PLN19-0133 Blue Fern Townhomes
Preliminary Formal Subdivision - List of Exhibits

EXHIBIT	***DOCUMENT NAME***
Exhibit 1	Staff Report, prepared 21 July 2020
Exhibit 2	Boundary/Topographic Survey, prepared 5 December 2018
Exhibit 3	Vicinity Map, prepared 11 July 2019
Exhibit 4	Planned Action Determination of Consistency, issued 25 February 2020
Exhibit 5	Neighborhood Meeting Notice
Exhibit 6	Neighborhood Meeting Report, prepared July 2019
Exhibit 7	Notice of Application, dated 19 August 2019
Exhibit 8	Notice of Public Hearing, dated 13 July 2020
Exhibit 9	Site Plan, prepared 28 February 2020
Exhibit 10	Site Grading and Storm Drain Plan, prepared 28 February 2020
Exhibit 11	Project Reviews Report, generated 7 July 2020
Exhibit 12	Hardscape Calculations and Setbacks, prepared 15 July 2019
Exhibit 13	Right-of-Way Plan, received 6 May 2020
Exhibit 14	Water Availability Certificate, North City Water District, signed 22 July 2019
Exhibit 15	Applicant Report and Exhibits 1-16 • Exhibit 15.1 Vicinity Map • Exhibit 15.2 Neighborhood Meeting Notice • Exhibit 15.3 Neighborhood Meeting Report • Exhibit 15.4 Site Plan • Exhibit 15.5 Hardscape Calculation Worksheet • Exhibit 15.6 Traffic Control Plan • Exhibit 15.7 ROW Plans • Exhibit 15.8 Planned Action Determination of Consistency • Exhibit 15.9 SEPA Checklist • Exhibit 15.10 Tree Retention Calculation Worksheet • Exhibit 15.11 Tree Retention Plan • Exhibit 15.12 Arborist Report • Exhibit 15.13 Grading Plan • Exhibit 15.14 Geotechnical Report - Nelson • Exhibit 15.15 Geotechnical Report - Terra • Exhibit 15.16 Drainage Plan

Exhibit 16	Applicant Presentation
Exhibit 17	City Presentation
Exhibit 18	Public Comment Emails received by City of Shoreline
Exhibit 19	Water Availability Certificate, North City Water District, signed 31 July 2020

Staff Report to Hearing Examiner

Preliminary Formal Subdivision

File No. PLN19-0133, Blue Fern Townhomes

A. APPLICATION

Applicant: Blue Fern Development LLC

Property Owners: Stephen J. Devight (18002 12th Ave NE); Austin and Samantha Bowers (18008 12th Ave NE); Susan E. Butler (18016 12th Ave NE)

Owner's Authorized Agent: Michelle Branley, Blue Fern Development, LLC

Application for a Preliminary Formal Subdivision to subdivide three (3) residential parcels into nineteen (19) unit lots for single-family attached residences (townhomes). This subdivision is being reviewed concurrently with building, site development, and right-of-way permits under the Consolidated Subdivision process set forth in SMC 20.30.410(A)(3).

B. BACKGROUND

1. SITE CHARACTERISTICS[1]

1.1 Site addresses: 18002, 18008 and 18016 12th Avenue NE

1.2 Site tax parcel numbers: 6163900410, 6163900411 and 6163900420

1.3 The Site is a rectangular shaped property of approximately 23,515 square feet (0.54 acres).

1.4 The Site is a corner lot abutting 12th Avenue NE to the west and NE 180th Street to the south **(Exhibit 2, Boundary/Topographic Survey)**.

1.5 The Site currently contains three single-family residences, two detached garages/carports, and one small accessory structure. These structures will be demolished to facilitate the future development of the subdivided property.

1.6 The Site contains two short steep slopes on the west side and east side, with the center part of the site mostly flat. The east side is the high point of the property, sloping down to the west with an approximate 20-foot change in elevation.

2. COMPREHENSIVE PLAN LAND USE DESIGNATION AND ZONING

2.1 The Comprehensive Plan land use designation for the Site is Station Area 3.

2.2 The Site is zoned Mixed-Use Residential 35' (MUR-35') which requires a minimum density of 12 units per acre, or a minimum of 7 units for this Site.

2.3 Under SMC 20.40.120 single-family attached residential dwellings are an allowed use in MUR-35'.

[1] For the purpose of this Staff Report, "Site" means the three tax parcels collectively.

3. NEIGHBORHOOD CHARACTERISTICS

3.1 The Site is located on the northeast corner of NE 180th Street and 12th Avenue NE in the North City neighborhood **(Exhibit 3, Vicinity Map)**.

3.2 Northeast 180th Street is classified as a Collector Arterial and 12th Avenue NE is classified as a Local Secondary street.

3.3 The adjacent parcel to the north and the three parcels to the east are zoned MUR-35', and then, further north the neighborhood changes to R-6 zoning, while further east it transitions to Community Business (CB) zoning. To the west, across 12th Avenue NE the properties are zoned MUR-35', while to the south across NE 180th Street the properties are zoned CB. To the west, NE 180th Street dead-ends into Interstate-5, but to the east it connects to the center of the North City business district. To the north, 12th Avenue NE dead-ends into NE 185th Street, but to the south it connects all the way to NE 170th Street.

3.4 North City is a low-density residential area developed in the 1950s and 1960s with a small commercial corridor along 15th Avenue NE which bisects the area. Historically, the buildings were mostly one to two stories high and their footprints typically covered only a small portion of their sites. However, North City has experienced redevelopment in recent years, including a number of higher-density multifamily developments up to six stories high with structured parking in the CB zone, as well as higher density three-story townhouse redevelopments since the MUR rezoning was established in 2016.

4. REGULATORY AUTHORITY

4.1 Shoreline Municipal Code (SMC) 20.30.060 requires Preliminary Formal Subdivisions to be processed as a quasi-judicial or "Type-C" actions. The Hearing Examiner is to hold an open record public hearing and submit a recommendation, supported by findings and conclusions, to the City Council, which will make the final decision on the application.

4.2 Applicable regulatory controls set forth in the SMC include:

- SMC 20.30 – Procedures and Criteria
  (Preliminary Subdivisions – SMC 20.30.410)
- SMC 20.30 – SEPA Planned Actions – SMC 20.30.357, 20.30.565
- SMC 20.40 – Zoning and Use Provisions
  (Residential Uses – SMC 20.40.120)
- SMC 20.50 – General Development Standards
  (Dimensional and Density Standards – SMC 20.50.020)
- SMC 20.60 – Adequacy of Public Facilities
- SMC 20.70 – Engineering and Utilities Development Standards

4.3 RCW 58.17.110 Approval/Disapproval of Subdivisions

5. ENVIRONMENTAL

5.1 A 19-lot subdivision is subject to environmental review under SEPA.

5.2 The Site is located within the 185th Street Station Planned Action Area, established under Ordinance No. 707.

5.3 A Planned Action Determination of Consistency application was submitted and reviewed concurrently with the Preliminary Formal Subdivision application, under file number PLN19-0134. Following the review, staff concluded that the subdivision qualified as a Planned Action on January 30, 2020 and issued a Planned Action Notice Determination on February 25, 2020 **(Exhibit 4, Planned Action Determination of Consistency)**.

6. PROCEDURAL HISTORY

6.1 A Pre-application Meeting for the subdivision was held on December 18, 2018.

6.2 A Neighborhood Meeting was held on July 2, 2019 **(Exhibits 5 and 6, Neighborhood Meeting Notice and Neighborhood Meeting Report).**

6.3 Application for Preliminary Formal Subdivision (File No. PLN19-0133) was submitted on July 26, 2019.

6.4 The application was determined to be complete on August 14, 2019.

6.5 A Notice of Application for the subdivision was issued on August 19, 2019, with the comment period ending September 3, 2019 **(Exhibit 7, Notice of Application)**.

6.6 A Notice of Public Hearing was issued on July 13, 2020, for the Hearing Examiner open record public hearing on July 29, 2020 **(Exhibit 8, Notice of Public Hearing)**.

7. PUBLIC AND AGENCY COMMENT

7.1 Public Comment – Three comments were received during the Notice of Application comment period. All comments were in opposition to the proposal raising concerns related to increased density, increased traffic, lack of sidewalks, increased on-street parking, and noise and other impacts during construction such as street closures. To a large extent these concerns relate to cumulative impacts of new development, including adjacent multifamily projects recently built or under construction. Thus, commenters view this proposal as exacerbating those impacts recently or currently experienced by the North City neighborhood.

7.2 Agency Comment – No comments were received by any agencies during the Notice of Application comment period.

C. STAFF ANALYSIS

8. PRELIMINARY SUBDIVISION REVIEW CRITERIA (SMC 20.30.410)

The following criteria were used to review the proposed subdivision:

8.1 **SMC 20.30.410(B)(1): Environmental:**

Criterion (a): Where environmental resources exist, such as trees, streams, geologic hazards, or wildlife habitats, the proposal shall be designed to fully implement the goals, policies, procedures and standards of the critical areas regulations, Chapter 20.80 SMC, Critical Areas, and the tree conservation, land clearing, and site grading standards sections.

Staff Analysis: No critical areas or buffers exist on the Site. As proposed, the subdivision will comply with tree conservation, land clearing and site grading standards specified in SMC Chapter 20.50, Subchapter 5.

Criterion (b): The proposal shall be designed to minimize grading by using shared driveways and by relating street, house site and lot placement to the existing topography.

Staff Analysis: This subdivision shows a single vehicular access point from 12th Avenue NE, dividing into two internal driveway segments. The east segment will serve six lots, while the north branch will serve the remaining 13 lots. The proposal will require significant grading due to the short steep slopes on the east and west sides and the significant expansion of building and hardscape coverage. Application materials indicate approximately 2,090 cubic yards of earth will be removed ("cut"), while only 56 cubic yards of earth will be added ("fill"). The removal of earth is concentrated in three main areas: the right-of-way slope on 12th Avenue NE; the right-of-way slope on NE 180th Street; and the area where the buildings will be constructed. In order to access the garages associated with each townhouse unit, particularly the townhouse units on the east part of the site, a substantial amount of earth needs to be removed in order to maneuver vehicles into the garages. For example, in the northeast section of the property, the garages are at an elevation of 454 feet, which then which slopes up on the other side of the proposed building where the patios are located at 464 feet, meaning the garages are carved into the slope on the east side (earth is removed and garage building is put in its place). **(Exhibits 9 and 10, Site Plan and Site Grading and Storm Drain Plan).**

Criterion (c): Where conditions exist which could be hazardous to the future residents of the land to be divided, or to nearby residents or property, such as floodplains, landslide hazards, or unstable soil or geologic conditions, a subdivision of the hazardous land shall be denied unless the condition can be permanently corrected, consistent with subsections (B)(1)(a) and (b) of this section, Chapter 20.80 SMC, Critical Areas, and Chapter 13.12 SMC, Floodplain Management.

Staff Analysis: There are no existing natural hazardous conditions on the Site for either future residents or nearby residents or property.

Criterion (d): Low impact development (LID) techniques shall be applied where feasible to minimize impervious areas, manage stormwater, and preserve on-site natural features, native vegetation, open space and critical areas.

Staff Analysis: LID techniques and stormwater requirements are reviewed under the 2014 Department of Ecology (DOE) Stormwater Manual. The Public Works Department has indicated the proposed subdivision and associated site development shall conform to the stormwater requirements of the DOE Manual as mandated by the City's Engineering Development Manual.

8.2 **SMC 20.30.410(B)(2): Lot and Street Layout**

Criterion (a): Lots shall be designed to contain a usable building area. If the building area would be difficult to develop, the lot shall be redesigned or eliminated, unless special conditions can be imposed that will ensure the lot is developed consistent with the standards of this Code and does not create nonconforming structures, uses or lots.

Staff Analysis: The lots will be platted in a linear manner, with six lots oriented east to west with frontage on NE 180th Street, and 13 lots oriented north to south, six of which have frontage on 12th Avenue NE, and the remaining seven lots located behind these immediately to the east. Each proposed lot is rectangular in shape, containing the necessary footprint for an attached single-family home and a portion of the access drive which will be under a shared easement for vehicular and pedestrian circulation. Because this is a unit lot subdivision, redevelopment of individual lots will be limited and, a covenant shall be noted on the face of the final plat (see Section 9.4, Criteria E). **(Exhibit 12, Hardscape Calculations and Setbacks)**.

Criterion (b): Lots shall not front on primary or secondary highways unless there is no other feasible access. Special access provisions, such as shared driveways, turnarounds or frontage streets, may be required to minimize traffic hazards.

Staff Analysis: Six lots have frontage on NE 180th Street, which is a Collector Arterial, and six lots have frontage on 12th Avenue NE, which is a Local Secondary street. However, there is a single vehicle access point which is from 12th Avenue NE **(Exhibit 9, Site Plan)**. Both the Fire and Public Works Departments have approved the access as proposed; no vehicle turnaround is required for this subdivision, per Section 12.6(A) of the Engineering Development Manual **(Exhibit 11, Project Reviews Report)**.

Criterion (c): Each lot shall meet the applicable dimensional requirements of the Code.

Staff Analysis: SMC Table 20.50.020(2) does not establish a minimum lot width and area for the MUR-35' zoning district. Per Footnote 2, standards such as setbacks and hardscape may be modified for individual lots in unit lot developments, provided the overall site meets the dimensional standards. The unit lot boundaries for this subdivision will include each unit footprint, a portion of the abutting access drive, a portion of connected walkways, a portion of landscaping, and individual unit patios on Lots 13-19 (the lots without any street frontage), giving the individual lots setbacks ranging from zero feet to 30 feet and from 63% to 100% lot coverage. The parent site meets the dimensional requirements as identified in Section 9 below. The maximum hardscape for the site overall will be under the 85% required under SMC Table 20.50.020(2) **(Exhibits 9 and 12, Site Plan and Hardscape Coverage Calculation Worksheet)**.

Criterion (d): Pedestrian walks or bicycle paths shall be provided to serve schools, parks, public facilities, shorelines and streams where street access is not adequate.

Staff Analysis: Improvements to street frontage, including new sidewalks along the site frontages to 12th Avenue NE and NE 180th Street, are required as a condition of approval. The shared access driveway will provide an internal walkway on both sides that connects from the proposed sidewalk on 12th Avenue NE to the rear lots without street frontage (lots 13-19). Direct pedestrian access from the public sidewalks to each lot is provided for lots 1-12. **(Exhibit 9, Site Plan)**.

8.3 **SMC 20.30.410(B)(3): Dedications and Improvements**

Criterion (a): The City may require dedication of land in the proposed subdivision for public use.

Staff Analysis: The proposal does not include an internal street network thereby no public streets will be dedicated. All required frontage improvements will be located in the existing public right-of-way. In addition, Staff has determined any other land dedication for public use is not necessary for this proposal.

Criterion (b): Only the City may approve a dedication of park land.

Staff Analysis: No dedication of park land is required or proposed. Future development of the site with housing units will require the payment of park impact fees pursuant to SMC Chapter 3.70.

Criterion (c): In addition, the City may require dedication of land and improvements in the proposed subdivision for public use under the standards of Chapter 20.60 SMC, Adequacy of Public Facilities, and Chapter 20.70 SMC, Engineering and Utilities Development Standards, necessary to mitigate project impacts to utilities, rights-of-way, and stormwater systems. Required improvements may include, but are not limited to, streets, curbs, pedestrian walks and bicycle paths, critical area enhancements, sidewalks, street landscaping, water lines, sewage systems, drainage systems and underground utilities.

Staff Analysis: Improvements are required as a condition of approval within the 12th Avenue NE and NE 180th Street rights-of-way adjacent to the site.

Along 12th Avenue NE these improvements consist of a 16-foot travel lane (new asphalt), new curb and gutter, a five (5) foot amenity zone, and five (5) foot wide sidewalk for the length of the site's frontage, with a curb bulb at the intersection with NE 180th Street consisting of a 12-foot travel lane from centerline to curb bulb. In addition, new storm infrastructure will be installed along 12th Avenue NE with new catch basins placed on the north and south end of the project and tied into the existing system. All required improvements are pursuant to the 2019 Engineering Development Manual **(Exhibits 9 and 13, Site Plan and Right-of-Way Plan)**.

Along NE 180th Street these improvements consist of a 17.5-foot travel lane, new curb and gutter, a five (5) foot amenity zone, and seven (7) foot wide sidewalk for the length of the site's frontage. A new curb ramp will be installed on the south side of NE 180th Street to match the required ramp on the north side. An overlay (new asphalt) for the full width of NE 180th Street will be required for the length of the site's frontage. In addition, new storm infrastructure will be installed along NE 180th Street with catch basins on the east and west end of the project and tied into the existing system. The frontage improvements are consistent with the preferred concept selected for NE 180th Street as part of the 185th Street corridor project. All other required right-of-way improvements are pursuant to the 2019 Engineering Development Manual **(Exhibits 9 and 13, Site Plan and Right-of-Way Plan)**.

Future development of the site with housing units will require the payment of transportation impact fees pursuant to SMC 3.80.

8.4 **SMC 20.30.410(B)(4): Unit Lot Subdivision**

This subdivision is a unit lot development with 19 proposed lots.

Criterion (b): Unit lot developments may be subdivided into individual unit lots. The development as a whole shall meet development standards applicable at the time the permit application is vested.

Staff Analysis: For vesting purposes, this application was filed on July 26, 2019 and deemed complete on August 14, 2019. The 19 lots created by the proposed subdivision will be independent fee-simple lots for individual townhome units. For the overall site, all development standards, as noted in Sections 9, 10, and 11 of this report, are being met.

Criterion (c): As a result of the subdivision, development on individual unit lots may modify standards in SMC 20.50.020, Exception 2.

Staff Analysis: The individual unit lots in the proposed subdivision have modified setback and hardscape coverage requirements. The individual lots setbacks range from zero feet to 30 feet and from 63% to 100% lot coverage **(Exhibit 12, Hardscape Calculations and Setbacks)**. However, the site overall meets the minimum setback and hardscape requirements not subject to SMC Table 20.50.020(2), Exception 2. **(Exhibit 12, Hardscape Calculations and Setbacks).**

Criterion (d): Access easements, joint use and maintenance agreements, and covenants, conditions and restrictions identifying the rights and/or the homeowners' association shall be executed for use and maintenance of common garage, parking and vehicle access areas; on-site recreation; landscaping; underground utilities; common open space; exterior building facades and roofs of individual units; and other similar features, and shall be recorded with the King County Recorder's Office.

Staff Analysis: Shared access and utilities easements will be established as part of this subdivision. There will be an easement for utility and emergency access that includes all the land except that which the

buildings will be placed on. There will be an easement for the common vehicle drive and pedestrian walkway. All covenants, restrictions, and responsibilities of property owners are required to be recorded prior to approval of the final plat in a separate document, or, in the alternative, shown on the face of the final plat.

Criterion (e): Within the parent lot or overall site, required parking for a dwelling unit may be provided on a different unit lot than the lot with the dwelling unit, as long as the right to use that parking is formalized by an easement on the plat, to be recorded with King County Records and Licensing Services Division.

Staff Analysis: The applicant does not propose parking for dwelling units on a different unit lot. Parking will be limited to within the garages of each proposed townhouse unit.

Criterion (f): The unit lot is not a separate buildable lot, and that additional development of the individual unit lots may be limited as a result of the application of development standards to the parent lot and shall be noted on the plat, to be recorded with King County Records and Licensing Services Division.

Staff Analysis: This criterion is a mandatory condition of approval for a unit lot subdivision. As a condition of subdivision approval, this information shall be included on the face of the final plat.

Criterion (g): The applicant shall record a covenant on the plat that states, "These units will be considered individual units and part of one structure that cannot be segregated from one another. A unit lot development is defined as one building or one structure in the International Building Code and International Fire Code and National Electrical Code."

Staff Analysis: This criterion does not apply since the units were designed as structurally independent, they are not considered one building or structure under the International Building Code, International Fire Code, or National Electrical Code.

9. SITE DEVELOPMENT STANDARDS (SMC 20.50)

9.1 Densities and Dimensions in the MUR-35' Zone (SMC 20.50.020)

Standard	Regulation	Parent Lot
Base Density	N/A	N/A
Min. Density	12 du/acre 7 units	35 du/acre 19 units
Min. lot width	N/A	N/A
Min. lot area	N/A	N/A
Min. front yard setback	0 ft. from NE 180th St (Arterial Street) 10 ft. from 12th Ave NE (Non-Arterial Street)	3 ft. from NE 180th St (Arterial Street) 10 ft. from 12th Ave NE (Non-Arterial Street)

Standard	Regulation	Parent Lot
Min. side yard setbacks	5 ft.	5.6 ft. (North Side) 6.7 ft. (East Side)
Min. rear yard setback	5 ft.	N/A
Base height	35 ft.	35 ft.
Max. building coverage	N/A	N/A
Max. impervious surface	85%	81%

Per SMC Table 20.50.020(2), Footnote 2, except for density and height, all these standards may be modified for unit lot and zero lot line developments for internal lots only.

9.2 Significant Tree Removal (SMC 20.50.290-370)
There are six (6) significant trees existing on the Site. All trees measure less than 30 inches in diameter at breast height (DBH). Per SMC 20.50.310(B), five (5) significant trees under 30 inches DBH are exempt from retention and replacement requirements. Therefore, no replacement of these trees will be required for development of this Site. However, retention of one (1) tree is required. The 14" DBH black pine tree near the eastern property line will be retained.

9.3 Parking and Access (SMC 20.50.380-440)
Each dwelling unit must provide one off-street parking space (SMC 20.50.390A). All required parking spaces are proposed to be located within the garages of each townhome unit. The spaces must measure at least 8.5 feet by 20 feet in size.

10. ADEQUACY OF PUBLIC FACILITIES (SMC 20.60)

10.1 Wastewater – Ronald Wastewater District has reviewed the subdivision and determined that sufficient sewer capacity is currently available, subject to conditions. (**Exhibit 11, Project Reviews Report**)

10.2 Water – North City Water District has reviewed the subdivision and has issued a Water Availability Certificate **(Exhibit 14)**.

10.3 Fire Protection – The Shoreline Fire Department, a special purpose district separate and distinct from the City, has reviewed the plans for access, water pressure to the site, and proximity to fire hydrants and found the plans satisfactory. Future development of the site with housing units will require the payment of fire impact fees pursuant to SMC 3.75 **(Exhibit 11, Project Reviews Report)**.

10.4 Surface and Stormwater Management – The Public Works Department has reviewed the proposed subdivision and associated development and determined that surface water standards as set forth in the Engineering Development Manual, which are based on the 2014 Ecology manual shall be satisfied **(Exhibit 11, Project Reviews Report)**.

10.5 Streets and Access – The Public Works Department has reviewed the proposed subdivision and associated development and determined that there is adequate access from 12th Avenue NE via a shared access driveway. Frontage improvements for 12th Avenue NE and NE 180th Street, including re-paving of travel lanes, new curbs, gutters, sidewalks, and an amenity zone will be required prior to final plat approval. Alternatively, the applicant may post a bond or other surety for frontage improvements, as provided in SMC 20.30.440, prior to final plat approval.

11. ENGINEERING AND UTILITY DEVELOPMENT STANDARDS (SMC 20.70)

11.1 Right-of-Way Dedication – No right-of-way dedication (easement for public use) is required. Required frontage improvements will be accommodated within existing public rights-of-way.

11.2 Frontage Improvements – The following frontage improvements will be required as a condition of approval and shall be installed by the applicant prior to final plat approval, or the applicant may post a bond or other surety as described in Section 10.5 above.

a) 12th Avenue NE:
   i. 16 feet of re-paving, measured from centerline of the right-of-way;
   ii. 6-inch concrete curb;
   iii. 5-foot-wide amenity zone;
   iv. 5-foot-wide concrete sidewalk; and
   v. Curb bulb with a travel lane of 12 feet from centerline to curb bulb.

b) NE 180th Street:
   i. 35 feet of re-paving;
   ii. 6-inch concrete curb;
   iii. 5-foot-wide amenity zone;
   iv. 7-foot-wide concrete sidewalk; and
   v. Curb ramps on the north and south sides of the street.

11.3 Utility Undergrounding – Undergrounding of all utilities per SMC 20.70.430 will be required.

C. CONCLUSIONS

Based on the above, staff concludes the proposed Preliminary Formal Subdivision:

- Has met the applicable requirements of the Shoreline Municipal Code, including SMC Title 20 Unified Development Code.
- Will make appropriate provisions for the public health, safety, and general welfare. The units within the subdivision will be connected to public sewer and water systems, subject to conditions set forth by the sewer and water providers. Additional stormwater runoff due to the increase of hardscape on Site will be managed according to current City and State standards. Anticipated traffic impacts will be mitigated through the payment of Transportation Impact Fees and construction of frontage improvements along 12th Avenue NE and NE 180th Street. Impacts to the City's Park System and to the Shoreline Fire Department will be mitigated through Park and Fire Impact Fees. Impacts fees will be due at building permit issuance.

