting Conditions

1. Consultant assumes that any legal description provided to Consultant is correct and that title to property is good and marketable. Consultant assumes no responsibility for legal matters. Consultant assumes all property appraised or evaluated is free and clear and is under responsible ownership and competent management.
2. Consultant assumes that the property and its use do not violate applicable codes, ordinances, statutes or regulations.
3. Although Consultant has taken care to obtain all information from reliable sources and to verify the data insofar as possible, Consultant does not guarantee and is not responsible for the accuracy of information provided by others.
4. Client may not require Consultant to testify or attend court by reason of any report unless mutually satisfactory contractual arrangements are made, including payment of an additional fee for such Services as described in the Consulting Arborist Agreement.
5. Unless otherwise required by law, possession of this report does not imply right of publication or use for any purpose by any person other than the person to whom it is addressed, without the prior express written consent of the Consultant.
6. Unless otherwise required by law, no part of this report shall be conveyed by any person, including the Client, the public through advertising, public relations, news, sales or other media without the Consultant's prior express written consent.
7. This report and any values expressed herein represent the opinion of the Consultant, and the Consultant's fee is in no way contingent upon the reporting of a specific value, a stipulated result, the occurrence of a subsequent event or upon any finding to be reported.
8. All photographs included in this report were taken by Tree Solutions Inc. during the documented site visit, unless otherwise noted.
9. Sketches, drawings and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys. The reproduction of any information generated by architects, engineers or other consultants and any sketches, drawings or photographs is for the express purpose of coordination and ease of reference only. Inclusion of such information on any drawings or other documents does not constitute a representation by Consultant as to the sufficiency or accuracy of the information.
10. Unless otherwise agreed, (1) information contained in this report covers only the items examined and reflects the condition of the those items at the time of inspection; and (2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, climbing, or coring. Consultant makes no warranty or guarantee, express or implied, that the problems or deficiencies of the plans or property in question may not arise in the future.
11. Loss or alteration of any part of this Agreement invalidates the entire report.



**Table of Trees**  
7239 SE 27th Street, Mercer Island  
Seattle, WA 98040

Date of Inventory: August 17, 2016

Table Prepared: October 11, 2019

Tree ID	Scientific Name	Common Name	DSH (inches)	Multistem Diameter	Health Condition	Structural Condition	Dripline Radius (feet)	Proposed Action	Remove/Retain	Limits of Disturbance (ft)	Notes
<b>Lot 1</b>											
1	<i>Malus domestica</i>	Apple	13		Good	Fair	13	Remove for utilities/access	Remove	-	A lot of pruning wounds, reduction and heading cuts
2	<i>Photinia x fraseri</i>	Fraser photinia	17.5	17.5	Poor	Fair	12	Remove for demolition	Remove	-	Canopy decline, leaf spots, contorted leaves, powdery mildew
20	<i>Pseudotsuga menziesii</i>	Douglas-fir	31		Good	Good	24	Retain	Retain	21	Heavy ivy on trunk - remove,
22	<i>Sorbus aucuparia</i>	European mountain ash	26.4		Fair	Poor	16	Remove due to health and structure	Remove	-	Several stems, extensive decay at base, measured at narrowest point below codominant stems, poor attachments
23	<i>Thuja plicata</i>	Western redcedar	23.4		Good	Good	19	Remove for new house	Remove	-	Shared canopy with 24
24	<i>Thuja plicata</i>	Western redcedar	25.5		Good	Good	19	Remove for new house	Remove	-	Directly adjacent to 23
25	<i>Thuja plicata</i>	Western redcedar	21.5		Good	Good	16	Remove for new house	Remove	-	2 ft from 24
26	<i>Thuja plicata</i>	Western redcedar	29.4		Good	Good	24	Remove for new house	Remove	-	Ivy up trunk
27	<i>Pseudotsuga menziesii</i>	Douglas-fir	18.4		Good	Good	23	Remove for new house	Remove	-	Small hangers in tree



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Date of Inventory: August 17, 2016