- Will serve the public use and interest. The Site is located within the 185th Street Station Subarea which promotes denser development in proximity to future high-capacity transit, specifically Sound Transit's 185th Street light rail station located approximately 0.6 miles from the Site. The denser mixed-use residential zoning is intended to improve walkability and reduce car dependency. The proposed subdivision's creation of 19 unit lots will result in an additional 16 housing units thereby helping to address the regional housing shortage in the Central Puget Sound area. In addition, by increasing density of this type, walkability and social interaction is promoted; car dependency is reduced, resulting in less greenhouse gas emissions and congestion; public services can be provided more efficiently; and more housing types are provided within the City.

D. STAFF RECOMMENDATION

Staff's recommendation to the Hearing Examiner is to forward to the City Council a recommendation of approval for the proposed Preliminary Formal Subdivision application, PLN19-0133, subject to the following conditions:

1. The three existing lots shall be merged. Development permits for the Site, including but not limited to, demolition permits, clearing and grading permits, site development permits, right-of-way permits, and building permits, shall not be issued until the City has approved a Lot Merger for the Site and the same has been recorded with the King County Recorder's Office. Failure to apply for or receive approval of a Lot Merger, or to record an approved Lot Merger, shall render the Preliminary Plat null and void and as such, no Final Plat shall be approved or recorded.
2. Applicant shall comply with all applicable provisions of the Shoreline Municipal Code, specifically SMC Title 20 Unified Development Code.
3. All existing and proposed restrictions, easements, tracts, and their purpose shall be clearly shown on the face of the Final Plat.
4. All utility easements for water service, sewer service, underground power, and telecommunications shall be noted on the face of the Final Plat.
5. A use and maintenance agreement shall be recorded, filed separately, or noted on the face of the Final Plat for all joint access and utility easements/tracts.
6. The stormwater facilities shall be complete and pass inspection prior to approval of the Final Plat, or the applicant shall post suitable bond or surety to guarantee the completion of improvements within one year of the date of approval of the Final Plat.
7. A stormwater declaration of covenant in a form acceptable to the City shall be recorded with the King County Recorder's Office prior to approval of the Final Plat and the recording number shall be clearly noted on the face of the Final Plat. If the applicant has posted a bond or surety, then the declaration of covenant shall be recorded on each lot shown on the final plat prior to release of the bond or surety. Or, in the alternate, covenant language in a form acceptable to the City shall be included on the face of the Final Plat.
8. A joint use and maintenance agreement identifying the rights and responsibilities of the property owners within the Final Plat, or a homeowner's association, shall be executed for the maintenance and operation of the stormwater facilities and recorded with the King County Recorder's Office prior to approval of the Final Plat. Or, in the alternative, joint use maintenance agreement language shall be included on the face of the Final Plat.

9. All conditions for access and life safety, as required by Shoreline Fire Department, shall be met. The proposed access road must be a minimum 20 feet wide and marked as a fire lane with no parking allowed. Both shall be noted on the face of the Final Plat, and the improvements shall be completed prior to Final Plat approval.
10. All conditions of the water availability certificate shall be met:
    a. The fire flow requirement for the applicant's proposed project must be determined to identify if improvements to the District's system are necessary.
    b. This is not an application for or approval of water service to the proposed site. A proper application must be filed with and accepted by the District before service will be provided. The District has a connection charge (also called general facilities charge) and meter installation charge for each new water service provided. It is recommended that the applicant consult with the District to obtain applicable fees, charges, and procedures which may change during the property development process.
11. A side sewer easement is required for all shared side sewers on the City of Shoreline/Ronald Wastewater District approved form. The easement shall be recorded prior to Final Plat approval and it shall be clearly noted on the face of the Final Plat.
12. All conditions set forth by Ronald Wastewater District for new sewer connections shall be met:
    a. Sewer service will be provided by a six (6) inch side sewer connection or an eight (8) inch or larger sewer main from the site.
    b. Prior to connection of any structure to any sanitary sewer system or the making of any repairs, alterations, or additions, an application for a side sewer permit shall be filed with the City of Shoreline.
    c. All materials and workmanship in connection with the installation of any sewers connected to the public sewer shall be as specified by District Rules & Regulations – Res. 09-26.
    d. Wastewater easements will be required on City of Shoreline form. Easements shall be recorded prior to wastewater permit issuance.
13. All new development shall be served with underground power and separate meters for each dwelling unit.
14. Protective fencing shall be installed around the driplines of trees identified by the City in order to ensure their survival during construction.
15. The exact square footage of each lot shall be clearly shown on the face of Final Plat.
16. All addresses shall be shown on the recorded Final Plat. Each unit shall be addressed as follows:
    a. Lot 1 – 18008 12th Ave NE Unit F
    b. Lot 2 – 18008 12th Ave NE Unit E
    c. Lot 3 – 18008 12th Ave NE Unit D
    d. Lot 4 – 18008 12th Ave NE Unit C
    e. Lot 5 – 18008 12th Ave NE Unit B
    f. Lot 6 – 18008 12th Ave NE Unit A

g. Lot 7 – 1202 NE 180th St Unit A
h. Lot 8 – 1202 NE 180th St Unit B
i. Lot 9 – 1202 NE 180th St Unit C
j. Lot 10 – 1202 NE 180th St Unit D
k. Lot 11 – 1202 NE 180th St Unit E
l. Lot 12 – 1202 NE 180th St Unit F
m. Lot 13 – 18016 12th Ave NE Unit A
n. Lot 14 – 18016 12th Ave NE Unit B
o. Lot 15 – 18016 12th Ave NE Unit C
p. Lot 16 – 18016 12th Ave NE Unit D
q. Lot 17 – 18016 12th Ave NE Unit E
r. Lot 18 – 18016 12th Ave NE Unit F
s. Lot 19 – 18016 12th Ave NE Unit G

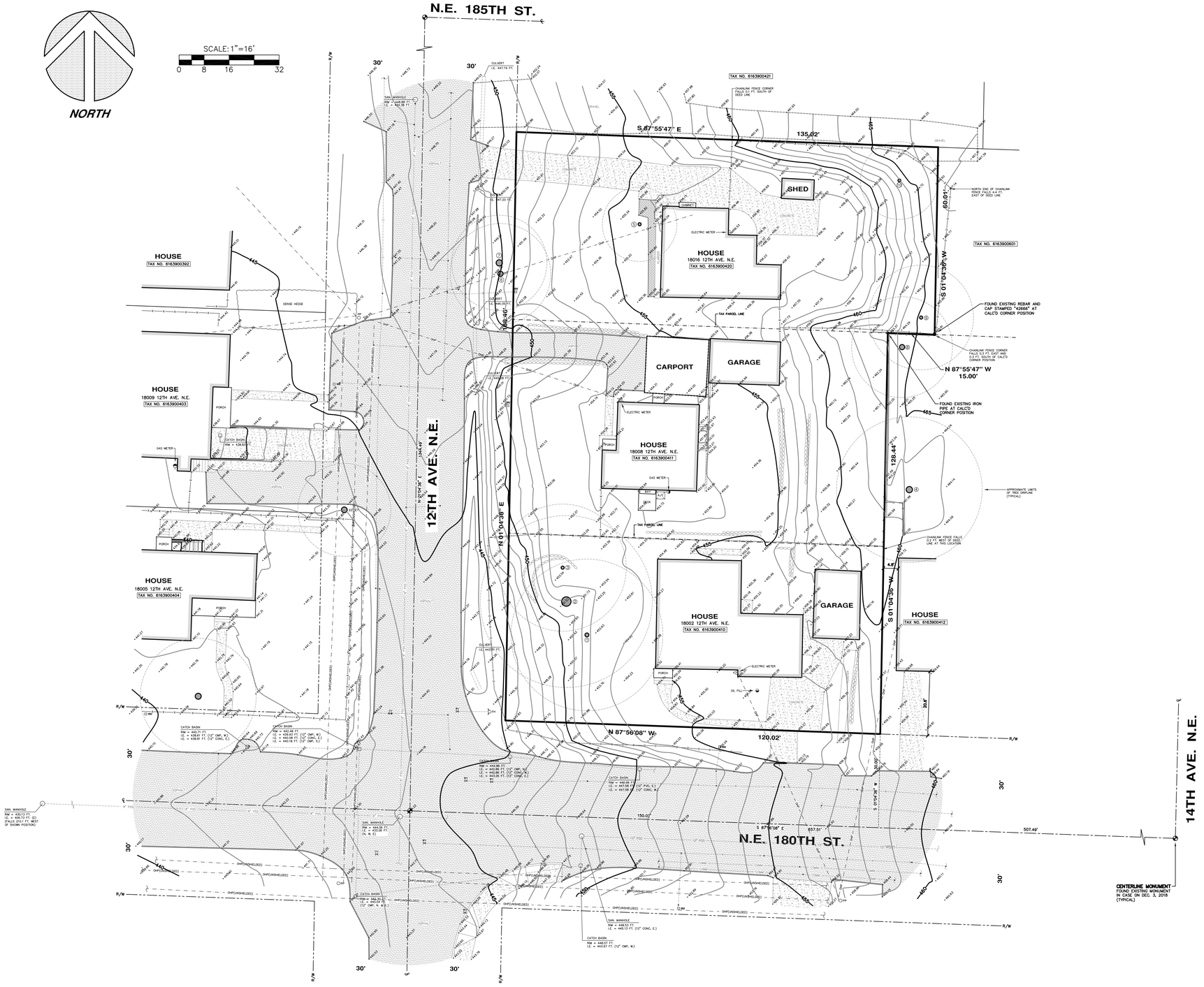
17. The subdivision shall comply with tree conservation, land clearing and site grading standards specified in SMC Chapter 20.50, Subchapter 5, specifically by retaining one (1) onsite significant tree.

18. A Covenant shall be recorded either by stating it on the face of the Final Plat or by filing a Declaration of Covenant with King County Recorder's Office prior to Final Plat approval. The recording number of this Declaration shall be noted on the plat. The language of the covenant shall be:

    "Each unit lot is not a separate buildable lot. Additional development of the individual unit lots may be limited as a result of the application of development standards to the parent lot. These units will be considered individual units and part of one structure that cannot be segregated from one another."

19. The following note shall be placed on the face of the Final Plat:

    "This subdivision is approved based on SMC 20.30.410.D Unit Lot Development standards and Exception (#2) to Table 20.50.020(1) that allows modifications to certain dimensional standards for unit lot developments. Any future development of the individual lots created by this subdivision may be limited as a result of the application of development standards."



NOTES

1. THIS SURVEY WAS PERFORMED BY FIELD TRAVERSE USING A 10 SECOND "TOTAL STATION" THEODOLITE SUPPLEMENTED WITH A 100 FT. STEEL TAPE. THIS SURVEY MEETS OR EXCEEDS THE STANDARDS FOR LAND BOUNDARY SURVEYS AS SET FORTH IN WAC CHAPTER 332-130-090.

2. CONTOUR INTERVAL = 1 FT.

3. ELEVATION DATUM = NAVD'88, AS PER DIRECT OBSERVATIONS USING GPS EQUIPMENT ON DECEMBER 3, 2018.

4. COMBINED PARCEL AREA = 23,515 SQ. FT.

5. THIS SURVEY IS RELIANT UPON THE INFORMATION CONTAINED WITHIN FIRST AMERICAN TITLE INSURANCE COMPANY FILE NO. 4201-3152132, DATED OCT. 29, 2018, FIRST AMERICAN TITLE INSURANCE COMPANY FILE NO. 4201-3152133, DATED OCT. 29, 2018 AND FIRST AMERICAN TITLE INSURANCE COMPANY FILE NO. 4201-3159591, DATED NOV. 09, 2018.

   AS PER TITLE NO. 4201-3159591 EASEMENT NOS. 3705580 & 3700944 ARE LISTED IN SCHEDULE B EXCEPTIONS. FURTHER REVIEW OF SAID EASEMENTS HAS DETERMINED THAT THEY DO NOT ENCUMBER THE SUBJECT PROPERTY.

6. UNDERGROUND UTILITY INFORMATION AS SHOWN HEREON IS APPROXIMATE ONLY AND IS BASED UPON CITY OF SHORELINE GIS AND ALSO AS PER TIES TO ABOVE GROUND STRUCTURES.

7. TREE DIAMETERS AND DRIPLINES DISPLAYED HEREON ARE APPROXIMATE. FOR SPECIFIC GENUS AND DIAMETER, TREES SHOULD BE EVALUATED BY A CERTIFIED ARBORIST.

8. WE HAVE DETERMINED TO THE BEST OF OUR ABILITY THE OVERHEAD HIGH VOLTAGE POWERLINE WHICH IS CLOSEST TO THE PROJECT SITE AND HAVE DISPLAYED ITS HORIZONTAL AND VERTICAL LOCATION HEREON. HOWEVER, ADDITIONAL OVERHEAD SERVICE LINES MAY EXIST WHICH ARE NOT OBVIOUS TO US BY FIELD OBSERVATION AND POTENTIALLY IMPACT PROJECT DESIGN. THEREFORE, PRIOR TO DESIGN AND CONSTRUCTION WE RECOMMEND THAT SEATTLE CITY LIGHT BE CONSULTED REGARDING THE POSSIBLE EXISTANCE OF ADDITIONAL SERVICE LINES NOT DISPLAYED HEREON WHICH SHOULD BE CONSIDERED FOR PROJECT DESIGN.

TREE IDENTIFICATION TABLE

SOURCE: FAVERO GREENFOREST, ARBORIST
(TAKEN FROM EMAIL DATED 05-09-19)

I.D. #	DIAMETER	TREE NAME
1	17"	NORWAY MAPLE
2	20"	BIRCH
3	14"	NORWAY MAPLE
4	28"	HEMLOCK
5	14"	PURPLE LEAF PLUM
6	19"	DOUGLAS FIR
7	23"	DOUGLAS FIR
8	20"	DOUGLAS FIR
9	14"	BLACK PINE
10	10"	BLACK PINE

PROPERTY DESCRIPTIONS

TAX PARCEL NO. 6163900410 (7,201 SQ. FT.)

THE SOUTH 60 FEET OF THE WEST 120 FEET OF LOT 1, BLOCK 3, NORTHEND COUNTRY ESTATES, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 28 OF PLATS, PAGE 37, RECORDS OF KING COUNTY, WA.

TAX PARCEL NO. 6163900411 (8,213 SQ. FT.)

THE WEST 120 FEET OF LOT 1, BLOCK 3, NORTHEND COUNTRY ESTATES, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 28 OF PLATS, PAGE 37, RECORDS OF KING COUNTY, WA.

EXCEPT THE SOUTH 60 FEET THEREOF.

TAX PARCEL NO. 6163900420 (8,101 SQ. FT.)

THE SOUTH 60 FEET OF THE WEST 135 FEET OF LOT 2, BLOCK 3, NORTHEND COUNTRY ESTATES, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 28 OF PLATS, PAGE 37, RECORDS OF KING COUNTY, WA.

BRANDON E. WINTERS
STATE OF WASHINGTON
45803
REGISTERED
PROFESSIONAL LAND SURVEYOR

DATE: 5/13/19

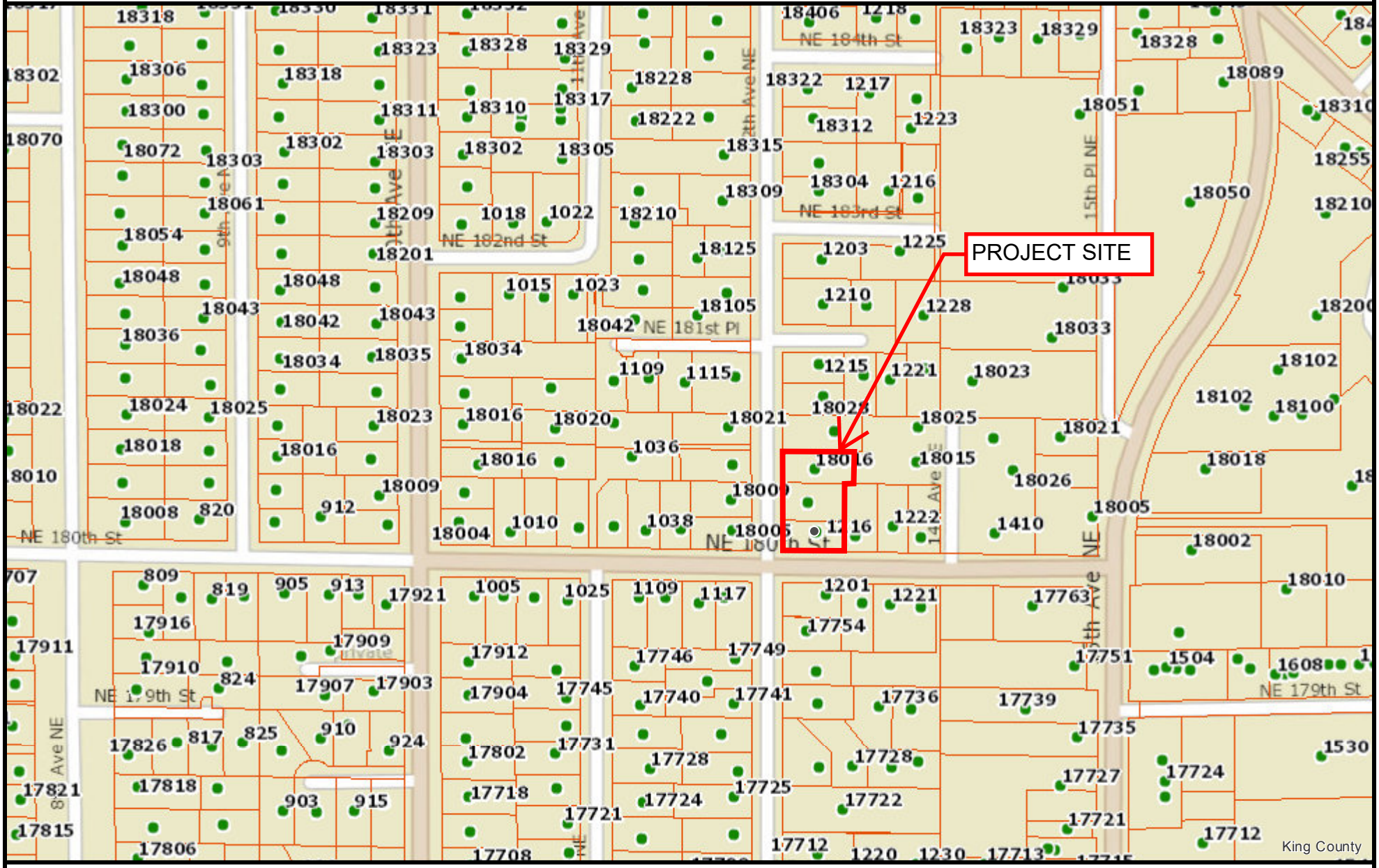
TOPOGRAPHIC SURVEY
18002/18008/18016 12TH AVE. N.E.
SHORELINE, WASHINGTON

CHADWICK & WINTERS
LAND SURVEYING AND MAPPING
1422 N.W. 85TH ST., SEATTLE, WA 98117
PHONE: 206.297.0996
FAX: 206.297.0997
WEB: WWW.CHADWICKWINTERS.COM

PROJECT #:	18-6319
DRAWING:	18-6319TOPO.DWG
CLIENT:	BLUE FERN
DATE:	12-05-18
DRAWN BY:	SAL

EXHIBIT 3

King County iMap



Date: 7/11/2019 Notes:

N

King County

EXHIBIT 4

City of Shoreline

Planning & Community Development

17500 Midvale Avenue North Shoreline, WA 98133-4905
Phone: (206) 801-2500 Fax: (206) 801-2788
Email: pcd@shorelinewa.gov Web: www.shorelinewa.gov

To Be Completed by Staff:
Date Received: 07/26/2019
Permit Number: PLN19-0134

RECEIVED
JUL 26 2019
PCD

Planned Action Determination of Consistency Review Checklist

185th Street Station Subarea ☑ 145th Street Station Subarea ☐

Town Center ☐ Shoreline Place ☐

Part One: Project Information (Applicant to Complete)			
Property Information	**Site Address:** 18002, 18008, 18016 12th Ave NE Shoreline, WA 98133		
	Parcel #: 616390-0410, 616390-0411, 616390-0420	**Sq. feet:** 23,515	**Acres:** 0.54
	Land Use Designation: Residential	**Zoning:** MUR-35'	
	Number of Buildings on site: 3	**Number to be Retained:** 0	
	Existing Impervious Surface Area: 6,434	**Proposed Impervious Surface Area:** 18,922	
Applicant / Contact	**Name/Company:** Blue Fern Development I, LLC Attn: Michelle Branley		
	Address: 11232 120th Ave NE #204	**City/State/Zip:** Kirkland, WA 98033	
	Phone: 425-629-3854	**Applicants Relationship to owner:** purchaser	
	Fax:	**Email:** michelle@bluefern.com	
Property Owner	**Name/Company:** Please see attached.		
	Address:	**City/State/Zip:**	
	Phone:	**Email:**	
	Fax:		
Project Description	**Existing Land Use** (describe):		
	Proposed Land use (check all that apply):		
	☐ **Retail & Services:** those uses including but not limited to department, drug & grocery stores; eating &drinking establishments; specialty goods/foods; entertainment & recreation; convenience stores; services; and commercial goods.	☐ **Office & Employment** – Those uses including but not limited to business & professional offices such as medical or dental, educational & institutional offices, research & development, light manufacturing, high tech, and associated uses.	
	☐ **Civic & Cultural:** those uses including but not limited to libraries, museums, community center, stadium, performing arts facility, City Hall and other public facilities, which are not essential public facilities.	☐ **Lodging:** Those uses including hotels, motels, and other similar facilities offering temporary accommodation.	
	☐ **Mixed Use:** Those uses that combine two or more land uses on a single site or within a single building.	☑ **Residential:** Those uses including but not limited to single family attached and detached units, multifamily units, residential care facilities, nursing homes and senior housing.	
	Other (Describe):		

190134

Development Information				
	Residential (Dwelling Units):			
	Existing Dwellings	**Proposed Dwellings**	**Proposed Density (dwellings per acre)**	
	# Single Family: 3	# Single Family: 19	# Single Family: 35.19	
	# Multifamily:	# Multifamily:	# Multifamily:	
	Office / Employment (Square Feet):			
	Existing Office / Employment:	Proposed Office / Employment:		
	Retail & Services (Square Feet):			
	Existing Retail & Services:	Proposed Retail & Services:		
	PM Peak Hour Weekday vehicle Trips:			
	Existing Estimated Trips: 3	Future Estimated Trips: 10.64	Net New Trips: 7.64	Total Trips: 10.64
	Source of Trip Rate:		**Transportation Impacts Consistent with Chapter 20.60.140:**	
	ITE Manual ☑	**Other**	**Yes** ☐	**No** ☐
Signature (Applicant)	Michelle Bradley			
Date:	7-17-19			

Part Two: Review Criteria (City to Complete) The City's SEPA Responsible Official may designate conforming projects as "planned actions," pursuant to RCW 43.21C.030, that meet the following conditions (Ordinance 707-185th SSSP & Ordinance 752 – 145th SSSP)			
Criteria (SMC		**Complies** (if not explain on separate sheet and attach):	
The proposal is located within a planned action area as identified on the official zoning map.		Yes ☑	No ☐
The proposal is consistent with the City of Shoreline Comprehensive Plan and the applicable subarea plan.		Yes ☑	No ☐
The proposed uses & activities are consistent with those described in the planned action EIS & zoning requirements of Title 20.		Yes ☑	No ☐
The proposal is consistent with the cumulative planned action thresholds identified in Ordinances 609 (Town Center), 705 (Shoreline Place), 707 (185th SSSP) & 752 (145th SSSP).		Yes ☑	No ☐
Dwelling Threshold: (2,214 units in 145th) (2,190 units in 185th) (1,000 units in Shoreline Place) (1,200 units in Town Center)	NEW UNITS: 16 TOTAL UNITS: 19	Dwellings Remaining: 1,933	

Employment Threshold: (1,083 jobs in 145th) (928 jobs in 185th) (250,000 sqft office and 250,000 sqft retail in Shoreline Place) (200,000 sqft office and 200,000 sqft retail in Town Center)		Employment Remaining: 928	
Vehicle Trips Threshold: (18,061 trips in 145th) (8,289 trips in 185th) (Maximum Average Daily Trips on 185th Street = 20,000) (7 894 total trips; 1,605 net trips for Shoreline Place)		Vehicle Trips Remaining: 8,176.095	
Utility Thresholds (145th): NCWD – 1,043,000 gpd SPU – 2,048,000 gpd Ronald Wastewater – 3,609,000 gpd Utility Thresholds (185th): NCWD = 771,281 gpd SPU = 1,171,165 gpd Ronald Wastewater = 1,516,803 gpd		Utility Capacity Remaining: NCWD: 757,721 RONALD: 1,495,128	
The proposal's significant impacts have been identified in the planned action EIS.		Yes ☑	No ☐

The proposal's significant impacts have been mitigated by application of the measures identified in Ordinances 609, 705, 707 & 752 and other applicable City regulations together with any modifications, variances or special permits that may be required.	Yes ☑	No ☐
The proposal complies with all applicable local, state & or federal laws and regulations.	Yes ☑	No ☐
The proposal is not an essential public facility as defined by RCW 36.70a.200(1) and except as permitted by Chapter 43.21C.RCW.	Yes ☑	No ☐

Part Three: Planned Action Determination (City to Complete):		
Requirement:	**Complies** (If no, explain on a separate sheet and attach):	
Applications for planned actions were made on forms provided by the City including a SEPA checklist.	Yes ☑	No ☐
The application is complete as provided in SMC 20.30.100.	Yes ☑	No ☐
The application is consistent with the criteria of the Planned Action Ordinance.	Yes ☑	No ☐

190134

Qualifying Project (if no, explain on a separate sheet and attach)	
Yes ☑	**Qualifies as a Planned Action** - The application is consistent with the Planned Action Ordinance and thereby qualifies as a Planned Action project. All development activities shall proceed in accordance with the applicable permit review procedure specified in Shoreline Municipal Code Title 20, except that no SEPA threshold determination, EIS or additional SEPA review shall be required. Public notice of the determination shall be pursuant to chapter 43.21C RCW.
No ☐	**Does not Qualify as Planned Action** – The application is not consistent with the Planned Action Ordinance and does not qualify as a Planned Action project for the following reasons:
☐	**Additional SEPA Review Required**- Projects that fail to qualify as Planned Actions may incorporate or otherwise use relevant elements of the Planned Action EIS, as well as other relevant SEPA documents, to meet their SEPA requirements. The SEPA responsible Official may limit the scope of SEPA review for the non-qualifying project to those issues and environmental impacts not previously addressed in the Planned Action EIS.
Signature: (Director or Designee)	Cate Lee
Date:	1/30/20

EXHIBIT 5

BlueFern
DEVELOPMENT

NEIGHBORHOOD MEETING

Date: Tuesday, July 2, 2019

From: 6:00PM – 7:30PM

Location: **Shoreline Library**
Small Meeting Room
345 NE 175th Street
Shoreline, WA. 98155

RE: 19-Unit Subdivision located at 18002,18008,18016 12th Ave NE (Parcel #6163900410, 6163900411, 6163900420)

Purpose: You are cordially invited to a Neighborhood Meeting. The purpose of the meeting is to provide an opportunity to inform the neighborhood of the proposed project in its early planning stages. Please feel free to join us at the Shoreline Library on July 2nd at 6:00P.

Project Description: The applicant is proposing a 19-unit townhome development on +/- 23,515 square feet (0.54 acres), in accordance with the MUR 35-zoning designation of the site. The development will be comprised of three buildings total, two of which contain six units and one containing seven units. Vehicular access to the site shall be provided off 12th Ave NE. All townhomes will be three story structures, of Type V-B Construction and sprinklered.

Development Code: The following requirements are relevant to the site:
Minimum Density = 12 dwelling units per acre, (23,515 / 43,560 x 12 = 6.48, or 7 unit minimum)
Maximum Density = N/A
Minimum Lot Size = N/A
Minimum Lot Width = N/A
Minimum Front Setback = 0 Feet (NE 180th St – Minor Arterial)
Minimum Front Setback = 10 Feet (12th Ave NE – Non-Arterial)
Minimum Rear Yard Setback = 5 feet
Minimum Side Yard Setback = 5 feet
Maximum Building Height = 35 feet
Maximum Building Coverage = N/A Maximum Hardscape = 85%

Applications: The project will pursue the following applications from the City of Shoreline:

- Site Development
- Demolition Permit
- Right-of-Way Permit
- Building Permit (Townhouse and Single-Family Attached)
- Preliminary Formal Plat
- Final Formal Plat

PLN-190133

EXHIBIT 6

August 14, 2019

To: Shoreline Neighbor

RE: Neighborhood Meeting Report, Submitted by Blue Fern Development

Dear Shoreline Neighbor:

Please find enclosed a copy of the Neighborhood Meeting Report for a Preliminary Formal Subdivision application for a 19-unit townhouse development, submitted on July 26, 2019. We are sending you this report because you attended the Neighborhood Meeting held on July 2, 2019.

Also enclosed is a handout answering frequently asked questions regarding the Neighborhood Meeting process.

The City will also mail you a Notice of Application, which will notify you of the public comment period for another opportunity to comment.

If you have any questions, please call me at (206)801-2557 or e-mail to clee@shorelinewa.gov. Written comments can also be mailed to my attention to: City of Shoreline, Planning & Development Services, 17500 Midvale Ave. N., Shoreline, WA 98133.

Sincerely,

Catie Lee, AICP
Project Manager

Enclosures: Neighborhood Meeting Report
Frequently Asked Questions

FREQUENTLY ASKED QUESTIONS
NEIGHBORHOOD MEETINGS

Planning & Community Development

Q: What is the purpose of a neighborhood meeting?

A: Neighborhood meetings are designed to provide citizens with early notification that a project may be proposed in their neighborhood and to allow citizens to provide initial comments on the project at an early stage of the application process.

Q: Who is notified of the meeting?

A: All property owners within 500 feet of the project site are required to be notified via mail of the neighborhood meeting. Neighborhood Association representatives for the area are also notified.

Q: Will attendees get to approve or deny the project?

A: No. Attendees will be able to provide comments to the applicant which the applicant can then choose whether or not to incorporate those comments into his/her proposal.

Q: How does the neighborhood meeting fit into the permit process?

A: The neighborhood meeting is one of the initial steps in the process towards making an application with the City. Neighborhood meetings are held prior to applicants submitting their project with the City. Applicants are required to provide documentation from the neighborhood meeting as part of their application submittal.

Q: Will I be notified when a project is applied for?

A: All property owners within 500 feet of the project site will be notified once an application is submitted with the City.

Q: Will the neighborhood meeting be my only opportunity to comment on the project?

A: No. When the application is submitted to the City a “Notice of Application” will be sent out to all property owners within 500 feet. This notice will also indicate the beginning of the public comment period which typically lasts 14 days. Anyone who wishes to submit written comments regarding the project may do so at that time. All comments will be included with the file for review.

Q: Will I be able to view the project file and where can I view it at?

A: Once an application has been filed with the city any interested citizens may come in, view the file and discuss the application with the project manager. All files can be found at the Planning & Community Development department located at: 17500 Midvale Ave. N., 3rd floor, Permitting.

BlueFern
DEVELOPMENT

NEIGHBORHOOD MEETING

Date: Tuesday, July 2, 2019

From: 6:00PM – 7:30PM

Location: **Shoreline Library**
Small Meeting Room
345 NE 175th Street
Shoreline, WA. 98155

RE: 19-Unit Subdivision located at 18002,18008,18016 12th Ave NE (Parcel #6163900410, 6163900411, 6163900420)

Purpose: You are cordially invited to a Neighborhood Meeting. The purpose of the meeting is to provide an opportunity to inform the neighborhood of the proposed project in its early planning stages. Please feel free to join us at the Shoreline Library on July 2nd at 6:00P.

Project Description: The applicant is proposing a 19-unit townhome development on +/- 23,515 square feet (0.54 acres), in accordance with the MUR 35-zoning designation of the site. The development will be comprised of three buildings total, two of which contain six units and one containing seven units. Vehicular access to the site shall be provided off 12th Ave NE. All townhomes will be three story structures, of Type V-B Construction and sprinklered.

Development Code: The following requirements are relevant to the site:
Minimum Density = 12 dwelling units per acre, (23,515 / 43,560 x 12 = 6.48, or 7 unit minimum)
Maximum Density = N/A
Minimum Lot Size = N/A
Minimum Lot Width = N/A
Minimum Front Setback = 0 Feet (NE 180th St – Minor Arterial)
Minimum Front Setback = 10 Feet (12th Ave NE – Non-Arterial)
Minimum Rear Yard Setback = 5 feet
Minimum Side Yard Setback = 5 feet
Maximum Building Height = 35 feet
Maximum Building Coverage = N/A Maximum Hardscape = 85%

Applications: The project will pursue the following applications from the City of Shoreline:

- Site Development
- Demolition Permit
- Right-of-Way Permit
- Building Permit (Townhouse and Single-Family Attached)
- Preliminary Formal Plat
- Final Formal Plat

PLN-190133

Neighborhood Meeting Agenda
Tuesday, July 2, 2019
6:00 PM-7:30 PM
Small Meeting Room - Shoreline Library
345 NE 175th St, Shoreline, WA 98155

Introduction

- Thank you to everyone for attending
- Blue Fern Development – Michelle Branley
- Milbrandt Architects – Alex Clohesey

Purpose of the Meeting

- Inform and engage with neighborhood residents about the project in its development
- Comments from meeting will be recorded, the developer and design team will then be able to address/further develop solutions to concerns raised before submitting an application to the City.
- As part of the application for the preliminary subdivision, a summary of this meeting is submitted to the City of Shoreline, along with a list of attendees at the meeting, and documentation of concerns raised, for review by the City staff.

Description of Project

- 3 parcels at corner of 12th Ave NE and NE 180th St.
- Zoning Info: MUR-35'
  - Min. Density = 12 du/ac
  - Max. Density = None
  - Min. Lot Area/Width = None
  - Min. Front Setback = 0' on arterial (180th St.)
    10' on non-arterial (12th Ave.)
  - Min. Rear and Side Setback = 5'
  - Max. Building Ht. = 35' (measured from average grade)
  - Max. Building Coverage = None
  - Max. Hardscape = 85%
- 19 fee-simple townhomes in 3 buildings
- 2-3 bedroom units w/ in-unit garages
- Access located off of 12th Ave.

Permits Required for Development

- Preliminary Subdivision
- Lot Merger
- Site Development
- Demolition
- Building Permits (3)
- Right of Way
- ROW Wastewater
- ROW Sewer Connection
- Planned Action Determination of Consistency

Questions/Comments

- See listed comments below

Wrap-Up

- If you wish to further discuss or provide comment on the project, we encourage you to reach out to the City of Shoreline's Planning and Community Development office (phone 206-801-2500 or email pcd@shorelinewa.gov), or to us directly at Blue Fern or Milbrandt and we will be happy to assist.

Summary of Neighbor Comments/Concerns and the Applicant's response

1. *Pleased we are providing two parking spaces for the majority of the units.*
    a. Applicant's Response: Applicant believes that the market still desires 2 parking spaces per residence and has made an effort to fulfill that need.
2. *Question regarding how building height is calculated.*
    a. Applicant's Response: Building height is calculated from the Average Existing Grade plan to the highest point of the roof, per the method laid out in the City's development code.
3. *Concerned height of the Building fronting 180th St. will cast an evening shadow on their two-story home to the East.*
    a. Applicant's Response: Applicant has met the zoning requirements of the MUR-35' zoning designation of the site, which are intended to provide a transition from the higher densities/building heights of the MUR-45' and MUR-70' zones to the residential neighborhood's adjacent to those sites. Additionally, the applicant intends to step the massing of the building in question with the natural slope of the land to further minimize the appearance of its height and bulk in context.
4. *How will additional trucks and vehicle parking be handled during construction phase?*
    a. Applicant's Response: Truck and vehicle parking will be handled on-site to the extent possible. In addition, as part of the submittal requirements for permit, the Applicant will provide the City with traffic control plans for review, with the intent to minimize the impact of the construction site on the surrounding neighborhood.
5. *What type of fence will be installed and how tall?*
    a. Applicant's Response: The final form of the fence has not been determined at this time, but the Applicant typically will install a 4'-6' tall cedar fence along shared property lines per any City screening/landscape requirements.
6. *What will the grade condition near east property line be?*
    a. Applicant's Response: The grade condition at the Eastern property line is proposed to be at grade.
7. *Will homes be vacant while waiting for permit issuance?*
    a. Applicant's Response: The homes are anticipated to be occupied up until a few months prior to actual demolition begins, although occupation remains at the discretion of the home owner and not the Applicant.
8. *Where will the trash bins be staged?*
    a. Applicant's Response: Trash bins will be staged at a common collection area internal to the site, not along the R.O.W.

9. *Will the frontage improvements on 180th meet the corridor improvement standards or be temporary?*
    a. Applicant's Response: Frontage improvements along the R.O.W. are set forth by the City of Shoreline and the Applicant is required to construct them as a condition of development. The Applicant is unsure whether the frontage improvements specified by the City align with future long-range improvement plans for the R.O.W. that the City may look to implement.

Neighborhood Meeting Attendees

18002, 18008, 18016 12th Ave NE

July 2, 2019 6-7:30pm

Name	Address	Email	Comments
Kim Koontz Kay Griffith	18021 12th Ave NE	KKoontz3320@gmail.com Kay.griffithehotmail.com	
Brett Jackson	1216 NE 180th Street	brett.L.Jackson@gmail.com	

EXHIBIT 7

Notice of Preliminary Formal Subdivision Application

August 19, 2019

Name of Applicant and Application No.: Michelle Branley – Blue Fern Development; PLN19-0133

Location: 18002, 18008 and 18016 12th Ave NE; Parcel #616390-0410, 616390-0411 and 616390-0420

Description of Project: Preliminary Formal Subdivision application to divide one (1) parcel into nineteen (19) townhouse unit lots.

Application Submitted & Complete: Submitted 7/26/2019; Complete 8/14/2019

Project Manager Name & Phone #: Catie Lee, Associate Planner – (206)801-2557

Project Information: Total Lot Area: 23,520 sf
Zone: MUR-35'
Height (Maximum): 35 feet
Lot Size (Minimum): N/A

Public Comment: The public comment period ends September 3, 2019 at 5:00 p.m. Interested persons are encouraged to mail, fax (206) 801-2788 or deliver comments to City of Shoreline, Attn. Catie Lee, 17500 Midvale Avenue N, Shoreline, WA 98133 or email to clee@shorelinewa.gov. You may also request a copy of the decision once it has been made.

Open Record Public Hearing: Interested parties are also encouraged to participate in a public hearing tentatively scheduled before the Hearing Examiner in December 2019 in the Council Chamber at City Hall, 17500 Midvale Avenue N, Shoreline, WA. A Notice of Public Hearing will be distributed no later than 15 days prior to the hearing.

Development Regulations Used and Environmental Documents submitted:
Current editions of Shoreline Municipal Code and Comprehensive Plan, Stormwater Manual, Engineering Development Manual, Transportation Master Plan, International Building Codes. Documents received include SEPA Checklist and Technical Information Report (TIR). All documents are available for review at City Hall, 17500 Midvale Avenue N.

Other Required Permits: Planned Action Determination of Consistency, Lot Merger, Site Development Permit, Building Permits, Wastewater Permits

Notice of Disclosure:
The City of Shoreline will enter all comments received into the public record and may make these comments, and any attachments or other supporting materials, available unchanged, including any business or personal information (name, email address, phone, etc.) that you provide available for public review. This information may be released on the City's website. Comments received are part of the public record and subject to disclosure under the Public Records Act, RCW 42.56. Do not include any information in your comment or supporting materials that you do not wish to be made public, including name and contact information.

EXHIBIT 8

Notice of Public Hearing of the Hearing Examiner

Applicant: Blue Fern Development, LLC
Application No.: PLN19-0133
Permit Requested: Preliminary Formal Subdivision

Location: 18002, 18008 and 18016 12th Avenue NE (Parcel #s 6163900410, 6163900411 and 6163900420).
Description of Project: Division of three parcels of land into nineteen (19) lots to facilitate development of 19 townhouse units.

The public hearing is scheduled for Wednesday, July 29, 2020, at 6:00 PM via Zoom Webinar.

Pursuant to Governor Inslee's Proclamation 20-28, as amended, and City Council Resolution No. 459, in an effort to curtail the spread of the COVID-19 virus, the Public Hearing for PLN19-0133 will take place online using the Zoom Webinar platform and the public will not be allowed to attend in-person.

You may join the Public Hearing via Zoom Webinar or listen to the Public Hearing over the telephone.

Public comment will be accepted by submitting written comment or calling into the public hearing to provide oral testimony. Please see the below on how to access all of these options:

- Written Comments: Email the Hearing Examiner Clerk @ hearingex@shorelinewa.gov or mail the comments to the Clerk at City's address shown below. All comments must be received by the Hearing Examiner prior to the close of the public hearing.
- Attend the Public Hearing:
    - via Zoom Webinar: https://zoom.us/j/99229420926
    - via Telephone: (888) 475-4499 (Toll Free) Webinar ID: 992 2942 0926
- Provide Oral Testimony: Email the Hearing Examiner Clerk @ hearingex@shorelinewa.gov by 5:30 p.m. July 29, 2020 to Sign-Up to provide Oral Testimony.

Any questions or comments prior to the hearing date should be addressed to the Hearing Examiner Clerk at hearingex@shorelinewa.gov.

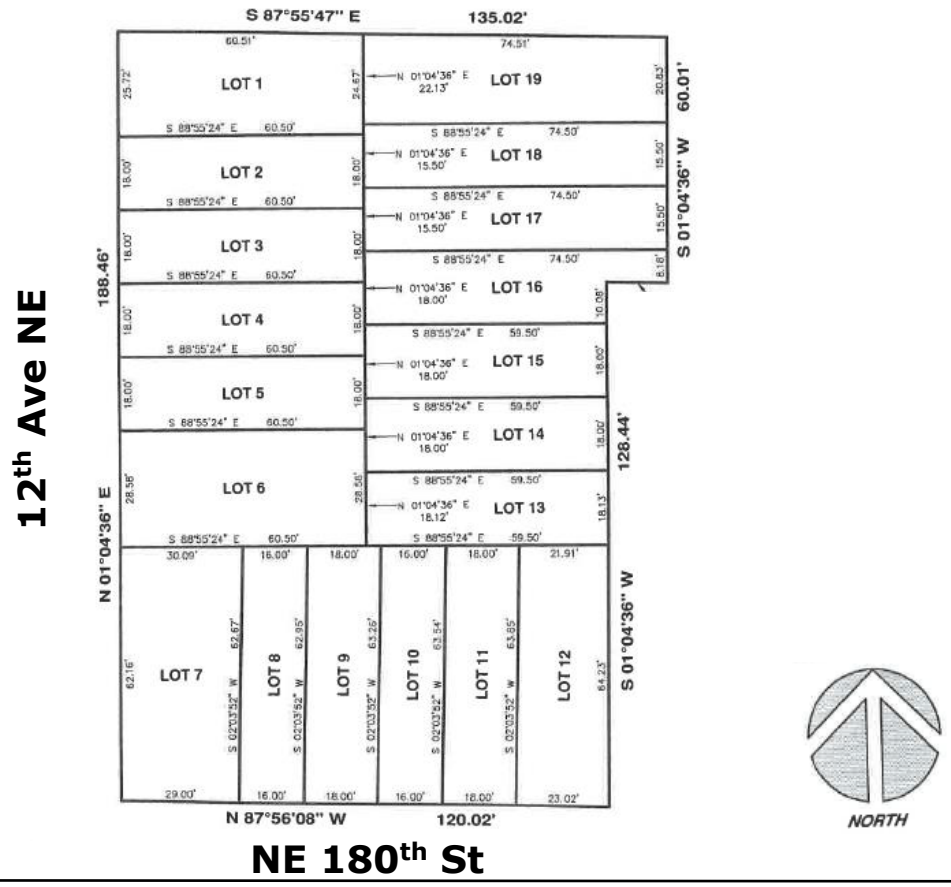
Copies of the Notice of Application, Planned Action Determination, application materials and applicable codes are available by emailing Cate Lee, Associate Planner, at clee@shorelinewa.gov.

Any person requiring a disability accommodation should contact the Hearing Examiner Clerk at hearingex@shorelinewa.gov in advance for more information. For TTY telephone service call (206) 546-0457. Each request will be considered individually according to the type of request, the availability of resources, and the financial ability of the City to provide the requested services or equipment.

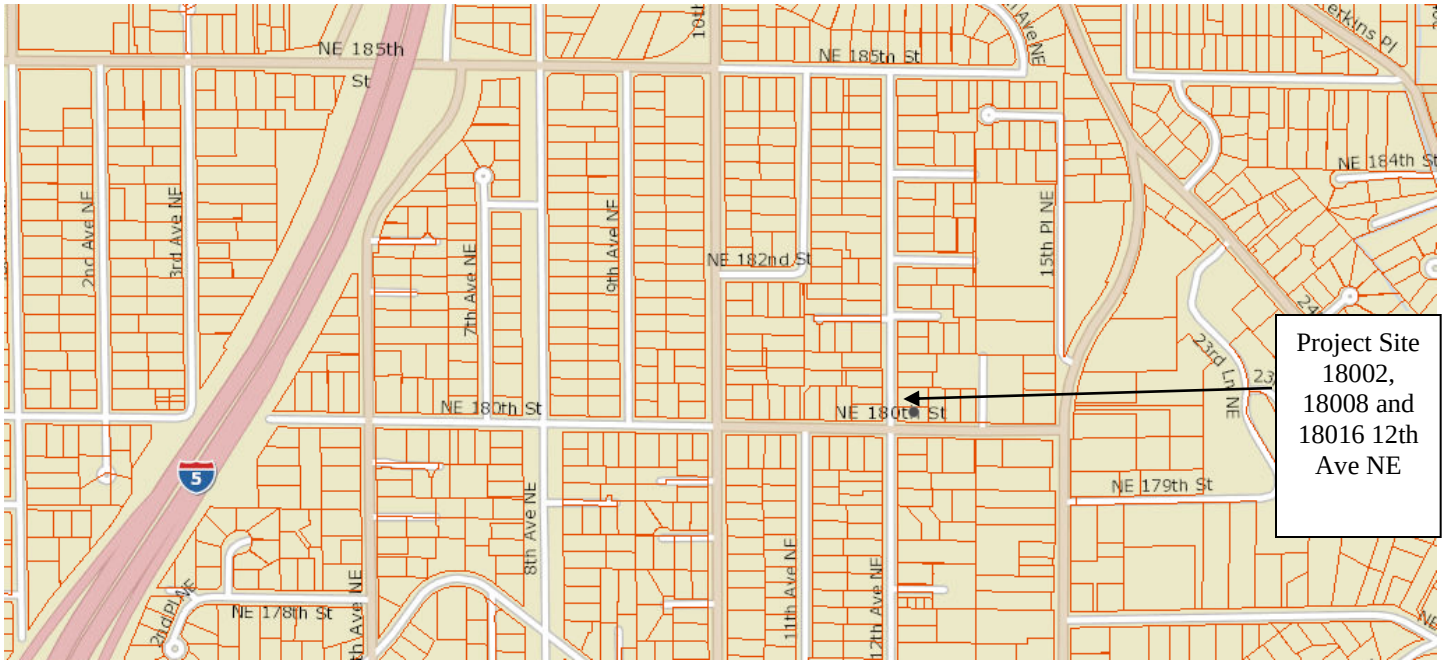
NOTICE OF PUBLIC RECORDS ACT DISCLOSURE
Comments received are part of the public record and subject to disclosure under the Public Records Act, RCW 42.56. The City of Shoreline will enter all comments received into the public record and may make these comments, and any attachments or other supporting materials, available unchanged, including any business or personal information (name, email address, phone, etc.) that you provide available for public review. This information may be released on the City's website. Do not include any information in your comment or supporting materials that you do not wish to be made public, including name and contact information.

17500 Midvale Avenue N, Shoreline, Washington 98133-4905
Telephone (206) 801-2500 Fax (206) 801-2788 pcd@shorelinewa.gov

Site Plan
18002, 18008 and 18016 12th Ave NE



Vicinity Map



To see the aerial map, go to maps.shorelinewa.gov and enter the address.

EXHIBIT 9

N

10 5 0 10 20

SCALE IN FEET

KEY NOTES:

KEY	NOTE:	DETAIL/ SHEET
1	SEE SHEET C05 FOR DRAINAGE & PAVING PLAN	C05
2	SEE SHEETS C06 & C07 FOR ON-SITE GRADING PLAN & DRIVEWAY PROFILES	C06 & C07
3	SEE SHEET C08 FOR UTILITY PLAN	C08
4	SEE SHEET C08 FOR ON-SITE DEVELOPER EXTENSION DETAILS	C08
5	PERMEABLE PAVEMENT PATIO	J/C10
6	PERMEABLE PAVEMENT WALKWAY (TYP)	J/C10
7	PERMEABLE PAVEMENT DRIVEWAY	J/C10
8	SEE ROW PERMIT PLANS FOR 12TH AVE NE FRONTAGE IMPROVEMENTS	-
9	SEE ROW PERMIT PLANS FOR NE 180TH ST FRONTAGE IMPROVEMENTS	-
10	4' MAX HEIGHT ECO-BLOCK WALL	-
11	4' MAX HEIGHT KEYSTONE RETAINING WALL	-
12	ROOF/BUILDING OVERHANG (TYP)	-
13	SEE ROW PERMIT PLANS FOR TRAFFIC CONTROL PLAN	-
14	PROPOSED CONTOUR (TYP)	-
15	SEE LANDSCAPE PLANS FOR PLANTING DETAIL (TYP)	-

LEGEND:

- CONCRETE
- LANDSCAPE
- PERMEABLE PAVERS WALKWAY (SEE DETAIL J/C10)
- IMPERMEABLE PAVERS
- PERMEABLE PAVEMENT DRIVEWAY (SEE DETAIL J/C10)
- ASPHALT (FULL DEPTH) (UNDER SEPARATE ROW PERMIT #ROW 19-1933)
- ASPHALT (GRIND & OVERLAY) (UNDER SEPARATE ROW PERMIT #ROW 19-1933)
- GRAVEL

SEE ROW PERMIT PLANS FOR IMPROVEMENTS WITHIN THE ROW (ROW19-1933)

12TH AVE. N.E.