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Tree ID	Scientific Name	Common Name	DSH (inches)	Multistem Diameter	Health Condition	Structural Condition	Dripline Radius (feet)	Proposed Action	Remove/Retain	Limits of Disturbance (ft)	Notes
28	<i>Pseudotsuga menziesii</i>	Douglas-fir	24.5		Good	Good	23	Remove for new house	Remove	-	Surface roots
29	<i>Pinus ponderosa</i>	Ponderosa pine	28.5		Good	Good	15	Retain	Retain	12	
30	<i>Prunus cerasifera</i>	Cherry plum	3.5, 3.5, 2, 2, 2, 4.4, 4.7, 4, 2, 2, 3.6, 6.3, 2, 5.4, 6.2,	15	Good	Fair	15	Retain	Retain	8	Stump sprout
<b>Lot 2</b>											
3	<i>Fraxinus latifolia</i>	Oregon ash	10.8	10.8	Fair	Fair	15	Remove for driveway/utilities	Remove	-	Ivy on stem, symptoms of anthracnose in canopy
4	<i>Fraxinus latifolia</i>	Oregon ash	8		Fair	Fair	12	Remove for driveway/utilities	Remove	-	Diameter estimated, heavy lean, similar to tree 3
5	<i>Fraxinus latifolia</i>	Oregon ash	8.7		Fair	Poor	15	Remove due to health and structure	Remove	-	Not shown on site plan, partially failed, heavy ivy, heavy lean
6	<i>Thuja plicata</i>	Western redcedar	14		Good	Fair	10	Remove for driveway	Remove	-	Ivy at base, phototropic, swept base
7	<i>Crataegus monogyna</i>	Common hawthorn	9.8		Fair	Fair	15	Remove for driveway	Remove	-	Measured at narrowest point below codominant union, eastward lean, heavy ivy



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Tree ID	Scientific Name	Common Name	DSH (inches)	Multistem Diameter	Health Condition	Structural Condition	Dripline Radius (feet)	Proposed Action	Remove/Retain	Limits of Disturbance (ft)	Notes
8	<i>Crataegus monogyna</i>	Common hawthorn	7		Fair	Fair	10	Remove due to health and structure	Remove	-	Heavy ivy, phototropic lean
9	<i>Thuja plicata</i>	Western redcedar	5.7		Good	Good	9	Retain	Retain	4	Suppressed, canopy asymmetrical, ivy
10	<i>Thuja plicata</i>	Western redcedar	13.8		Good	Fair	10	Retain	Retain	9	Mature ivy up trunk
11	<i>Salix sp.</i>	Willow	7.4, 6.7, 6.7	12	Good	Fair	20	Retain	Retain	8	3 codominant stems, wound at base. English laurel at base girdling stem
12	<i>Cupressus glabra</i>	Arizona cypress	10.6		Good	Fair	9	Remove for new house	Remove	-	Codominant leaders, some dieback
13	<i>Pinus ponderosa</i>	Ponderosa pine	35.8		Good	Good	25	Retain	Retain	15	Blackberry at base
14	<i>Prunus domestica</i>	Common plum	11.5		Good	Good	14	Remove for new house	Remove	-	Ivy on stem, leaning
15	<i>Ligustrum sp.</i>	Privet	5.1, 2.5, 2.5, 3, 3.5	7.7	Good	Good	15	Remove for construction access	Remove	-	
16	<i>Acer macrophyllum</i>	Bigleaf maple	3.5, 3, 3, 2, 2, 3, 4, 7	10.6	Good	Good	18	Remove	Remove	-	Update plans to show as removed, stump sprout
17	<i>Crataegus monogyna</i>	Common hawthorn	13.3		Good	Good	15	Remove	Remove	-	Update plans to show as removed
18	<i>Juniperus scopulorum</i>	Rocky Mountain juniper	3, 3, 1, 4	5.9	Good	Fair	6	Remove	Remove	-	Update plans to show as removed