18008 12TH AVE NE UNIT F FF 455.00

18008 12TH AVE NE UNIT E FF 455.00

18008 12TH AVE NE UNIT D FF 454.00

18008 12TH AVE NE UNIT C FF 454.00

18008 12TH AVE NE UNIT B FF 453.00

18008 12TH AVE NE UNIT A FF 453.00

18016 12TH AVE NE UNIT G FF 456.00

18016 12TH AVE NE UNIT F FF 456.00

18016 12TH AVE NE UNIT E FF 456.00

18016 12TH AVE NE UNIT D FF(1) 454.00 FF(2) 463.10

18016 12TH AVE NE UNIT C FF(1) 454.00 FF(2) 463.10

18016 12TH AVE NE UNIT B FF(1) 452.50 FF(2) 461.60

18016 12TH AVE NE UNIT A FF(1) 452.50 FF(2) 461.60

1202 NE 180TH ST UNIT A FF 450.50

1202 NE 180TH ST UNIT B FF 450.50

1202 NE 180TH ST UNIT C FF 453.50

1202 NE 180TH ST UNIT D FF 453.50

1202 NE 180TH ST UNIT E FF 455.75

1202 NE 180TH ST UNIT F FF 455.75

TAX NO. 6163900601

HOUSE
TAX NO. 6163900412

FOUND EXISTING REBAR AND CAP STAMPED "42666" AT CALC'D CORNER POSITION

FOUND EXISTING IRON PIPE AT CALC'D CORNER POSITION

APPROXIMATE INNER ROOT ZONE FOR TREE

APPROXIMATE LIMITS OF TREE DRIPLINE (TYPICAL)

S 87°55'47" E 135.02'

N 87°55'47" W 15.00'

S 01°04'36" W

S 87°56'08" W 220.02'

CALL 811
2 BUSINESS DAYS
BEFORE YOU DIG
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

BASE MAP/TOPOGRAPHY PROVIDED BY OTHERS. DCG CANNOT BE HELD LIABLE FOR ACCURACY. CONTRACTOR SHALL FIELD VERIFY GRADES, UTILITIES, AND ALL OTHER EXISTING FEATURES AND CONDITIONS. IF CONDITIONS ARE NOT AS SHOWN AND/OR PLANS CANNOT BE CONSTRUCTED AS SHOWN, CONTACT DCG PRIOR TO CONSTRUCTION.

No.	DATE	BY	REVISION
1	12/11/2019	BI	CYCLE 1 - CITY CORRECTIONS
2	02/28/2020	BI	CYCLE 2 - CITY CORRECTIONS

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LEED AP™

9706 4th Ave NE
Suite 300
Seattle, WA 98115

P: 206.523.0024
F: 206.523.1012
www.dcgengr.com

D|C|G civil structural

BENJAMIN J. CRIBBINS STATE OF WASHINGTON 21410 REGISTERED PROFESSIONAL ENGINEER

Digitally signed by Benjamin J. Cribbins
Date: 2020.02.28 15:34:04 -08'00'

OWNER: BLUE FERN DEVELOPMENT, LLC
11232 120TH AVE NE, STE 204
KIRKLAND WA, 98033

PROJECT: 1202 NE 180TH ST, 18008/18016 12TH AVE NE
SHORELINE, WA 98133
SITE PLAN

PROJ. MANAGER:	BI
DESIGNED BY:	JL
DRAWN BY:	JS
CHECKED BY:	BI
SCALE:	AS SHOWN
DATE: 2/28/2020	REV. 2
	SHEET 4 OF 12

SHEET NUMBER

C04

CAD FILE NUMBER: P:\CLIENTS-CIVIL\BLUE FERN (DEVELOPMENT)\18002, 18008, 18016 12TH AVE NE, SHORELINE\DWG\DRAWINGS\SITE DEVELOPMENT PERMIT PLANS\C04 SITE PLAN.DWG
LAST MODIFIED BY: LOPE - SAVE DATE: 2/27/2020 2:25 PM - SHEET SET: 18510 WALLINGFORD- ORIGINAL SHEET SIZE: ARCH FULL BLEED D (36.00 X 24.00 INCHES)
AUTOCAD VERSION: CIVIL 3D 2018

EXHIBIT 10

GENERAL NOTES:

1. ALL PIPES BENEATH DRIVING SURFACES WITH LESS THAN 2' COVER SHALL BE SCHEDULE 40, SCHEDULE 80, OR DUCTILE IRON PIPE.
2. PREVENT SUBGRADE COMPACTION OF THE INFILTRATION TRENCH, R-TANK, AND PERMEABLE PAVEMENT SURFACING WHERE FEASIBLE DURING CONSTRUCTION. IF COMPACTED DURING CONSTRUCTION, THE SUBGRADE SHALL BE SCARIFIED TO ORIGINAL STATE AND APPROVED BY A GEOTECHNICAL ENGINEER PRIOR TO PLACING DRAIN ROCK.
3. AMEND ALL DISTURBED PERVIOUS AREAS IN ACCORDANCE W BMP T5.13 IN CHAPTER 5 OF VOLUME V OF THE DOE 2012 STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON (2014 AMENDED).

N

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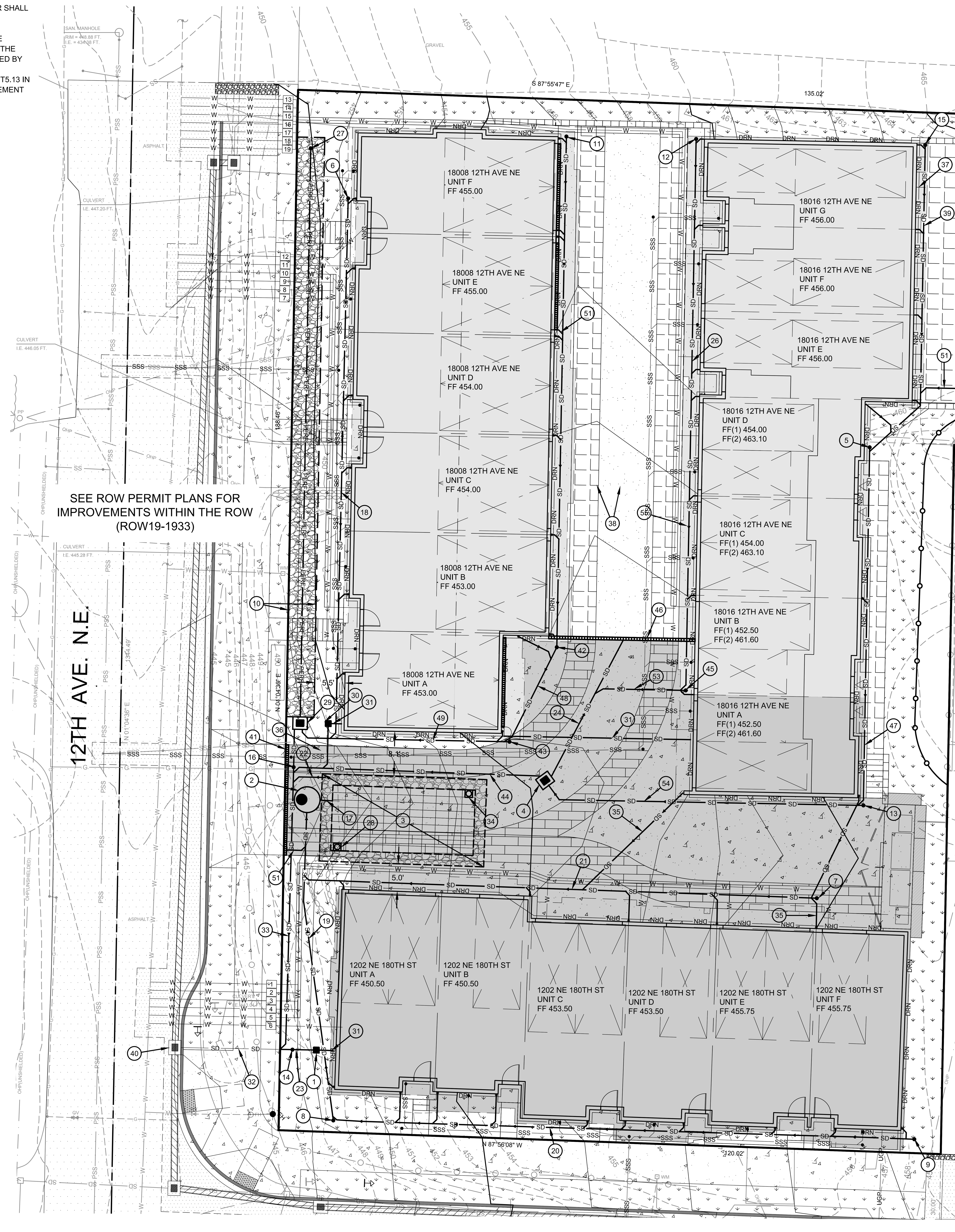
SCALE IN FEET

KEY NOTES:

KEY	NOTE:	DETAIL/ SHEET
1	12" AREA DRAIN RIM 447.00 6" IE (E) 443.00 (FTG DRN) 6" IE (W) 442.50 W/ 2' MIN SUMP	-
2	PRETREATMENT DEVICE (CONTECH CDS2015-4-C) W/ OPEN GRATE LID RIM 445.60 6" IE (S) 443.10 6" IE (N) 443.10 6" IE (E) 443.00 W/ 2' MIN SUMP	K/C10&X/C12
3	R-TANK INFILTRATION FACILITY 9 UNITS WIDE X 11 UNITS LONG X 4 UNITS TALL (11.81'W X 25.8'L X 5.58'D) W/ 2'-WIDE GRAVEL STRIP AROUND PERIMETER FG ABOVE R-TANK 445.62-449.08 TOP OF R-TANK 443.60 6" IE (W) 443.00 BOT OF R-TANK 438.00 BOT OF ROCK 437.00 BOT OF ENGINEERED SOIL 435.50	N/C10
4	CB #7 - TYPE 1 W/ STANDARD GRATE W/ SPILL CONTROL ELBOW & SCREEN RIM 450.27 6" IE (SE) 447.77 6" IE (W) 447.67 6" IE (NE) 447.77 W/ 2' MIN SUMP	G/C09, I&K/C10
5	6" SDCO RIM 462.55 6" IE 460.05	F/C09
6	6" SDCO RIM 454.25 6" IE 451.75	F/C09
7	6" SDCO RIM 451.60 6" IE 449.10	F/C09
8	6" SDCO RIM 447.30 6" IE 445.50	F/C09
9	6" SDCO RIM 459.30 6" IE 453.00	F/C09
10	105.0' L X 5.0' W X 4' D INFILTRATION TRENCH FG ABOVE FACILITY 446.00-450.00 OVERFLOW FROM CB #8 IE 445.00 6" PERF PIPE IE 444.00 BOTTOM OF FACILITY 441.00	O/C10
11	6" SDCO RIM 454.47 6" IE 451.97	F/C09
12	6" SDCO RIM 455.70 6" IE 453.20	F/C09
13	6" SDCO RIM 455.52 6" IE 453.00	F/C09
14	12" SDCO RIM 445.50 12" IE 442.35	F/C09
15	6" SDCO RIM 464.55 6" IE 462.05	F/C09
16	6" SDCO RIM 445.72 6" IE 443.40	F/C09
17	2 LF 6" SD @ 2.00%	W/C11
18	110 LF 6" SD @ 2.00% MIN & 2' MIN COVER	W/C11
19	55 LF 6" SD @ 2.00% MIN & 2' MIN COVER	W/C11
20	105 LF 6" SD @ 2.00% MIN & 2' MIN COVER	W/C11
21	62 LF 6" SD @ 2.00% MIN & 2' MIN COVER	W/C11
22	R-TANK OVERFLOW PIPE 7 LF 6" SD @ 2.00% MIN IE @ EAST END OF PIPE @ 443.60 (END WITHIN GRAVEL) INSTALL WIRE MESH SCREEN ON EAST END OF PIPE TO PREVENT DRAIN ROCK FROM ENTERING PIPE	-
23	3 LF 6" SD @ 2.00% MIN & 2' MIN COVER	W/C11
24	27 LF 6" SD @ 2.00% MIN	W/C11
25	93 LF 6" SD @ 2.00% MIN & 2' MIN COVER	W/C11
26	100 LF 6" SD @ 2.00% MIN & 2' MIN COVER	W/C11
27	105 LF 6" PERF PIPE LAID FLAT W/ CLEANOUT AT NORTH END 6" IE 444.00	F/C09
28	R-TANK MAINTENANCE PORT RIM 447.00	M/C10
29	CB #8 - TYPE 1 W/ STANDARD GRATE W/ SPILL CONTROL ELBOW & SCREEN RIM 446.75 6" IE (S) 445.00 (OVERFLOW 6" IE (S) 444.10 6" IE (N) 444.00 W/ 2' MIN SUMP	G/C09, I&K/C10
30	12" AREA DRAIN RIM 448.00 6" IE (E) 445.00 (FTG DRN) 6" IE (S) 444.90 W/ 2' MIN SUMP	-
31	SOLID WALL PVC FOOTING DRAIN TIGHTLINE @ 2.00% MIN	-
32	19 LF 12" DIP SD @ 2.00% MIN (INSTALLED UNDER SEPARATE PERMIT ROW19-1933)	W/C11
33	51 LF 6" SD @ 2.00% MIN & 2' MIN COVER	W/C11
34	R-TANK MAINTENANCE PORT RIM 449.20	M/C10
35	ROOF DOWNSPOUT AND TIGHTLINE @ 2.00% MIN & 2' MIN COVER (TYP)	-
36	6 LF 6" SD @ 2.00% MIN & 2' MIN COVER	W/C11
37	PERIMETER FOOTING DRAIN - PERFORATED PVC PIPE IN 6" MIN 1/2"-3/4" WASHED GRAVEL, WRAPPED IN NON-WOVEN FILTER FABRIC. CLEANOUTS TO BE INSTALLED AT PIPE ENDS (TYP)	-
38	PERMEABLE PAVEMENT SURFACING (TYP)	J/C10
39	61 LF 6" SD @ 2.00% MIN & 2' MIN COVER	W/C11
40	SEE RIGHT-OF-WAY IMPROVEMENT PLANS FOR DRAINAGE IMPROVEMENTS WITHIN THE ROW	-
41	20 LF 6" TRENCH DRAIN RIM ELEV VARIES (SEE SHEET C06) 6" IE (E) 443.75	-
42	6" SDCO RIM 452.15 6" IE 449.65	F/C09
43	6" SDCO RIM 451.22 6" IE 448.72	F/C09
44	45 LF 6" SD @ 2.00% MIN @ 2' MIN COVER	W/C11
45	6" SDCO RIM 451.97 6" IE 449.67	F/C09
46	27 LF 6" TRENCH DRAIN RIM ELEV VARIES 6" IE 449.50	-
47	65 LF 6" SD @ 2.00% MIN & 2' MIN COVER	W/C11
48	19 LF 6" SD @ 2.00% MIN & 2' MIN COVER	W/C11
49	39 LF 6" SD @ 2.00% MIN & 2' MIN COVER	W/C11
50	45 LF 12"-WIDE GRAVEL TRENCH DRAIN TOP OF TRENCH FLUSH W/ FG (462.75-465.00; SEE SHEET C06) 6" IE (S) 461.75 BOT OF TRENCH 461.50	-
51	6" TRENCH DRAIN TIGHTLINE @ 2.00% MIN (TYP)	-
52	44 LF 6" PERF PIPE LAID FLAT W/ CLEANOUT AT NORTH END 6" IE 461.75	-
53	16 LF 6" SD @ 2.00% MIN	W/C11
54	58 LF 6" SD @ 2.00% MIN	W/C11
55	SD FLOW DIRECTION ARROW (TYP)	-

LEGEND:

- CONCRETE
- LANDSCAPE
- PERMEABLE PAVERS WALKWAY (SEE DETAIL J/C10)
- IMPERMEABLE PAVERS
- PERMEABLE PAVEMENT DRIVEWAY (SEE DETAIL J/C10)
- ASPHALT (FULL DEPTH) (UNDER SEPARATE ROW PERMIT #ROW 19-1933)
- ASPHALT (GRIND & OVERLAY) (UNDER SEPARATE ROW PERMIT #ROW 19-1933)
- GRAVEL
- ROOF & PAVEMENT AREA TRIBUTARY TO R-TANK FACILITY
- ROOF AREA TRIBUTARY TO INFILTRATION TRENCH



DCG | civil structural
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Seattle, WA 98115
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www.dcgengr.com

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No.	DATE	BY	REVISION
1	12/11/2019	BI	CYCLE 1 - CITY CORRECTIONS
2	02/28/2020	BI	CYCLE 2 - CITY CORRECTIONS

BENJAMIN J. IDDINGS
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
Digitally signed by Benjamin J. Iddings
Date: 2020.02.28 14:34:30 -08'00'

OWNER:
BLUE FERN DEVELOPMENT, LLC
11232 120TH AVE NE, STE 204
KIRKLAND WA, 98033

PROJECT:
1202 NE 180TH ST, 18008/18016 12TH AVE NE
SHORELINE, WA 98133
DRAINAGE & PAVING PLAN

CALL 811
2 BUSINESS DAYS
BEFORE YOU DIG
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

BASE MAP/TOPOGRAPHY PROVIDED BY OTHERS. DCG CANNOT BE HELD LIABLE FOR ACCURACY. CONTRACTOR SHALL FIELD VERIFY GRADES, UTILITIES, AND ALL OTHER EXISTING FEATURES AND CONDITIONS. IF CONDITIONS ARE NOT AS SHOWN AND/OR PLANS CANNOT BE CONSTRUCTED AS SHOWN, CONTACT DCG PRIOR TO CONSTRUCTION.

PROJ. MANAGER:	BI
DESIGNED BY:	JL
DRAWN BY:	JS
CHECKED BY:	BI
SCALE:	AS SHOWN
DATE: 2/28/2020	REV. 2 / SHEET 5 OF 12
SHEET NUMBER	C05

CAD FILE NUMBER: P:\CLIENTS-CIVIL\BLUE FERN DEVELOPMENT\18002, 18008, 18016 12TH AVE NE SHORELINE\DWG\DRAWINGS\SITE DEVELOPMENT PERMIT PLANS\C05 DRAINAGE & PAVING PLAN.DWG
LAST MODIFIED BY: LOWE - SAVE DATE: 2/25/2020 4:20 PM - SHEET SET: 18510 WALLINGFORD- ORIGINAL SHEET SIZE: ARCH FULL BLEED D (36.00 X 24.00 INCHES)
AUTOCAD VERSION: CIVIL 3D 2018

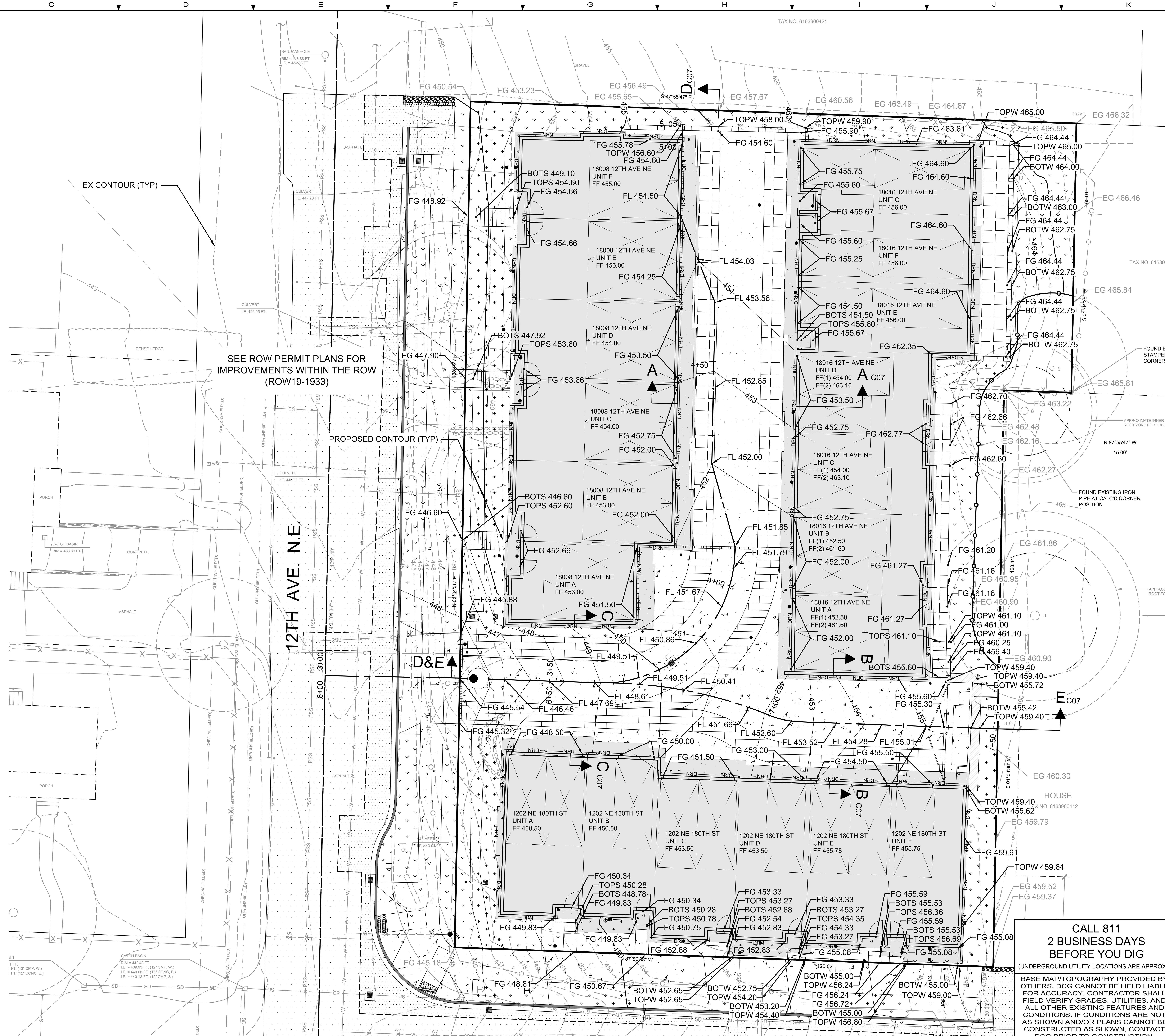
SCALE IN FEET

10 5 0 10 20

GRADING QUANTITY ESTIMATE:

TOTAL:	2034 CY's CUT
FILL:	56 CY's
CUT:	2090 CY's

GRADING QUANTITIES GENERATED USING CIVIL 3D SOFTWARE TO COMPARE TRIANGULATED IRREGULAR NETWORKS (TINS). QUANTITIES DO NOT INCLUDE EXCAVATION FOR UTILITIES. BUILDING EXCAVATION WAS ASSUMED TO BE 1' BELOW LOWEST FF ELEVATION. VOLUMES ARE FOR PERMIT ONLY. CONTRACTOR SHALL PROVIDE INDEPENDENT TAKEOFF FOR BIDDING.



LEGEND:

- CONCRETE
- LANDSCAPE
- PERMEABLE PAVER WALKWAY (SEE DETAIL J/C10)
- IMPERMEABLE PAVERS
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- GRAVEL

CALL 811
2 BUSINESS DAYS BEFORE YOU DIG
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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No.	DATE	BY	REVISION
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DCG civil structural
9706 4th Ave NE Suite 300 Seattle, WA 98115
P: 206.523.0024 F: 206.523.1012 www.dcgengr.com

OWNER: BLUE FERN DEVELOPMENT, LLC, 11232 120TH AVE NE, STE 204, KIRKLAND WA, 98033

PROJECT: 1202 NE 180TH ST, 18008/18016 12TH AVE NE, SHORELINE, WA 98133

ON-SITE GRADING PLAN

PROJ. MANAGER:	BI
DESIGNED BY:	JL
DRAWN BY:	JS
CHECKED BY:	BI
SCALE:	AS SHOWN
DATE: 2/28/2020	REV. 2 — SHEET 6 OF 12
SHEET NUMBER	C06

Project Reviews
City of Shoreline

Project Number: PLN19-0133

Description: **CONSOLIDTED SUBDIVISION - 19 TOWNHOME UNITS IN 3 BUILDINGS**

Applied: **7/26/2019**
Approved:
Site Address: **18002 12th Ave NE**
Closed:
Expired:
City, State Zip Code: **Shoreline, WA 98155-3732**
Status: **UNDER REVIEW**
Applicant: **BLUE FERN DEVELOPMENT**
Parent Project:
Owner: **DEVIGHT STEPHEN J**
Contractor: **<NONE>**

Details:

SCOPE: SUBDIVISION OF LOT (POST CONSOLIDATION) CONTAING 19-FEE SIMPLE TOWNHOMES AND ASSOCIATED SITE DEVELOPMENT AND FRONTAGE. (19) TOWNHOME UNITS IN (3) BUILDINGS.

PLANNED ACTION: PLN19-0134
SITE DEVELOPMENT PERMIT: DEV19-1929
RIGHT-OF-WAY FRONTAGE IMPROVEMENTS PERMIT: ROW19-1933

LIST OF REVIEWS

SENT DATE	RETURNED DATE	DUE DATE	TYPE	CONTACT	STATUS	REMARKS
Review Group: AUTO						
			DECISION**	Cate Lee		
Notes:						
7/26/2019	8/2/2019	7/26/2019	INTAKE REVIEW	Lucinda Clark	APPROVED	
Notes:						
7/26/2019	8/14/2019	8/23/2019	COMPLETENESS REVIEW	Cate Lee	COMPLETED	SEE LETTER
Notes:						
8/14/2019	10/7/2019	9/20/2019	CIVIL	Sierra Gawlowski	APPROVED	
Notes:						
8/14/2019	8/22/2019	9/20/2019	FIRE	Devon Wesenberg	APPROVED	no comments for fire
Notes:						
8/14/2019	9/24/2019	9/20/2019	PLANNING - SUBDIVISION	Cate Lee	RESUBMITTAL REQUIRED	
Notes:						

8/14/2019	8/19/2019	8/19/2019	PROCEDURAL/SEPA/NOTICES	Cate Lee	COMPLETED	NOA
Notes:						
8/14/2019	8/14/2019	8/16/2019	UTILITY		WAIVED	
Notes:						
12/18/2019	1/30/2020	2/7/2020	PLANNING SUBDIVISION RESUBMITTAL	Cate Lee	RESUBMITTAL REQUIRED	SEE COMMENT LETTER
Notes:						
3/5/2020	4/3/2020	4/10/2020	PLANNING SUBDIVISION RESUBMITTAL	Cate Lee	RESUBMITTAL REQUIRED	SEE COMMENT LETTER 3
Notes:						
6/9/2020	6/11/2020	6/19/2020	PLANNING SUBDIVISION RESUBMITTAL	Cate Lee	APPROVED	
Notes:						
6/9/2020	6/11/2020	6/19/2020	TREE TRACKING	Cate Lee		SEE DEV19-1929
Notes:						
6/11/2020	7/2/2020	7/10/2020	WASTEWATER	Brent Proffitt	APPROVED	SEE CONDITIONS
Notes:						

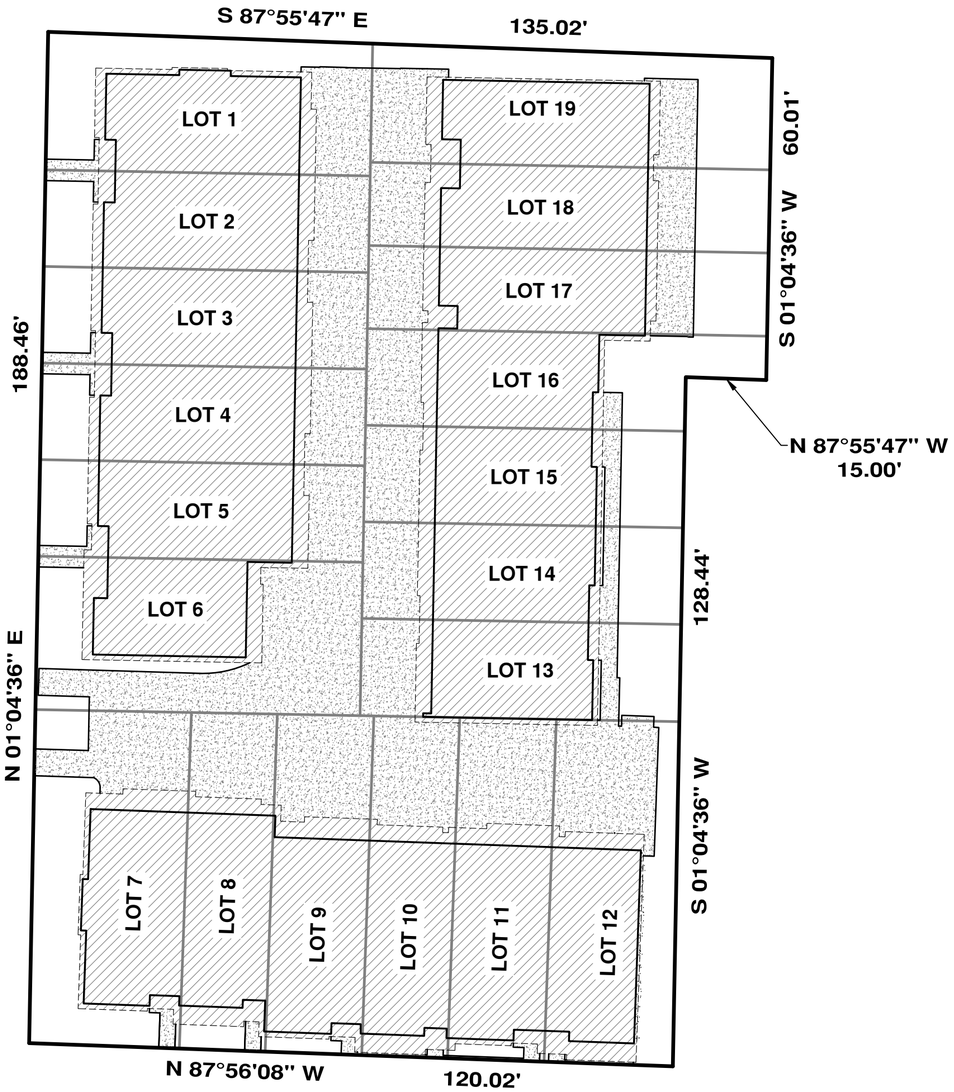
EXHIBIT 12

SHORT PLAT NO.
PLN19-0133
CITY OF SHORELINE
WASHINGTON

RECORDING NO.	VOL./PAGE

NORTH

SCALE: 1"=20'
0 10 20 40



HARDSCAPE DETAIL

LOT INFORMATION

LOT	TOTAL AREA	BUILDING AREA	IMPERVIOUS GROUND AREA	HARDSCAPE COVERAGE
1	1,524 SQ. FT.	781 SQ. FT.	239 SQ. FT.	67%
2	1,089 SQ. FT.	731 SQ. FT.	213 SQ. FT.	87%
3	1,089 SQ. FT.	731 SQ. FT.	213 SQ. FT.	87%
4	1,089 SQ. FT.	731 SQ. FT.	213 SQ. FT.	87%
5	1,089 SQ. FT.	733 SQ. FT.	212 SQ. FT.	87%
6	1,729 SQ. FT.	649 SQ. FT.	832 SQ. FT.	86%
7	1,781 SQ. FT.	788 SQ. FT.	347 SQ. FT.	64%
8	1,005 SQ. FT.	678 SQ. FT.	269 SQ. FT.	94%
9	1,136 SQ. FT.	741 SQ. FT.	356 SQ. FT.	96%
10	1,014 SQ. FT.	684 SQ. FT.	329 SQ. FT.	100%
11	1,146 SQ. FT.	756 SQ. FT.	359 SQ. FT.	97%
12	1,502 SQ. FT.	732 SQ. FT.	411 SQ. FT.	76%
13	1,078 SQ. FT.	614 SQ. FT.	255 SQ. FT.	81%
14	1,071 SQ. FT.	610 SQ. FT.	244 SQ. FT.	80%
15	1,071 SQ. FT.	610 SQ. FT.	244 SQ. FT.	80%
16	1,192 SQ. FT.	621 SQ. FT.	214 SQ. FT.	70%
17	1,155 SQ. FT.	670 SQ. FT.	272 SQ. FT.	82%
18	1,155 SQ. FT.	668 SQ. FT.	273 SQ. FT.	81%
19	1,600 SQ. FT.	695 SQ. FT.	310 SQ. FT.	63%
TOTAL	23,515 SQ. FT.	13,223 SQ. FT.	5,805 SQ. FT.	81%

BRANDON E. WINTERS
STATE OF WASHINGTON
45803
REGISTERED
PROFESSIONAL LAND SURVEYOR

DATE: _____

CHADWICK WINTERS
LAND SURVEYING AND MAPPING
1422 N.W. 85TH ST., SEATTLE, WA 98117
PHONE: 206.297.0996
FAX: 206.297.0997
WEB: WWW.CHADWICKWINTERS.COM

SUBDIVISION
FOR:
BLUE FERN DEVELOPMENT, LLC.

DWN. BY	DATE	JOB NO.
ACH	07-15-19	18-6319
CHKD. BY	SCALE	SHEET
RHW	N/A	1 OF 1

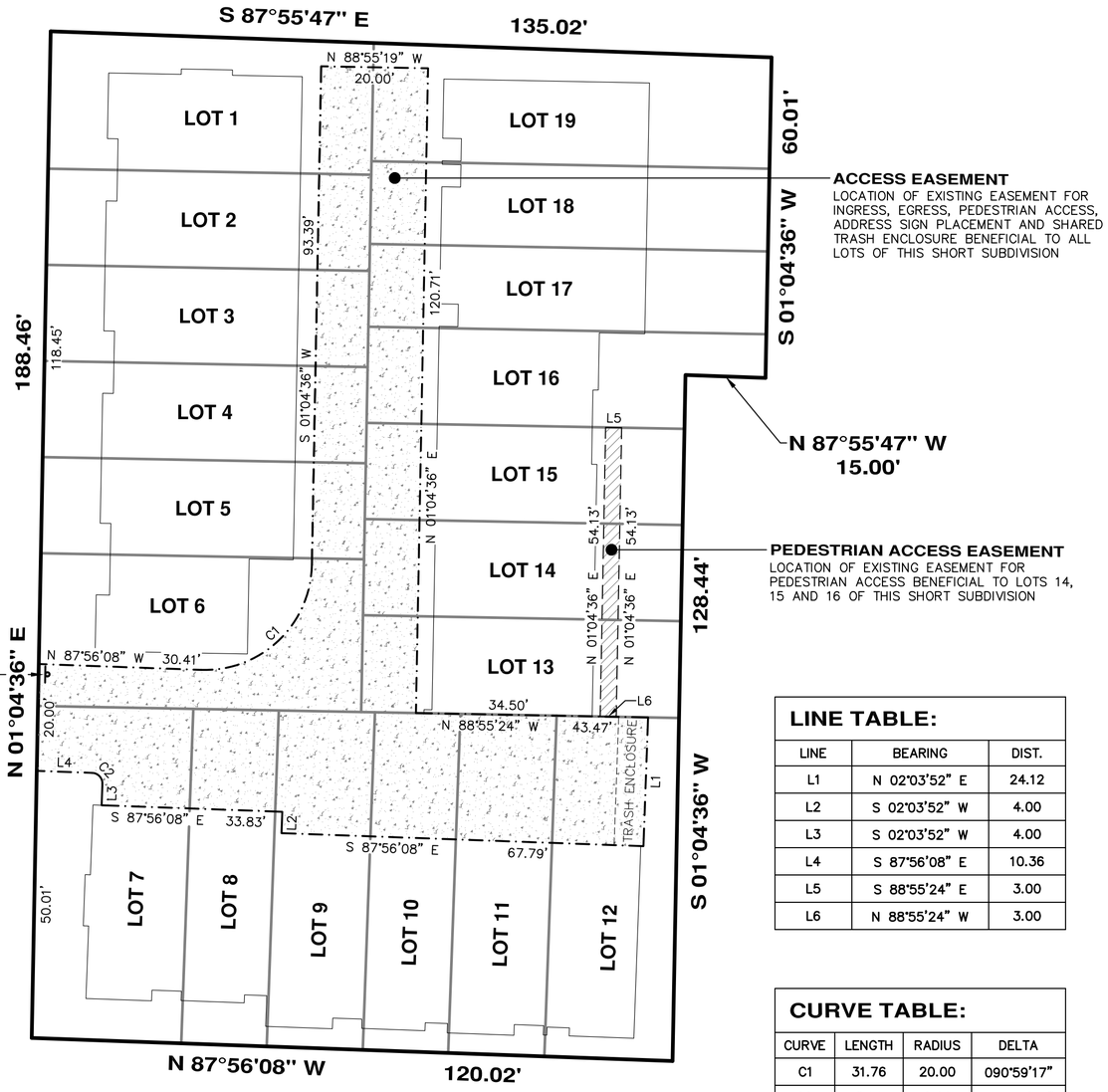
CITY OF SHORELINE

PLAT NO.
PLN19–0133
CITY OF SHORELINE
WASHINGTON

RECORDING NO.	VOL./PAGE

SCALE: 1"=20'
0 10 20 40

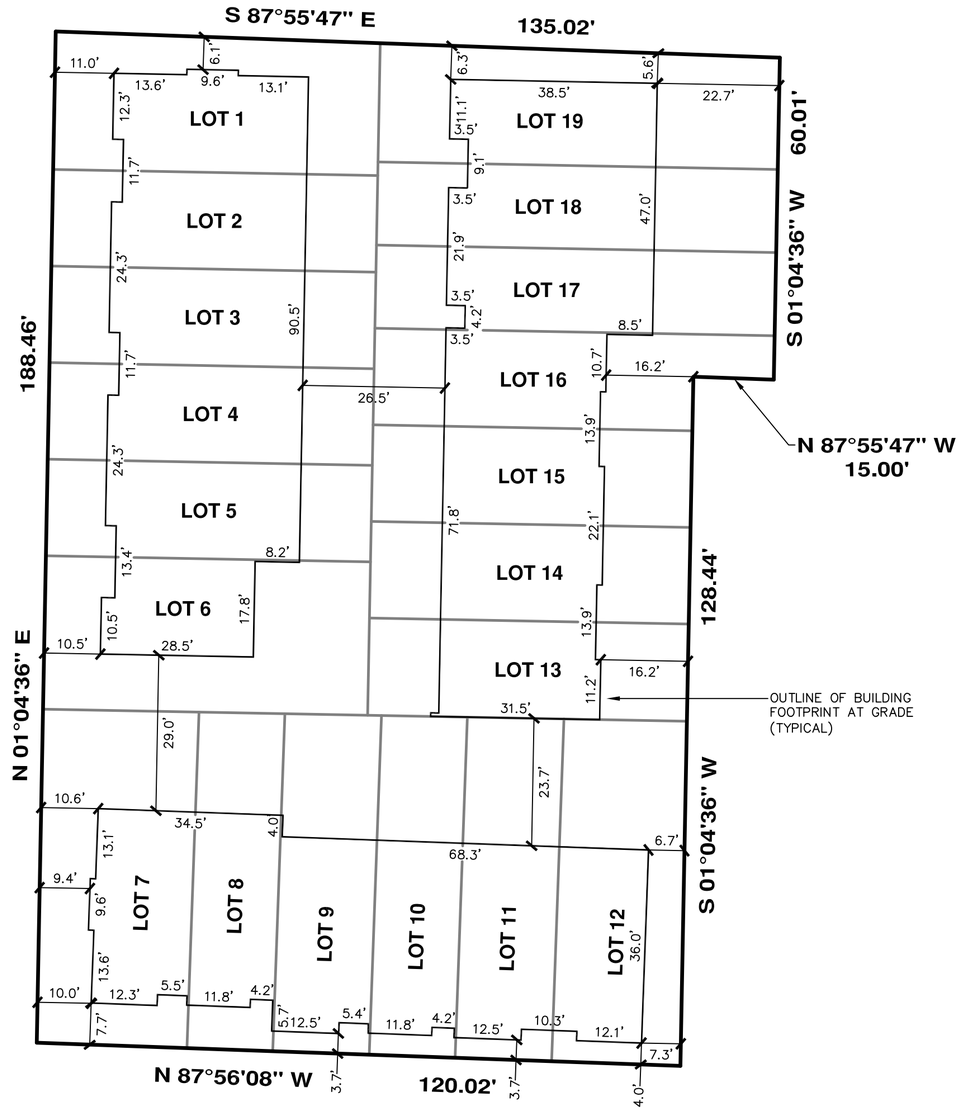
NORTH



LINE TABLE:		
LINE	BEARING	DIST.
L1	N 02°03'52" E	24.12
L2	S 02°03'52" W	4.00
L3	S 02°03'52" W	4.00
L4	S 87°56'08" E	10.36
L5	S 88°55'24" E	3.00
L6	N 88°55'24" W	3.00

CURVE TABLE:			
CURVE	LENGTH	RADIUS	DELTA
C1	31.76	20.00	090°59'17"
C2	3.14	2.00	090°00'00"

EASEMENT DETAIL



BUILDING DETAIL

BRANDON E. WINTERS
STATE OF WASHINGTON
45803
REGISTERED
PROFESSIONAL LAND SURVEYOR

DATE: _____

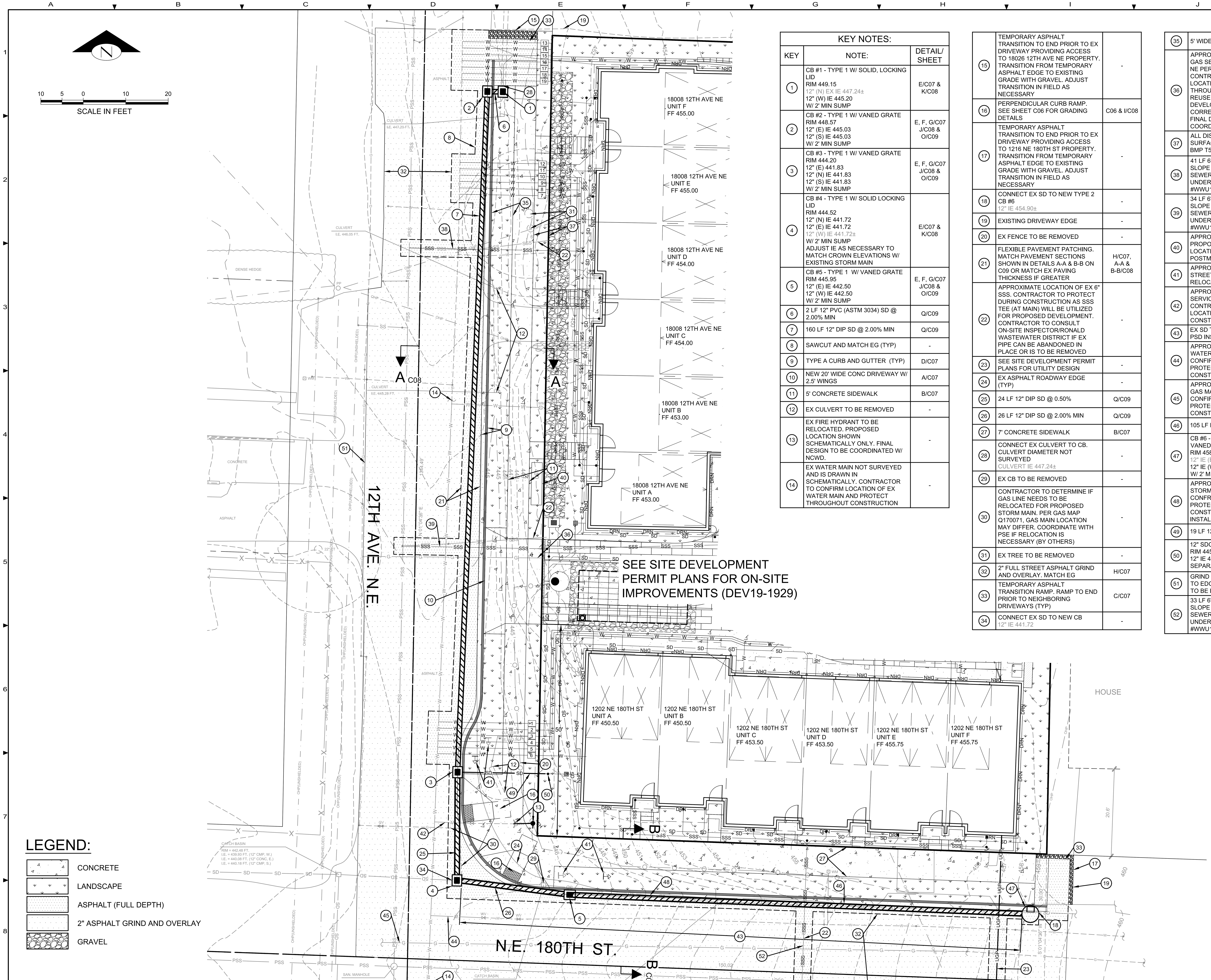
CHADWICK WINTERS

LAND SURVEYING AND MAPPING
1422 N.W. 85TH ST., SEATTLE, WA 98117
PHONE: 206.297.0996
FAX: 206.297.0997
WEB: WWW.CHADWICKWINTERS.COM

SUBDIVISION
FOR:
BLUE FERN DEVELOPMENT, LLC.