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Tree ID	Scientific Name	Common Name	DSH (inches)	Multistem Diameter	Health Condition	Structural Condition	Dripline Radius (feet)	Proposed Action	Remove/Retain	Limits of Disturbance (ft)	Notes
19	<i>Sorbus aucuparia</i>	European mountain ash	8.3, 9, 7.8, 7, 7	17.5	Poor	Poor	14	Remove due to health and structure	Remove	-	Update site plans to show as removed, extensive decay at base, tearouts, thin crown
21	<i>Pseudotsuga menziesii</i>	Douglas-fir	3.7		Good	Good	9	Remove	Remove	-	Update site plans to show as removed, one sided to south
<b>Off-site Trees with Canopy Overhanging Property</b>											
A	<i>Pinus parviflora</i>	Japanese red pine	15.8		Good	Fair	22	Retain and protect	Retain	7	leaders, pruned for utilities, nails in trunk, pitch flow around base, roots lifting pavement
B	<i>Thuja plicata</i>	Western redcedar	16.8		Good	Fair	10	Retain and protect	Retain	7	Codominant stems at 7 ft, long seam of included bark, narrowly attached stems
C	<i>Thuja plicata</i>	Western redcedar	20		Good	Good	15	Retain and protect	Retain	13	DSH estimated
D	<i>Quercus coccinea</i>	Scarlet oak	25		Good	Good	25	Retain and protect	Retain	17	DSH estimated

Additional notes:

*DSH (Diameter at Standard Height) is measured 4.5 feet above grade.*

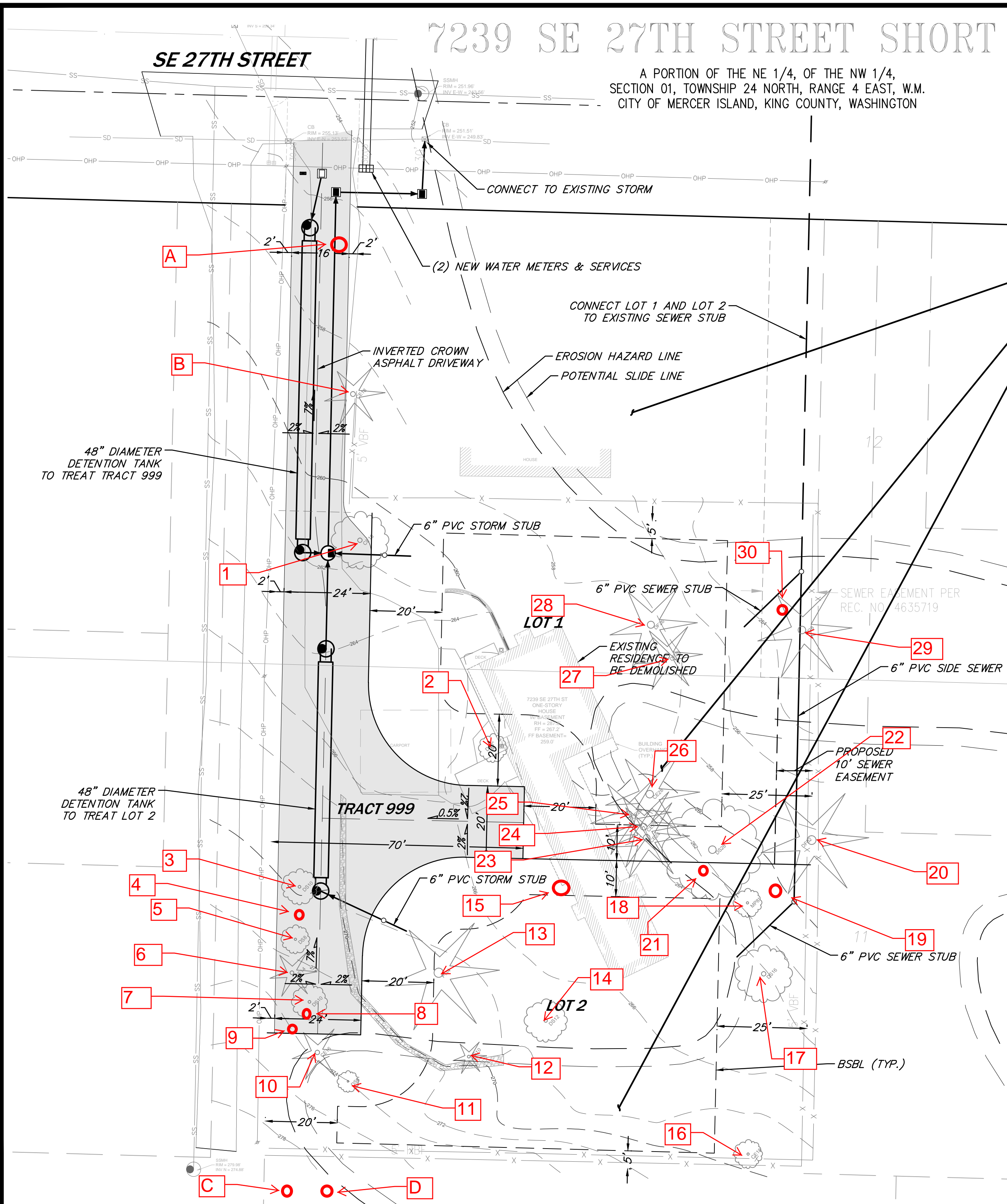
*Multi-stem trees are noted, and a single stem equivalent is calculated using the method defined in the Guide for Plant Appraisal, 9th Edition*