DWN. BY	DATE	JOB NO.
ACH	07–15–19	18–6319
CHKD. BY	SCALE	SHEET
RHW	N/A	5 OF 6

EXHIBIT 13



KEY NOTES:

KEY	NOTE:	DETAIL/ SHEET
1	CB #1 - TYPE 1 W/ SOLID, LOCKING LID RIM 449.15 12" (N) EX IE 447.24± 12" (W) IE 445.20 W/ 2' MIN SUMP	E/C07 & K/C08
2	CB #2 - TYPE 1 W/ VANED GRATE RIM 448.57 12" (E) IE 445.03 12" (S) IE 445.03 W/ 2' MIN SUMP	E, F, G/C07 J/C08 & O/C09
3	CB #3 - TYPE 1 W/ VANED GRATE RIM 444.20 12" (E) 441.83 12" (N) IE 441.83 12" (S) IE 441.83 W/ 2' MIN SUMP	E, F, G/C07 J/C08 & O/C09
4	CB #4 - TYPE 1 W/ SOLID LOCKING LID RIM 444.52 12" (N) IE 441.72 12" (E) IE 441.72 12" (W) IE 441.72± W/ 2' MIN SUMP ADJUST IE AS NECESSARY TO MATCH CROWN ELEVATIONS W/ EXISTING STORM MAIN	E/C07 & K/C08
5	CB #5 - TYPE 1 W/ VANED GRATE RIM 445.95 12" (E) IE 442.50 12" (W) IE 442.50 W/ 2' MIN SUMP	E, F, G/C07 J/C08 & O/C09
6	2 LF 12" PVC (ASTM 3034) SD @ 2.00% MIN	Q/C09
7	160 LF 12" DIP SD @ 2.00% MIN	Q/C09
8	SAWCUT AND MATCH EG (TYP)	-
9	TYPE A CURB AND GUTTER (TYP)	D/C07
10	NEW 20' WIDE CONC DRIVEWAY W/ 2.5' WINGS	A/C07
11	5' CONCRETE SIDEWALK	B/C07
12	EX CULVERT TO BE REMOVED	-
13	EX FIRE HYDRANT TO BE RELOCATED. PROPOSED LOCATION SHOWN SCHEMATICALLY ONLY. FINAL DESIGN TO BE COORDINATED W/ NCWD.	-
14	EX WATER MAIN NOT SURVEYED AND IS DRAWN IN SCHEMATICALLY. CONTRACTOR TO CONFIRM LOCATION OF EX WATER MAIN AND PROTECT THROUGHOUT CONSTRUCTION	-
15	TEMPORARY ASPHALT TRANSITION TO END PRIOR TO EX DRIVEWAY PROVIDING ACCESS TO 18026 12TH AVE NE PROPERTY. TRANSITION FROM TEMPORARY ASPHALT EDGE TO EXISTING GRADE WITH GRAVEL. ADJUST TRANSITION IN FIELD AS NECESSARY	-
16	PERPENDICULAR CURB RAMP. SEE SHEET C06 FOR GRADING DETAILS	C06 & I/C08
17	TEMPORARY ASPHALT TRANSITION TO END PRIOR TO EX DRIVEWAY PROVIDING ACCESS TO 1216 NE 180TH ST PROPERTY. TRANSITION FROM TEMPORARY ASPHALT EDGE TO EXISTING GRADE WITH GRAVEL. ADJUST TRANSITION IN FIELD AS NECESSARY	-
18	CONNECT EX SD TO NEW TYPE 2 CB #6 12" IE 454.90±	-
19	EXISTING DRIVEWAY EDGE	-
20	EX FENCE TO BE REMOVED	-
21	FLEXIBLE PAVEMENT PATCHING. MATCH PAVEMENT SECTIONS SHOWN IN DETAILS A-A & B-B ON C09 OR MATCH EX PAVING THICKNESS IF GREATER	H/C07, A-A & B-B/C08
22	APPROXIMATE LOCATION OF EX 6" SSS. CONTRACTOR TO PROTECT DURING CONSTRUCTION AS SSS TEE (AT MAIN) WILL BE UTILIZED FOR PROPOSED DEVELOPMENT. CONTRACTOR TO CONSULT ON-SITE INSPECTOR/RONALD WASTEWATER DISTRICT IF EX PIPE CAN BE ABANDONED IN PLACE OR IS TO BE REMOVED	-
23	SEE SITE DEVELOPMENT PERMIT PLANS FOR UTILITY DESIGN	-
24	EX ASPHALT ROADWAY EDGE (TYP)	-
25	24 LF 12" DIP SD @ 0.50%	Q/C09
26	26 LF 12" DIP SD @ 2.00% MIN	Q/C09
27	7' CONCRETE SIDEWALK	B/C07
28	CONNECT EX CULVERT TO CB. CULVERT DIAMETER NOT SURVEYED CULVERT IE 447.24±	-
29	EX CB TO BE REMOVED	-
30	CONTRACTOR TO DETERMINE IF GAS LINE NEEDS TO BE RELOCATED FOR PROPOSED STORM MAIN. PER GAS MAP Q170071, GAS MAIN LOCATION MAY DIFFER. COORDINATE WITH PSE IF RELOCATION IS NECESSARY (BY OTHERS)	-
31	EX TREE TO BE REMOVED	-
32	2" FULL STREET ASPHALT GRIND AND OVERLAY. MATCH EG	H/C07
33	TEMPORARY ASPHALT TRANSITION RAMP. RAMP TO END PRIOR TO NEIGHBORING DRIVEWAYS (TYP)	C/C07
34	CONNECT EX SD TO NEW CB 12" IE 441.72	-
35	5' WIDE AMENITY ZONE	R/C09
36	APPROXIMATE LOCATION OF EX GAS SERVICE TO 18008 12TH AVE NE PER GAS MAP Q170071. CONTRACTOR TO CONFIRM LOCATION AND PROTECT THROUGHOUT CONSTRUCTION. REUSE SERVICE FOR PROPOSED DEVELOPMENT IF SIZED CORRECTLY (TBD BY OTHERS). FINAL DESIGN TO BE COORDINATED W/ PSE	-
37	ALL DISTURBED ROW PERVIOUS SURFACES TO BE AMENDED PER BMP T5.13 (TYP)	-
38	41 LF 6" SDR35 SSS @ 2.00% MIN SLOPE TO CONNECT TO EX SEWER MAIN TEE. INSTALLED UNDER SEPARATE PERMIT #WWU19-2078	-
39	34 LF 6" SDR35 SSS @ 2.00% MIN SLOPE TO CONNECT TO EX SEWER MAIN TEE. INSTALLED UNDER SEPARATE PERMIT #WWU19-2078	-
40	APPROXIMATE LOCATION OF PROPOSED MAILBOXES. FINAL LOCATION TBD BY LOCAL POSTMASTER	-
41	APPROXIMATE LOCATION OF EX STREET SIGN. REPLACE AND RELOCATE TO NEW LOCATION	L & M/C09
42	APPROXIMATE LOCATION OF EX SERVICE TO FIRE HYDRANT. CONTRACTOR TO CONFIRM LOCATION AND PROTECT DURING CONSTRUCTION	-
43	EX SD TO BE REMOVED AND NEW PSD INSTALLED	-
44	APPROXIMATE LOCATION OF EX WATER MAIN. CONTRACTOR TO CONFIRM LOCATION AND PROTECT DURING CONSTRUCTION	-
45	APPROXIMATE LOCATION OF EX GAS MAIN. CONTRACTOR TO CONFIRM LOCATION AND PROTECT DURING CONSTRUCTION	-
46	105 LF DIP SD @ 2.00% MIN	Q/C08
47	CB #6 - TYPE 2 CATCH BASIN W/ VANED GRATE RIM 458.08 12" IE (E) 454.90± 12" IE (W) 454.90 W/ 2' MIN SUMP	G/C07, J/C08, P, N & O/C08
48	APPROXIMATE LOCATION OF EX STORM MAIN. CONTRACTOR TO CONFRIM LOCATION AND PROTECT DURING CONSTRUCTION UNTIL NEW MAIN INSTALLED	-
49	19 LF 12" DIP SD @ 2.00% MIN	-
50	12" SDCO RIM 445.50 12" IE 442.35 (INSTALLED UNDER SEPARATE PERMIT DEV19-1929)	-
51	GRIND AND OVERLAY TO EXTEND TO EDGE OF EX FL. EX FL EDGE TO BE DETERMINED IN FIELD	-
52	33 LF 6" SDR35 SSS @ 2.00% MIN SLOPE TO CONNECT TO EX SEWER MAIN TEE. INSTALLED UNDER SEPARATE PERMIT #WWU19-2078	-

CALL 811
2 BUSINESS DAYS
BEFORE YOU DIG
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

BASE MAP/TOPOGRAPHY PROVIDED BY OTHERS. DCG CANNOT BE HELD LIABLE FOR ACCURACY. CONTRACTOR SHALL FIELD VERIFY GRADES, UTILITIES, AND ALL OTHER EXISTING FEATURES AND CONDITIONS. IF CONDITIONS ARE NOT AS SHOWN AND/OR PLANS CANNOT BE CONSTRUCTED AS SHOWN, CONTACT DCG PRIOR TO CONSTRUCTION.

No.	DATE	BY	REVISION
1	12/12/2019	BI	REVISIONS PER CITY REVIEW COMMENTS
2	02/28/2020	BI	CYCLE 2 - REVISIONS PER CITY REVIEW COMMENTS
3	05/06/2020	BI	CYCLE 3 - REVISIONS PER CITY REVIEW COMMENTS

DCG civil structural
9706 4th Ave NE
Suite 300
Seattle, WA 98115
P: 206.523.0024
F: 206.523.1012
www.dcgengr.com

BENJAMIN J. IDDINS — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER 54904
Digitally Signed by Benjamin J. Iddins Date: 2020.05.09 13:13:38 -07:00

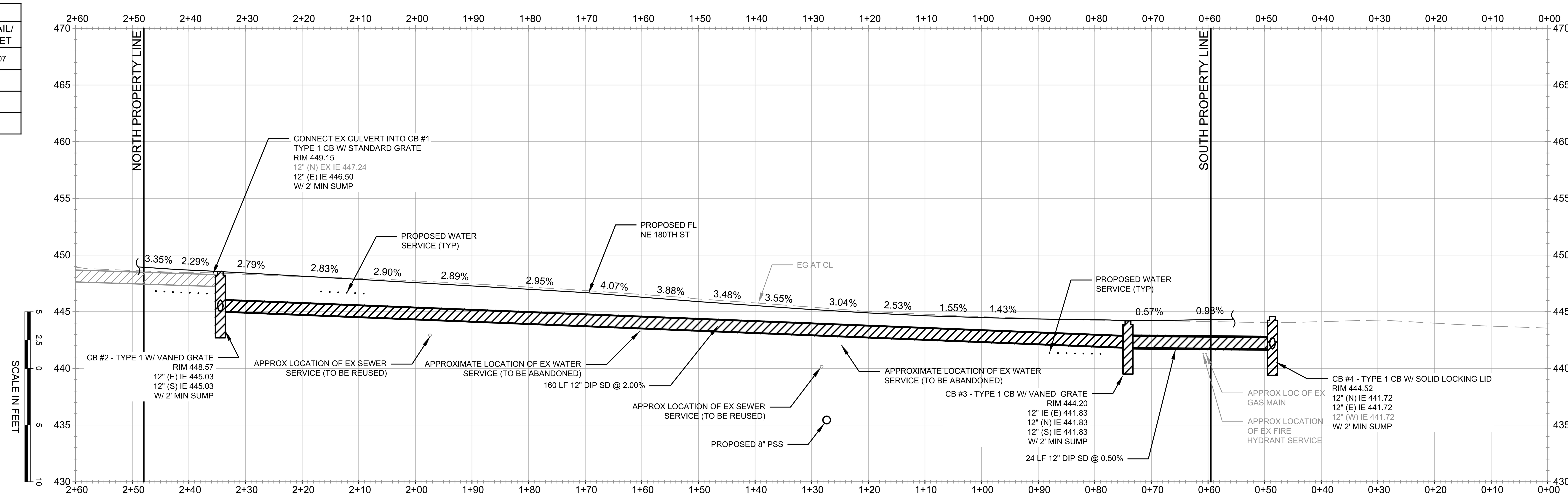
OWNER: BLUE FERN DEVELOPMENT, LLC
11232 120TH AVE NE, STE 204
KIRKLAND, WA 98033

PROJECT: 1202 NE 180TH ST, 18008/18016 12TH AVE NE
SHORELINE, WA
FRONTAGE IMPROVEMENT PLAN

PROJ. MANAGER:	BI
DESIGNED BY:	JL
DRAWN BY:	JS
CHECKED BY:	BI
SCALE:	AS SHOWN
DATE: 05/06/20	REV. 3 / SHEET 2 OF 9
SHEET NUMBER	C02

KEY NOTES:

KEY	NOTE:	DETAIL/ SHEET
1	2" FULL STREET ASPHALT GRIND AND OVERLAY. MATCH EG	H/C07
2	SAWCUT AND MATCH EG (TYP)	-
3	EX CONTOUR (TYP)	-
4	PROPOSED CONTOUR (TYP)	-

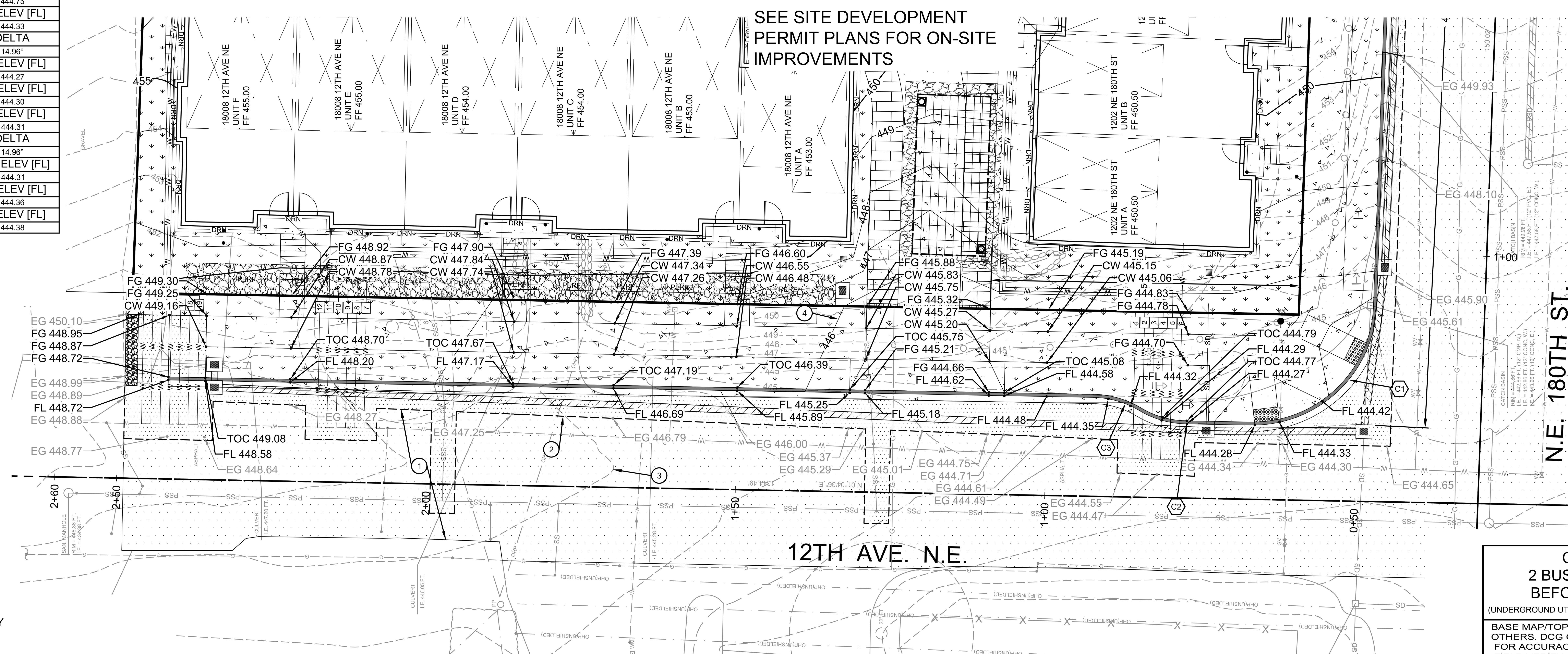


10 5 0 10 20
SCALE IN FEET

12TH AVE NE GRADING & STORM MAIN PROFILE
V SCALE: 1" = 5' ; H SCALE 1" = 10'

CURVE DATA TABLE

C1	RADIUS	LENGTH	DELTA
	20.0'	31.1'	89°
	PC STA	PC OFFSET	PC ELEV [FL]
	0+46.96	31.66	445.20
	1/4 ELEV [FL]	1/2 ELEV [FL]	3/4 ELEV [FL]
	444.29	444.43	444.75
	PT STA	PT OFFSET	PT ELEV [FL]
	0+66.95	12.00'	444.33
C2	RADIUS	LENGTH	DELTA
	15.0'	7.83'	14.96°
	PC STA	PC OFFSET	PC ELEV [FL]
	0+77.27	12.00'	444.27
	1/4 ELEV [FL]	1/2 ELEV [FL]	3/4 ELEV [FL]
	444.28	444.29	444.30
	PT STA	PT OFFSET	PT ELEV [FL]
	0+84.94	14.0'	444.31
C3	RADIUS	LENGTH	DELTA
	15.0'	7.83'	14.96°
	PCC STA	PCC OFFSET	PCC ELEV [FL]
	0+84.94	14.0'	444.31
	1/4 ELEV [FL]	1/2 ELEV [FL]	3/4 ELEV [FL]
	444.33	444.35	444.36
	PT STA	PT OFFSET	PT ELEV [FL]
	0+92.18	15.0'	444.38



10 5 0 10 20
SCALE IN FEET

12TH AVE N GRADING PLAN
SCALE 1" = 10'

LEGEND:

- CONCRETE
- LANDSCAPE
- ASPHALT (FULL DEPTH)
- 2" ASPHALT GRIND AND OVERLAY
- GRAVEL

CALL 811
2 BUSINESS DAYS
BEFORE YOU DIG
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

BASE MAP/TOPOGRAPHY PROVIDED BY OTHERS. DCG CANNOT BE HELD LIABLE FOR ACCURACY. CONTRACTOR SHALL FIELD VERIFY GRADES, UTILITIES, AND ALL OTHER EXISTING FEATURES AND CONDITIONS. IF CONDITIONS ARE NOT AS SHOWN AND/OR PLANS CANNOT BE CONSTRUCTED AS SHOWN, CONTACT DCG PRIOR TO CONSTRUCTION.

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DCG civil structural
9706 4th Ave NE
Suite 300
Seattle, WA 98115
P: 206.523.0024
F: 206.523.1012
www.dcgengr.com

Digitally signed by Benjamin Ivins
Date: 2020.05.06 13:14:32 -07'00'

OWNER: BLUE FERN DEVELOPMENT, LLC
11232 120TH AVE NE, STE 204
KIRKLAND, WA 98033

PROJECT: 1202 NE 180TH ST, 18008/18016 12TH AVE NE
SHORELINE, WA
GRADING PLAN - 12TH AVE NE

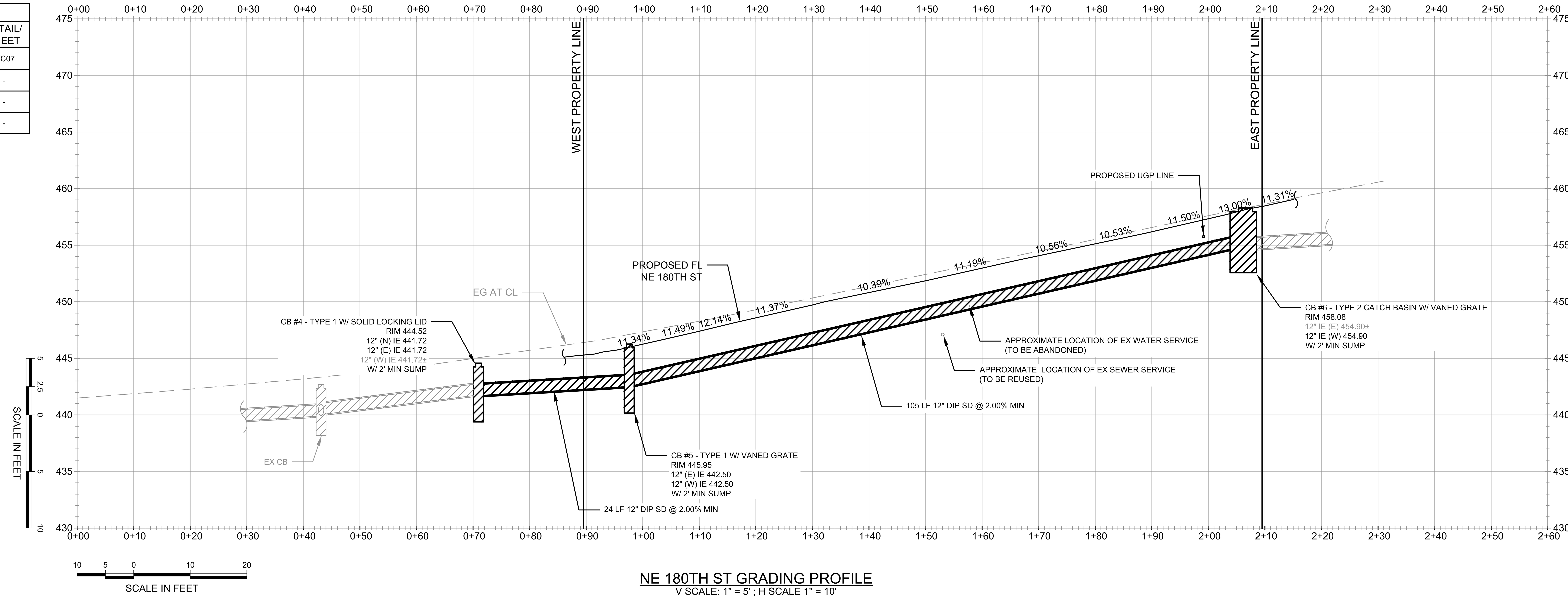
PROJ. MANAGER:	BI
DESIGNED BY:	JL
DRAWN BY:	JS
CHECKED BY:	BI
SCALE:	AS SHOWN
DATE: 05/06/20	REV. 3
SHEET	3 OF 9

SHEET NUMBER
C03

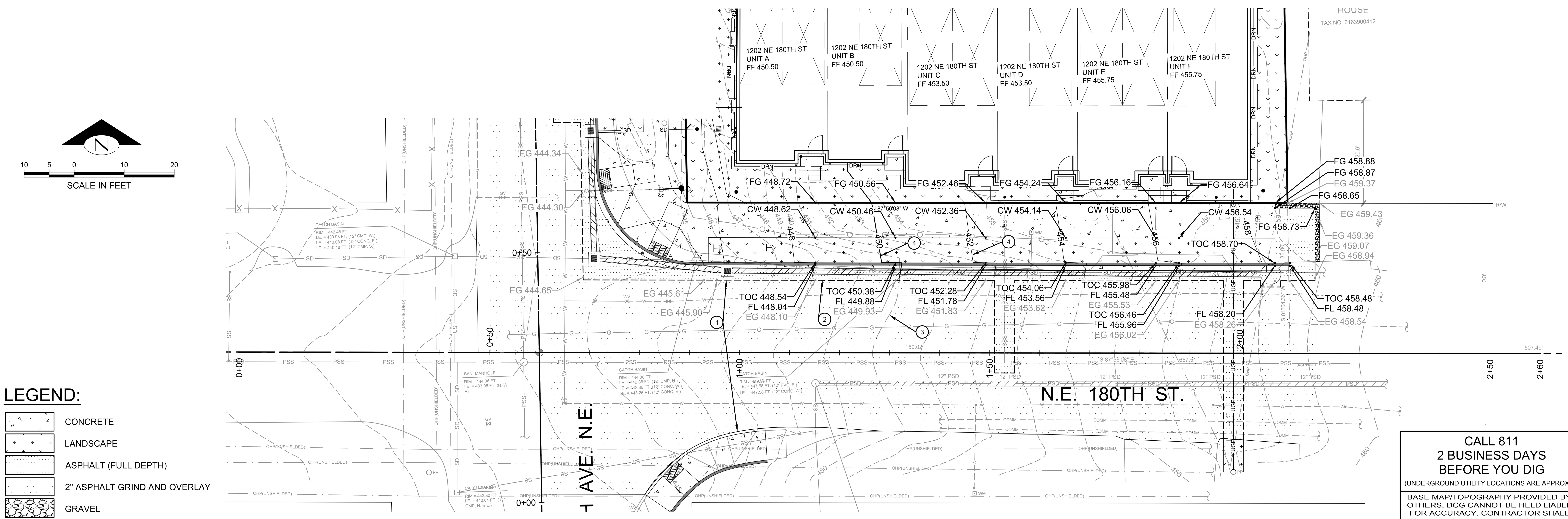
CAD FILE NUMBER: P:\CLIENTS-CIVIL\BLUE FERN DEVELOPMENT\18002, 18008, 18016 12TH AVE NE SHORELINE\DWG\DRAWING\ROW PERMIT PLANS\C02 FRONTAGE IMPROVEMENT PLAN - 12TH AVE.DWG
LAST MODIFIED BY JOHN - SAVE DATE: 5/1/2020 10:14 AM - SHEET SET: 18510 WALLINGFORD - ORIGINAL SHEET SIZE: ARCH FULL BLEED D (36.00 X 24.00 INCHES)
AUTOCAD VERSION: CIVIL 3D 2018

KEY	NOTE:	DETAIL/ SHEET
1	2" FULL STREET ASPHALT GRIND AND OVERLAY. MATCH EG	H/C07
2	SAWCUT AND MATCH EG (TYP)	-
3	EX CONTOUR (TYP)	-
4	PROPOSED CONTOUR (TYP)	-

KEY NOTES:



NE 180TH ST GRADING PROFILE
V SCALE: 1" = 5' ; H SCALE 1" = 10'



NE 180TH ST GRADING PLAN
SCALE 1" = 10'

LEGEND:

- CONCRETE
- LANDSCAPE
- ASPHALT (FULL DEPTH)
- 2" ASPHALT GRIND AND OVERLAY
- GRAVEL

CALL 811
2 BUSINESS DAYS
BEFORE YOU DIG
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

BASE MAP/TOPOGRAPHY PROVIDED BY OTHERS. DCG CANNOT BE HELD LIABLE FOR ACCURACY. CONTRACTOR SHALL FIELD VERIFY GRADES, UTILITIES, AND ALL OTHER EXISTING FEATURES AND CONDITIONS. IF CONDITIONS ARE NOT AS SHOWN AND/OR PLANS CANNOT BE CONSTRUCTED AS SHOWN, CONTACT DCG PRIOR TO CONSTRUCTION.

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OWNER: BLUE FERN DEVELOPMENT, LLC
11232 120TH AVE NE, STE 204
KIRKLAND, WA 98033

PROJECT: 1202 NE 180TH ST, 18008/18016 12TH AVE NE
SHORELINE, WA
GRADING PLAN - NE 180TH ST

PROJ. MANAGER:	BI
DESIGNED BY:	JL
DRAWN BY:	JS
CHECKED BY:	BI
SCALE:	AS SHOWN
DATE: 05/06/20	REV. 3
SHEET 4 OF 9	

SHEET NUMBER
C04

EXHIBIT 14

NORTH CITY WATER DISTRICT CERTIFICATE OF WATER AVAILABILITY NUMBER Task Order 1638

This certificate provides the Department of Health and Planning and Development Services with information necessary to evaluate development proposals

SHORELINE

Please return to:

PLANNING AND DEVELOPMENT SERVICES
17500 Midvale Avenue North
Shoreline, Washington 98133-4905
(206) 801-2500

CITY OF SHORELINE CERTIFICATE OF WATER AVAILABILITY

Do not write in this box

Number _____ Name _____

RECEIVED
JUL 26 2019
PCD

☒ Building Permit ☐ Preliminary Plat or PUD
☐ Short Subdivision ☐ Rezone or Other _____

Applicant's Name Blue Fern Development, LLC
Proposed Use Develop 19 Townhomes
Location 18002, 18008, 18016 12TH AVE NE

(Attach map and legal description if necessary)

WATER PURVEYOR INFORMATION

Domestic Service Only:

1. a. ☒ Water will be provided by service connection only to an existing 12 (size) inch water main 20 feet from the site.

Domestic, Fire and Other Service: (See back of form)

b. ☒ Water service will require an improvement to the water system of:
- ☐ (1) _____ feet of water main to reach the site; and/or
- ☐ (2) the construction of a distribution system on the site; and/or
- ☒ (3) other (describe) improvement may be required, depending on fire flow requirement

2. a. ☒ The water system is in conformance with a County approved water comprehensive plan.
OR b. ☐ The water system improvement will require a water comprehensive plan amendment.

3. a. ☒ The proposed project is within the corporate limits of the district, or has been granted Boundary Review Board approval for extension of service outside the district or city, or is within the County approved service area of a private water purveyor.

OR b. ☐ Annexation or BRB approval will be necessary to provide service.

4. a. ☒ Water is/~~or will be~~ available at the rate of flow and duration indicated below at no less than 20 psi measured at the fire hydrant 75' to center of development frontage (or as marked on the attached map):

Rate of Flow
- ☐ Less than 500 gpm (approx. _____ gpm)
- ☐ 500 to 999 gpm
- ☐ 1,000 gpm or more
- ☐ flow test of _____ gpm
- ☒ calculation of 5900 gpm

Duration
- ☐ less than 1 hour
- ☐ 1 hour to 2 hours
- ☒ 2 hours or more
- ☐ other _____

(Commercial Building permits require flow test or calculation)

OR b. ☐ Water system is not capable of providing fire flow.

COMMENTS/CONDITIONS: (1) The fire flow requirement for the applicant's proposed project must be determined to identify if improvements to the District's system are necessary. (2) This is not an application for or approval of water service to the proposed site. A proper application must be filed with and accepted by the District before service will be provided. The District has a connection charge (also called general facilities charge) and meter installation charge for each new water service provided. It is recommended that the applicant consult with the District to obtain applicable fees, charges, and procedures which may change during the property development process.

I hereby certify that the above water purveyor information is true. This certification shall be valid for one year from date of signature.

NORTH CITY WATER DISTRICT
Agency Name

Denny Clouse
Signatory Name

Operations Manager
Title

Denny Clouse 7-22-19
Signature Date

PLN-190133

P ADDITIONAL INFORMATION FOR EACH NUMBERED ITEM ON FORM FRONT

1A. Domestic service only is referenced in this item, 1A. Domestic service is for in-house consumption only and excludes fire protection.

1B. Service for a combination of domestic, fire and other conditions is referenced in this item.

4A. A computer analysis of the District's water system was performed for the purpose of determining the available water supply to fight a fire at the project location described above. This analysis was based on the District's existing water system, without any development related improvements. The results of the analysis indicate the fire flow capacity of the District's existing system as shown on this form at a minimum residual pressure of 20 psi at all points throughout the distribution system. Actual fire flows may vary due to water system configuration changes, time of day, demands on system, and operational parameters.

A summary of the operational conditions used in the analysis follows:

- The District was experiencing buildout peak day demand conditions.
- Supply Stations 1 and 3, 660 Zone Booster Pump Station, and Booster Stations 1 and 2 were operating. Supply Station 3 connected to 492 Zone.
- The 3.7 MG Reservoir level was drawn down 34.5 feet, and the 2.0 MG 424 Zone Reservoir level was drawn down 19 feet.
- All pressure reducing stations were operating at their normal setpoints.
- WAC 246-290-230 (6) Distribution systems – If fire flow is to be provided, the distribution system shall also provide maximum day demand (MDD) plus the required fire flow at a pressure of at least 20 psi (140 kPa) at all points throughout the distribution system, and under the condition where the designed volume of fire suppression and equalizing storage has been depleted.
- Maximum allowed velocity in the distribution system is 10 feet per second during peak day demand and fire flow conditions.

NORTH CITY
Water District

1519 NE 177th St • P.O. Box 55367 • Shoreline, WA 98155 • Phone: 206 362.8100 • Fax: 206 361 0629

January 4, 2019

Blue Fern Development, LLC
Attn Evan Mann
11232 120TH AVE NE Suite 204
Kirkland, WA 98033

RECEIVED
JUL 26 2019
PCD

Re: Fire Flow Analysis Task Order No. 1638
18002, 18008, 18016 12TH AVE NE
Shoreline, WA 98155

Dear Evan Mann,

Attached is the Fire Flow Analysis requested for your project. Below are the requirements based on the District's design criteria.

Fire Flow Available per Attached	**5900 gpm**
Water System Improvements Required to Complete Project	**NO**
Water System Extension Required	**NO**
Analysis Expiration Date	**01/04/2020**

Please contact North City Water District for Water System Improvement details.

Note: North City Water District requires the property owner to upgrade the existing water service to meet the current District Standards. Fire Service may be required.

Should you have any question concerning the above, please feel free to contact me at (206) 362-8100.

Sincerely,

Denny Clouse,
Operations Manager

PLN-190133

Water District

NORTH CITY WATER DISTRICT

FIRE FLOW ANALYSIS INFORMATION

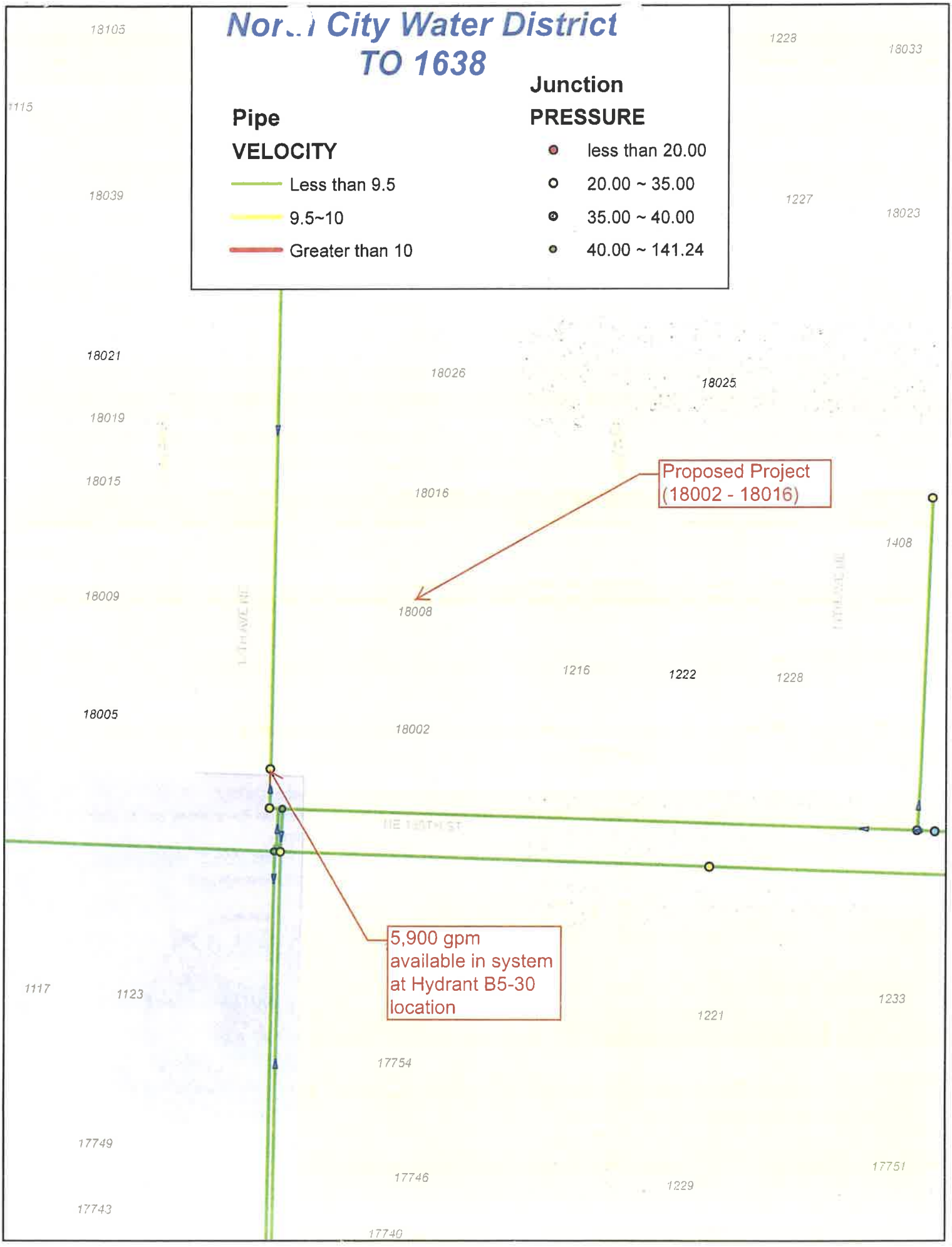
Task Order No.: 1638	Date: December 26, 2018
Applicant Name: Blue Fern Development, LLC	Project Location: 18002 12th Ave NE, Shoreline
Proposed Use:	Medium Density Residential
Static Pressure Range at Project Location:	72 psi (minimum); 74 psi (maximum)
Available Fire Flow (@ 20 psi min or 10 fps max):	5,900 GPM
Distance from Property to Fire Flow Hydrant(s):	75 feet to center of development frontage
Location of Fire Hydrant(s) (Refer to Attached Map):	18002 12th Ave NE (Hydrant B5-30 615 Zone)
Fire Flow Analysis Expiration Date:	*(one year from date of issuance)*

A hydraulic analysis of the District's water distribution system was performed to determine available fire flow at the above-referenced project location. The analysis was conducted in accordance with WAC 246-290-230. Specific analysis criteria and operational conditions are as follows:

- This analysis is based on the District's existing water distribution system configuration.
- One of the 615 Booster Pump Station fire flow pumps is out of service for this analysis, in accordance with Department of Health requirements.
- Analysis results indicate the capacity of the distribution system (as opposed to a given fire hydrant) to produce the required fire flow with a minimum residual pressure of 20 psi at all points throughout the distribution system (not including transmission piping). Actual fire flows may vary due to distribution system changes, variations in system demand and operational conditions.
- Fire hydrant distance is measured from the project line fronting the right-of-way, to the hydrant. Results of this analysis do not include potential new project site piping or hydrants.
- Minimum static pressure is based on Peak Hour Demand and reservoirs at the bottom of their respective equalizing ranges.
- Maximum static pressure is based on minimum system demand and reservoirs full.
- Fire flow demand is superimposed over existing Maximum Day Demand (MDD).
- Maximum allowed velocity in the distribution system is 10 feet per second for existing mains and 8 feet per second for new mains, during MDD plus fire flow conditions.
- The 3.7 million gallon 590 Zone Tank level is set at a depth of 64.4 feet (556.2' water surface elev.), representing depletion of operational, equalizing and fire suppression storage.
- All pressure reducing stations are operating at their normal set points.

Noah Allen, P.E., Project Engineer
BHC Consultants, LLC

12/26/2018


North City Water District
TO 1638
Pipe
VELOCITY
Less than 9.5
9.5~10
Greater than 10
Junction
PRESSURE
less than 20.00
20.00 ~ 35.00
35.00 ~ 40.00
40.00 ~ 141.24
Proposed Project
(18002 - 18016)
5,900 gpm
available in system
at Hydrant B5-30
location
18105
1228
18033
1115
18039
1227
18023
18021
18026
18025
18019
18015
18016
1408
18009
18008
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1123
1233
1221
17754
17749
17746
17751
1229
17743
17740

PLN 19-0133 - 12th Ave Townhomes
Preliminary Formal Subdivision

List of Exhibits

Exhibit	Document Name
Exhibit 1	Vicinity Map
Exhibit 2	Neighborhood Meeting Notice
Exhibit 3	Neighborhood Meeting Report
Exhibit 4	Site Plan
Exhibit 5	Hardscape Calculation Worksheet
Exhibit 6	Traffic Control Plan
Exhibit 7	ROW Plans
Exhibit 8	Planned Action Determination of Consistency
Exhibit 9	SEPA Checklist
Exhibit 10	Tree Retention Calculation Worksheet
Exhibit 11	Tree Retention Plan
Exhibit 12	Arborist Report
Exhibit 13	Grading Plan
Exhibit 14	Geotechnical Report - Nelson
Exhibit 15	Geotechnical Report - Terra
Exhibit 16	Drainage Plan

Applicant's Report to Hearing Examiner

PLN19-0133, 12th Ave Townhomes
Preliminary Formal Subdivision

A. Application

1) Applicant: Blue Fern Development, LLC
2) Permit Reference Number: PLN19-0133
   a) Associated Permit Numbers: PRE18-0192, PLN19-0134, DEV19-1929, ROW19-1933

B. Background Information

1) Site Information
   a) Located at the intersection of 12th Ave NE and NE 180th St. **(EXHIBIT 1, Vicinity Map)**
   b) Address: 18002, 18008, 18016 12th Ave NE, Shoreline WA 98155
   c) Parcel #'s: 6163900410, 6163900411, 6163900420
   d) Site Area: 0.54 Acres (+/-23,515 SF)
   e) Zoning: MUR-35'
   f) Comprehensive Plan Designation: Station Area 3
2) Proposal
   a) The applicant is proposing to demolish 3 existing single family residences and their respective garages/carports/accessory structures, merge the 3 existing lots into 1 parcel, and then subdivide the parcel into 19 fee-simple townhome unit lots.
3) Lot Merger – as is noted in the Conditions of Approval of the Staff Report: The three existing lots shall be merged. Development permits for the Site, including but not limited to, demolition permits, clearing and grading permits, site development permits, right-of-way permits, and building permits, shall not be issued until the City has approved a Lot Merger for the Site and the same has been recorded with the King County Recorder's Office. Failure to apply for or receive approval of a Lot Merger, or to record an approved Lot Merger, shall render the Preliminary Plat null and void and as such, no Final Plat shall be approved or recorded.
4) Procedural History
   a) Pre-Application meeting for subdivision held on December 18, 2018
   b) Neighborhood Meeting was held at the Shoreline Public Library on July 2, 2019 **(EXHIBIT 2, Neighborhood Meeting Notice & EXHIBIT 3, Neighborhood Meeting Report)**
   c) Application for Preliminary Formal Subdivision (PLN 19-0133) was made July 26, 2019
   d) Application PLN19-0133 was determined complete August 14, 2019
   e) Notice of Application was issued August 19, 2019, with the formal comment period closing on September 3, 2019
   f) Notice of Public Hearing was issued on July 13, 2020 for the Hearing Examiner public hearing on July 29, 2020.

C. Public/Agency Comment

1) Public Comment –
   a) 3 comments were received during the Notice of Application comment period. In general, all comments were in opposition to the proposal because of concerns with increased density, traffic, lack of sidewalks, increased on-street parking, and construction impacts.
   b) A summary of comments/question received at the Neighborhood Meeting has been provided. **(EXHIBIT 3, Neighborhood Meeting Report)**
   c) Applicant's response: The proposal meets the zoning regulations established for this zone by the City of Shoreline. This includes limiting building height to 35', measured from the average existing grade to the highest peak of the roof, maintaining required front/side/rear yard setbacks and allowable hardscape area **(EXHIBIT 4, Site Plan, and EXHIBIT 5, Hardscape Calculation Worksheet)**. As part of application, a Traffic Control Plan **(EXHIBIT 6)** has been submitted and reviewed by the City. New sidewalks along the property frontage will be provided as part of the proposal **(EXHIBIT 7, ROW Plans)**. While still in support of promoting walkability and a reduction in car-dependency, the applicant acknowledges the need for off-street parking and the proposal provides for a minimum of 2 parking stalls per unit on site. The proposal fulfills the intent of the zoning and Comprehensive Plan to generate density in proximity to the new light rail stations.
2) Agency Comment – None Received

D. SEPA/Environmental Review

1) The proposal is subject to review under SEPA as a 19-unit subdivision.
2) The proposal is also located with the 185th St. Station Planned Action Area and therefore subject to a Planned Action Determination of Consistency Review by the City of Shoreline.
3) A Planned Action Determination of Consistency application (PLN19—0134) was submitted and reviewed concurrently with the Preliminary Formal Subdivision application. As part of this submittal a SEPA Checklist was also completed and submitted. The City reviewed and determined the submittal qualified as a Planned Action on January 30, 2020 and issued a Planned Action Determination of Consistency on February 25, 2020. **(EXHIBIT 8, Planned Action Determination of Consistency and EXHIBIT 9, SEPA Checklist)**

E. Applicant's Analysis and Conclusions

1) This application intends to demonstrate compliance with the procedures specified in SMC 20.30.410.A.3 – Consolidated Subdivision
2) The following Criterion were evaluated in the proposal
   a) Environmental (SMC 20.30.410.B.1)
      i) Criterion A: Where environmental resources exist, such as trees, streams, geologic hazards, or wildlife habitats, the proposal shall be designed to fully implement the goals, policies, procedures and standards of the critical areas regulations,

Chapter 20.80 SMC, Critical Areas, and the tree conservation, land clearing, and site grading standards sections.

(1) Analysis: The site contains no critical areas or buffers. The proposal complies with the tree conservation, land clearing and site grading standards specified in SMC 20.50, Chapter 5. The site contains (6) existing significant trees, measuring less than 30" DBH. Per SMC 20.50.310.B, (5) significant trees may be removed without retention or replacement. Retention of (1) tree is required and is satisfied through the protection and retention of Tree #9 along the Eastern property line. In addition, all off-site trees have been evaluated and tree protection measures will be in place prior to the commencement of construction activities. **(EXHIBIT 10, Tree Retention Calculation Worksheet, EXHIBIT 11, Tree Retention Plan and EXHIBIT 12, Arborist's Report)**

ii) Criterion B: The proposal shall be designed to minimize grading by using shared driveways and by relating street, house site and lot placement to the existing topography.

(1) Analysis: The project proposes the use of (1) shared driveway access for all 19 units on site. The proposal positions the buildings in such a way as to work with the natural topography of the site. Lots 1-6 step down with the grade of NE 180th St towards 12th Ave. NE. Units 13-19 are buried into the hillside on the Eastern side of the site, working with the grade to minimize their height and bulk. **(EXHIBIT 4, Site Plan & EXHIBIT 13, Grading Plan)**

iii) Criterion C: Where conditions exist which could be hazardous to the future residents of the land to be divided, or to nearby residents or property, such as floodplains, landslide hazards, or unstable soil or geologic conditions, a subdivision of the hazardous land shall be denied unless the condition can be permanently corrected, consistent with subsections (B)(1)(a) and (b) of this section, Chapter 20.80 SMC, Critical Areas, and Chapter 13.12 SMC, Floodplain Management.

(1) Analysis: There are no such existing conditions on site. Please see Geotechnical Report provided for reference. **(EXHIBITS 14&15, Geotechnical Reports)**

iv) Criterion D: Low impact development (LID) techniques shall be applied where feasible to minimize impervious areas, manage stormwater, and preserve on-site natural features, native vegetation, open space and critical areas

(1) Analysis: LID techniques have been integrated in the proposal's design, such as the use of permeable pavers, and on-site infiltration to manage stormwater. The proposal meets all requirements of the 2014 DOE Stormwater Management Manual for Western Washington and the 2019 Shoreline Engineering Development Manual. **(EXHIBIT 15, Drainage Plan)**

b) Lot and Street Layout (SMC 20.30.410.B.2)

i) Criterion A: Lots shall be designed to contain a usable building area. If the building area would be difficult to develop, the lot shall be redesigned or eliminated, unless special conditions can be imposed that will ensure the lot is developed consistent

with the standards of this Code and does not create nonconforming structures, uses or lots.

(1) Analysis: All lots are rectangular in shape, providing for the footprint of the single family structure and adjacent access from the private access tract. The lots are laid out in a linear fashion, with 6 lots front NE 180th St, 6 lots front 12th Ave. NE and 7 lots parallel to and behind the 6 lots fronting 12th Ave. NE. **(EXHIBIT 4, Site Plan)**

ii) Criterion B: Lots shall not front on primary or secondary highways unless there is no other feasible access. Special access provisions, such as shared driveways, turnarounds or frontage streets, may be required to minimize traffic hazards.

(1) Analysis: The access for the proposal is from 12th Ave NE, the lesser street classification of the 2 frontages. The private access tract is a minimum of 20' in width and has been approved by the Fire Department and Public Works. No turnaround is needed per Section 12.6(A) of the 2019 Shoreline Engineering Development Manual.

iii) Criterion C: Each lot shall meet the applicable dimensional requirements of the Code.

(1) Analysis: For Unit Lot Subdivisions, the dimensional standards such as setbacks and hardscape may be modified on each individual lot provided the overall site still complies, per footnote 2 of SMC Table 20.50.020(2). There is no minimum lot width or area set forth for the MUR-35' zone. The proposal, as a whole, meets all setback and hardscape requirements set forth in SMC Table 20.50.020(2). **(EXHIBIT 4, Site Plan & EXHIBIT 5, Hardscape Calculation Worksheet)**

iv) Criterion D: Pedestrian walks or bicycle paths shall be provided to serve schools, parks, public facilities, shorelines and streams where street access is not adequate.

(1) Analysis: Internal walkways will be provided on site along both sides of the Private Access Tract, providing access from the public Right of Way to Units 13-19 at the rear of the site. Units 1-12 will have direct pedestrian access from the unit door to the ROW. As part of the frontage improvements required for development, new sidewalks along the site's frontage on both NE 180th St. and 12th Ave NE will be constructed. **(EXHIBIT 4, Site Plan & EXHIBIT 7, ROW Plans)**

c) Dedications and Improvements (SMC 20.30.410.B.3

i) Criterion A: The City may require dedication of land in the proposed subdivision for public use.

(1) Analysis: No dedication of land is required.

ii) Criterion B: Only the City may approve a dedication of park land.

(1) Analysis: No dedication of park land is required or proposed.

iii) Criterion C: In addition, the City may require dedication of land and improvements in the proposed subdivision for public use under the standards of Chapter 20.60 SMC, Adequacy of Public Facilities, and Chapter 20.70 SMC, Engineering and Utilities Development Standards, necessary to mitigate project impacts to utilities, rights-of-

way, and stormwater systems. Required improvements may include, but are not limited to, streets, curbs, pedestrian walks and bicycle paths, critical area enhancements, sidewalks, street landscaping, water lines, sewage systems, drainage systems and underground utilities.

(1) Analysis: As a condition of approval for development, frontage improvements along both 12th Ave. NE and NE 180th St. are required. These include:

Along 12th Ave NE- 16 foot travel lane, curb and gutter, 5 foot amenity zone, and a 5 foot sidewalk. A curb bulb at the intersection with NE 180th St with curb ramp crossing 12th Ave NE, a full-width asphalt overlay for the length, and new stormdrain infrastructure.

Along NE 180th St.- 17.5 foot travel lane, curb and gutter, 5 foot amenity zone, 7 foot sidewalk. A new curb ramp at the south side of the NE 180th St, an overlay the full width of NE 180th St. for the length of the site's frontage, and new stormdrain infrastructure. **(EXHIBIT 7, ROW Plans)**.

d) Unit Lot Subdivision (SMC 20.30.410.B.4)

i) *Criterion A: The provisions of this subsection apply exclusively to unit lot development, mixed single-family attached development, or zero lot line development.*

(1) Analysis: As a unit lot subdivision, the provisions of this subsection apply.

ii) *Criterion B: Unit lot, mixed single-family attached, and zero lot line developments may be subdivided into individual unit lots. The development as a whole shall meet the applicable development standards.*

(1) Analysis: The applicable development standards, including setbacks, maximum allowed hardscape, building height, etc. laid forth in SMC Table 20.50.020(2) are met.

iii) *Criterion C: As a result of the subdivision, development on individual unit lots may modify standards in SMC 20.50.020, Exception 2.*

(1) Analysis: The individual lots have modified the setback and hardscape standards, but the overall site remains in compliance with the standards set forth in SMC Table 20.50.020(2). **(EXHIBIT 4, Site Plan & EXHIBIT 5, Hardscape Calculation Worksheet)**

iv) *Criterion D: Access easements, joint use and maintenance agreements, and covenants, conditions and restrictions identifying the rights and responsibilities of the property owner(s) and/or the homeowners' association shall be executed for the use and maintenance of common garage, parking and vehicle access areas; solid waste storage and/or collection area(s); on-site recreation; landscaping; underground utilities; common open space; exterior building facades and roofs of individual units; and other similar features, and shall be recorded with the King*

County Recorder's Office. These shall be recorded prior to final plat application or shown on the face of the final plat.

(1) Analysis: Shared access and utility easements, CC&R's, and any responsibilities of the property owners shall be recorded prior to approval of the final plat or be shown on the face of the plat.

v) Criterion E: Within the parent lot, required parking for a dwelling unit may be provided on a different unit lot than the lot with the dwelling unit, as long as the right to use that parking is formalized by an easement set forth on the face of the plat.

(1) Analysis: All required parking for each unit lot is provided within each proposed townhome.

vi) Criterion F: The final plat shall note all conditions of approval. The final plat shall also note that unit lots are not separate buildable lots independent of the overall development and that additional development of the individual unit lots may be limited as a result of the application of development standards to the parent lot.