*Drip line is measured from the center of the tree to the outermost extent of the canopy*

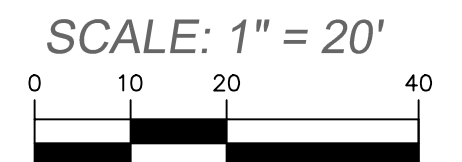
# 7239 SE 27TH STREET SHORT PLAT

A PORTION OF THE NE 1/4, OF THE NW 1/4,  
SECTION 01, TOWNSHIP 24 NORTH, RANGE 4 EAST, W.M.  
CITY OF MERCER ISLAND, KING COUNTY, WASHINGTON

Arborist Map  
dated 2016



THESE 3 LOTS ARE IN THE EROSION/SLIDE HAZARD AREA. WE NEED TO DETERMINE IF THESE LOTS CAN BE EXCLUDED FROM THOSE HAZARD ZONES



**VERTICAL DATUM**

NAVD 88

**BENCHMARK**

CONCRETE MONUMENT IN CASE AT THE INTERSECTION OF SE 127TH STREET AND 72ND AVENUE SE.

ELEVATION = 259.038

**BASIS OF BEARINGS**

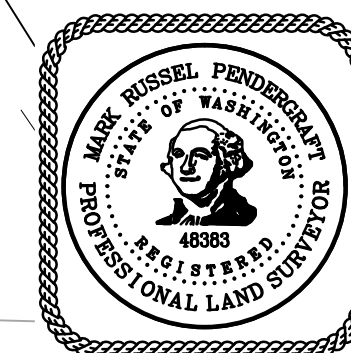
N01°16'24\"/>

**REFERENCES**

- RECORD OF SURVEY AS RECORDED IN VOLUME 341 OF SURVEYS, PAGE 280, UNDER RECORDING NUMBER 20160419900010.
- MCGILVRA'S ISLAND ADDITION AS RECORDED IN VOLUME 42 OF PLATS, PAGE 58, UNDER RECORDING NUMBER 520803.

**NOTES**

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- THIS SURVEY REPRESENTS VISIBLE PHYSICAL IMPROVEMENT CONDITIONS EXISTING ON MAY 31, 2016. ALL SURVEY CONTROL INDICATED AS "FOUND" WAS RECOVERED FOR THIS PROJECT IN MAY, 2016.
- PROPERTY AREA = 28,759± SQUARE FEET (0.6602± ACRES).
- ALL DISTANCES ARE IN FEET.
- THIS IS A FIELD TRAVERSE SURVEY. A SOKKIA FIVE SECOND COMBINED ELECTRONIC TOTAL STATION WAS USED TO MEASURE THE ANGULAR AND DISTANCE RELATIONSHIPS BETWEEN THE CONTROLLING MONUMENTATION AS SHOWN. CLOSURE RATIOS OF THE TRAVERSE MET OR EXCEEDED THOSE SPECIFIED IN WAC 332-130-090. ALL MEASURING INSTRUMENTS AND EQUIPMENT ARE MAINTAINED IN ADJUSTMENT ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
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ENGINEERING • PLANNING • SURVEYING

JOB NO. 16082

**From:** [Randy Kramer](#)  
**To:** [Will Piro](#)  
**Subject:** 7239 SE 27th Street  
**Date:** Thursday, November 03, 2016 8:45:40 AM

---

RE: SUB16-011

Location: 7239 SE 27th St., Mercer Island, WA, 98040

Good morning Mr. Piro,

Please keep me informed as to all developments in regard to the above referenced matter.

Also, please send to me a copy of the report from the Riley Group dated August 17, 2016 which was submitted with the application for short plat. Thank you.

Randall Kramer  
7231 SE 27th St.  
Mercer Island, WA 98040  
Phone: 206.232.1731