(1) Analysis: Final plat shall note all conditions of approval, including the condition specified above.

vii) Criterion G: For unit lot development, the applicant shall record a covenant on the plat that states, "These units will be considered individual units and part of one structure that cannot be segregated from one another. A unit lot development is defined as one building or one structure in the International Building Code and International Fire Code and National Electrical Code."

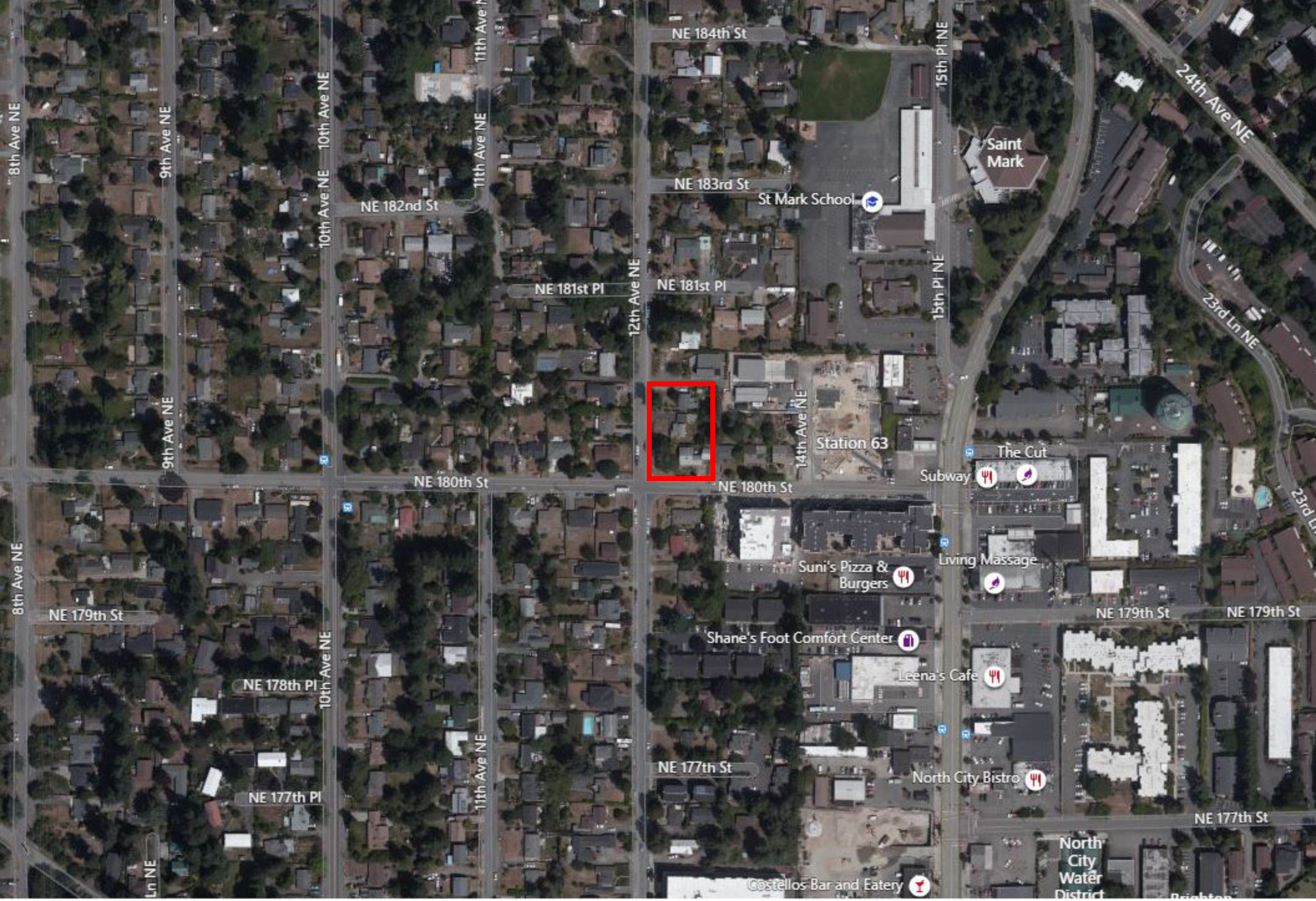
(1) Analysis: This criterion does not apply as the buildings were designed to be structurally independent under the provisions for townhomes in the 2015 International Residential Code as adopted by the State of Washington.

3) Conclusions:

a) Based on the information and analysis above, the applicant feels that the proposal has met the applicable requirements of the Shoreline Municipal Code, including the development requirements specified in Title 20. The proposal provides for the public health and safety through connection to public utilities, management of additional stormwater runoff according to the requirements of the 2014 DOE Stormwater Management Manual for Western Washington, and payment of all required Impact Fees for Transportation, Fire, and Parks. The proposal meets the intent of the 185th St. Station Sub-Area by providing denser development in proximity to the future light rail station, helping to address the housing shortage in the general region.

F. Applicant's Request

1) The applicant, Blue Fern Development LLC, hereby requests the Hearing Examiner to forward to the City Council recommendation of approval for the proposed Preliminary Formal Subdivision application, PLN-19-0133, based on the information provided in the report above and subject to the conditions specified in the City Staff report.



Vicinity Map

N.T.S.

12th Ave. Townhomes

EXHIBIT 1

EXHIBIT 2

BlueFern DEVELOPMENT, LLC
11232 120th Ave NE, Ste 204 Kirkland, WA 98033

NEIGHBORHOOD MEETING

Date: Tuesday, July 2, 2019

From: 6:00PM – 7:30PM

Location: **Shoreline Library**
Small Meeting Room
345 NE 175th Street
Shoreline, WA. 98155

RE: 19-Unit Subdivision located at 18002,18008,18016 12th Ave NE (Parcel #6163900410, 6163900411, 6163900420)

Purpose: You are cordially invited to a Neighborhood Meeting. The purpose of the meeting is to provide an opportunity to inform the neighborhood of the proposed project in its early planning stages. Please feel free to join us at the Shoreline Library on July 2nd at 6:00P.

Project Description: The applicant is proposing a 19-unit townhome development on +/- 23,515 square feet (0.54 acres), in accordance with the MUR 35-zoning designation of the site. The development will be comprised of three buildings total, two of which contain six units and one containing seven units. Vehicular access to the site shall be provided off 12th Ave NE. All townhomes will be three story structures, of Type V-B Construction and sprinklered.

Development Code: The following requirements are relevant to the site:
Minimum Density = 12 dwelling units per acre, (23,515 / 43,560 x 12 = 6.48, or 7 unit minimum)
Maximum Density = N/A
Minimum Lot Size = N/A
Minimum Lot Width = N/A
Minimum Front Setback = 0 Feet (NE 180th St – Minor Arterial)
Minimum Front Setback = 10 Feet (12th Ave NE – Non-Arterial)
Minimum Rear Yard Setback = 5 feet
Minimum Side Yard Setback = 5 feet
Maximum Building Height = 35 feet
Maximum Building Coverage = N/A
Maximum Hardscape = 85%

Applications: The project will pursue the following applications from the City of Shoreline:

Site Development Permit
- Demolition Permit
- Right-of-Way Permit
- Building Permit (Townhouse and Single-Family Attached)
- Preliminary Formal Plat
- Final Formal Plat

EXHIBIT 3

Neighborhood Meeting Agenda
Tuesday, July 2, 2019
6:00 PM-7:30 PM
Small Meeting Room - Shoreline Library
345 NE 175th St, Shoreline, WA 98155

Introduction

- Thank you to everyone for attending
- Blue Fern Development – Michelle Branley
- Milbrandt Architects – Alex Clohesey

Purpose of the Meeting

- Inform and engage with neighborhood residents about the project in its development
- Comments from meeting will be recorded, the developer and design team will then be able to address/further develop solutions to concerns raised before submitting an application to the City.
- As part of the application for the preliminary subdivision, a summary of this meeting is submitted to the City of Shoreline, along with a list of attendees at the meeting, and documentation of concerns raised, for review by the City staff.

Description of Project

- 3 parcels at corner of 12th Ave NE and NE 180th St.
- Zoning Info: MUR-35'
  - Min. Density = 12 du/ac
  - Max. Density = None
  - Min. Lot Area/Width = None
  - Min. Front Setback = 0' on arterial (180th St.)
    10' on non-arterial (12th Ave.)
  - Min. Rear and Side Setback = 5'
  - Max. Building Ht. = 35' (measured from average grade)
  - Max. Building Coverage = None
  - Max. Hardscape = 85%
- 19 fee-simple townhomes in 3 buildings
- 2-3 bedroom units w/ in-unit garages
- Access located off of 12th Ave.

Permits Required for Development

- Preliminary Subdivision
- Lot Merger
- Site Development
- Demolition
- Building Permits (3)
- Right of Way
- ROW Wastewater
- ROW Sewer Connection
- Planned Action Determination of Consistency

Questions/Comments

- See listed comments below

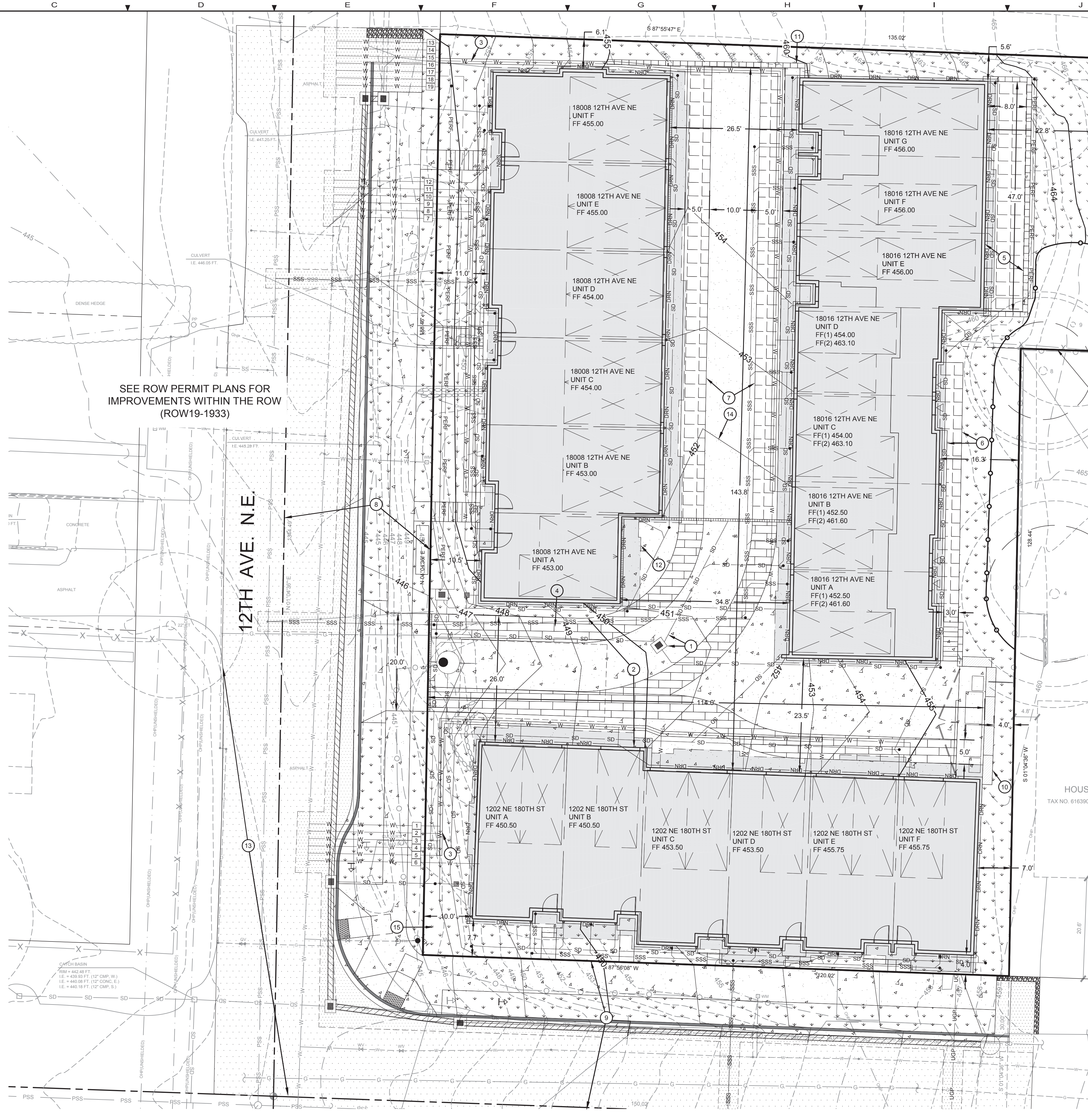
Wrap-Up

- If you wish to further discuss or provide comment on the project, we encourage you to reach out to the City of Shoreline's Planning and Community Development office (phone 206-801-2500 or email pcd@shorelinewa.gov), or to us directly at Blue Fern or Milbrandt and we will be happy to assist.

Summary of Neighbor Comments/Concerns and the Applicant's response

1. *Pleased we are providing two parking spaces for the majority of the units.*
    a. Applicant's Response: Applicant believes that the market still desires 2 parking spaces per residence and has made an effort to fulfill that need.
2. *Question regarding how building height is calculated.*
    a. Applicant's Response: Building height is calculated from the Average Existing Grade plan to the highest point of the roof, per the method laid out in the City's development code.
3. *Concerned height of the Building fronting 180th St. will cast an evening shadow on their two-story home to the East.*
    a. Applicant's Response: Applicant has met the zoning requirements of the MUR-35' zoning designation of the site, which are intended to provide a transition from the higher densities/building heights of the MUR-45' and MUR-70' zones to the residential neighborhood's adjacent to those sites. Additionally, the applicant intends to step the massing of the building in question with the natural slope of the land to further minimize the appearance of its height and bulk in context.
4. *How will additional trucks and vehicle parking be handled during construction phase?*
    a. Applicant's Response: Truck and vehicle parking will be handled on-site to the extent possible. In addition, as part of the submittal requirements for permit, the Applicant will provide the City with traffic control plans for review, with the intent to minimize the impact of the construction site on the surrounding neighborhood.
5. *What type of fence will be installed and how tall?*
    a. Applicant's Response: The final form of the fence has not been determined at this time, but the Applicant typically will install a 4'-6' tall cedar fence along shared property lines per any City screening/landscape requirements.
6. *What will the grade condition near east property line be?*
    a. Applicant's Response: The grade condition at the Eastern property line is proposed to be at grade.
7. *Will homes be vacant while waiting for permit issuance?*
    a. Applicant's Response: The homes are anticipated to be occupied up until a few months prior to actual demolition begins, although occupation remains at the discretion of the home owner and not the Applicant.
8. *Where will the trash bins be staged?*
    a. Applicant's Response: Trash bins will be staged at a common collection area internal to the site, not along the R.O.W.

9. *Will the frontage improvements on 180th meet the corridor improvement standards or be temporary?*
    a. Applicant's Response: Frontage improvements along the R.O.W. are set forth by the City of Shoreline and the Applicant is required to construct them as a condition of development. The Applicant is unsure whether the frontage improvements specified by the City align with future long-range improvement plans for the R.O.W. that the City may look to implement.



SCALE IN FEET

KEY	NOTE:	DETAIL/ SHEET
1	SEE SHEET C05 FOR DRAINAGE & PAVING PLAN	C05
2	SEE SHEETS C06 & C07 FOR ON-SITE GRADING PLAN & DRIVEWAY PROFILES	C06 & C07
3	SEE SHEET C08 FOR UTILITY PLAN	C08
4	SEE SHEET C08 FOR ON-SITE DEVELOPER EXTENSION DETAILS	C08
5	PERMEABLE PAVEMENT PATIO	J/C10
6	PERMEABLE PAVEMENT WALKWAY (TYP)	J/C10
7	PERMEABLE PAVEMENT DRIVEWAY	J/C10
8	SEE ROW PERMIT PLANS FOR 12TH AVE NE FRONTAGE IMPROVEMENTS	-
9	SEE ROW PERMIT PLANS FOR NE 180TH ST FRONTAGE IMPROVEMENTS	-
10	4' MAX HEIGHT ECO-BLOCK WALL	-
11	4' MAX HEIGHT KEYSTONE RETAINING WALL	-
12	ROOF/BUILDING OVERHANG (TYP)	-
13	SEE ROW PERMIT PLANS FOR TRAFFIC CONTROL PLAN	-
14	PROPOSED CONTOUR (TYP)	-
15	SEE LANDSCAPE PLANS FOR PLANTING DETAIL (TYP)	-

LEGEND:

- CONCRETE
- LANDSCAPE
- PERMEABLE PAVERS WALKWAY (SEE DETAIL J/C10)
- IMPERMEABLE PAVERS
- PERMEABLE PAVEMENT DRIVEWAY (SEE DETAIL J/C10)
- ASPHALT (FULL DEPTH) (UNDER SEPARATE ROW PERMIT #ROW 19-1933)
- ASPHALT (GRIND & OVERLAY) (UNDER SEPARATE ROW PERMIT #ROW 19-1933)
- GRAVEL

EXHIBIT 4

CAD FILE NUMBER: P:\CLIENTS-CIVIL\BLUE FERN DEVELOPMENT\18002 - 18008, 18016 12TH AVE NE SHORELINE\DWG\DRAWINGS\SITE DEVELOPMENT PERMIT PLANS\C04 SITE PLAN.DWG
LAST MODIFIED BY: LOPE - SAVE DATE: 2/27/2020 2:25 PM - SHEET SET: 18510 WALLINGFORD- ORIGINAL SHEET SIZE: ARCH FULL BLEED D (36.00 X 24.00 INCHES)
AUTOCAD VERSION: CIVIL 3D 2018

No.	DATE	BY	REVISION
1	12/11/2019	BI	CYCLE 1 - CITY CORRECTIONS
2	02/28/2020	BI	CYCLE 2 - CITY CORRECTIONS

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9706 4th Ave NE
Suite 300
Seattle, WA 98115

P: 206.523.0024
F: 206.523.1012
www.dcgengr.com

D|C|G civil structural

Digitally signed by Benjamin J. Iddins
Date: 2020.02.28 15:34:04

OWNER: BLUE FERN DEVELOPMENT, LLC
11232 120TH AVE NE, STE 204
KIRKLAND WA, 98033

PROJECT: 1202 NE 180TH ST, 18008/18016 12TH AVE NE
SHORELINE, WA 98133
SITE PLAN

CALL 811
2 BUSINESS DAYS
BEFORE YOU DIG
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

BASE MAP/TOPOGRAPHY PROVIDED BY OTHERS. DCG CANNOT BE HELD LIABLE FOR ACCURACY. CONTRACTOR SHALL FIELD VERIFY GRADES, UTILITIES, AND ALL OTHER EXISTING FEATURES AND CONDITIONS. IF CONDITIONS ARE NOT AS SHOWN AND/OR PLANS CANNOT BE CONSTRUCTED AS SHOWN, CONTACT DCG PRIOR TO CONSTRUCTION.

PROJ. MANAGER:	BI
DESIGNED BY:	JL
DRAWN BY:	JS
CHECKED BY:	BI
SCALE:	AS SHOWN
DATE: 2/28/2020	REV. 2 — SHEET 4 OF 12
SHEET NUMBER	C04

EXHIBIT 5

City of Shoreline
Planning & Community Development
17500 Midvale Avenue North Shoreline, WA 98133-4905
Phone: (206) 801-2500 Fax: (206) 801-2788
Email: pcd@shorelinewa.gov Web: www.shorelinewa.gov

Building Coverage and Hardscape Area Calculation Worksheet

Project Address: 18002, 18008, 18016 12th Ave NE Shoreline, WA 98133 Lot Area (Square Footage) 23,515

Please further itemize these calculations if the site has multiple buildings, types of hardscape note listed.

Building Coverage = Footprint	Existing Square Footage	+	Proposed Square Footage	=	Total Square Footage
House (plus Garage, if attached)			11,230		11,230
Garage (if detached)					
Carport					
Shed					
Covered Deck					
Covered Porch					
Other Accessory Structure					
			Total Building Coverage (SF)		11,230
			Building Coverage Percentage (Total/Lot Area *100)		48%

Hardscape Area = Roof Area + Uncovered Surfaces	Existing Square Footage	+	Proposed Square Footage	=	Total Square Footage
Roof Area					
House (plus Garage, if attached)			13,228		13,228
Garage (if detached)					
Carport					
Shed					
Covered Deck					
Covered Porch					
Other Accessory Structure					
Uncovered Areas					
Deck					
Driveway and Parking Areas			4,995		4,995
Patios and Pools					
Walkways (including pavers)			699		699
Gravel Landscaping					
Other Hardscape Areas					
			Total Hardscape Coverage (SF)		18,922
			Hardscape Area Percentage (Total/Lot Area *100)		80%

Hardscape includes any structure or other covering on or above the ground that includes materials commonly used in building construction such as wood, asphalt and concrete, and also includes, but is not limited to, all structures, decks, and patios, and paving, including gravel, pervious or impervious concrete and asphalt. Include the square footages for all existing and proposed hardscape.

NOTE: This worksheet is provided as an aid and is for informational use only. It is not a substitute for the Shoreline Municipal Code or the Shoreline Development Code.

Attachment to Building Coverage and Hardscape Area Worksheet – Itemized by building.

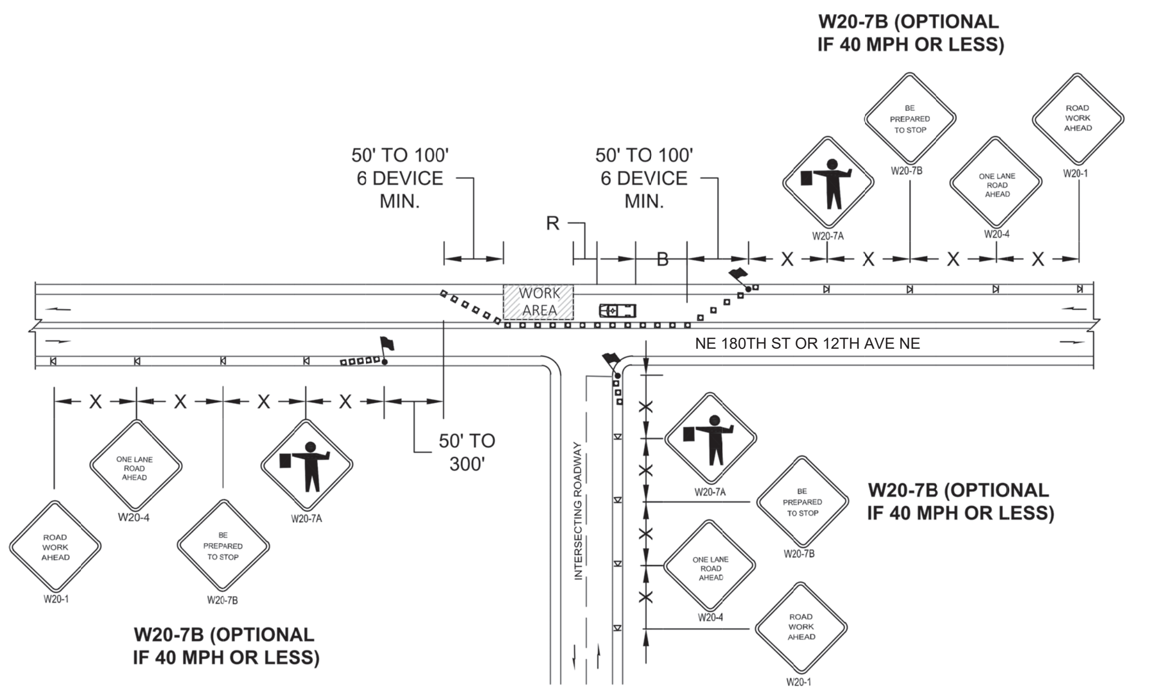
Building Coverage = Footprint, Proposed Square Footage:

Building 1 =	3,638 SF
Building 2 =	3,704 SF
Building 3 =	3,888 SF
Total =	11,230 SF

Hardscape Area = Roof Area + Uncovered Surfaces, Proposed Square Footage:

Building 1 Roof Area =	4,346 SF
Building 2 Roof Area =	4,358 SF
Building 3 Roof Area =	4,524 SF
Total =	13,228 SF

EXHIBIT 6



LEGEND

- FLAGGING STATION
- TEMPORARY SIGN LOCATION
- CHANNELIZING DEVICES
- PROTECTIVE VEHICLE

NOTES:

1. ALL SIGNS ARE BLACK ON ORANGE
2. EXTENDING THE CHANNELIZING DEVICE TAPER ACROSS SHOULDER IS RECOMMENDED.
3. NIGHT WORK REQUIRES ADDITIONAL ROADWAY LIGHTING AT FLAGGING STATIONS. SEE THE STANDARD SPECIFICATIONS FOR ADDITIONAL DETAILS.
4. SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.

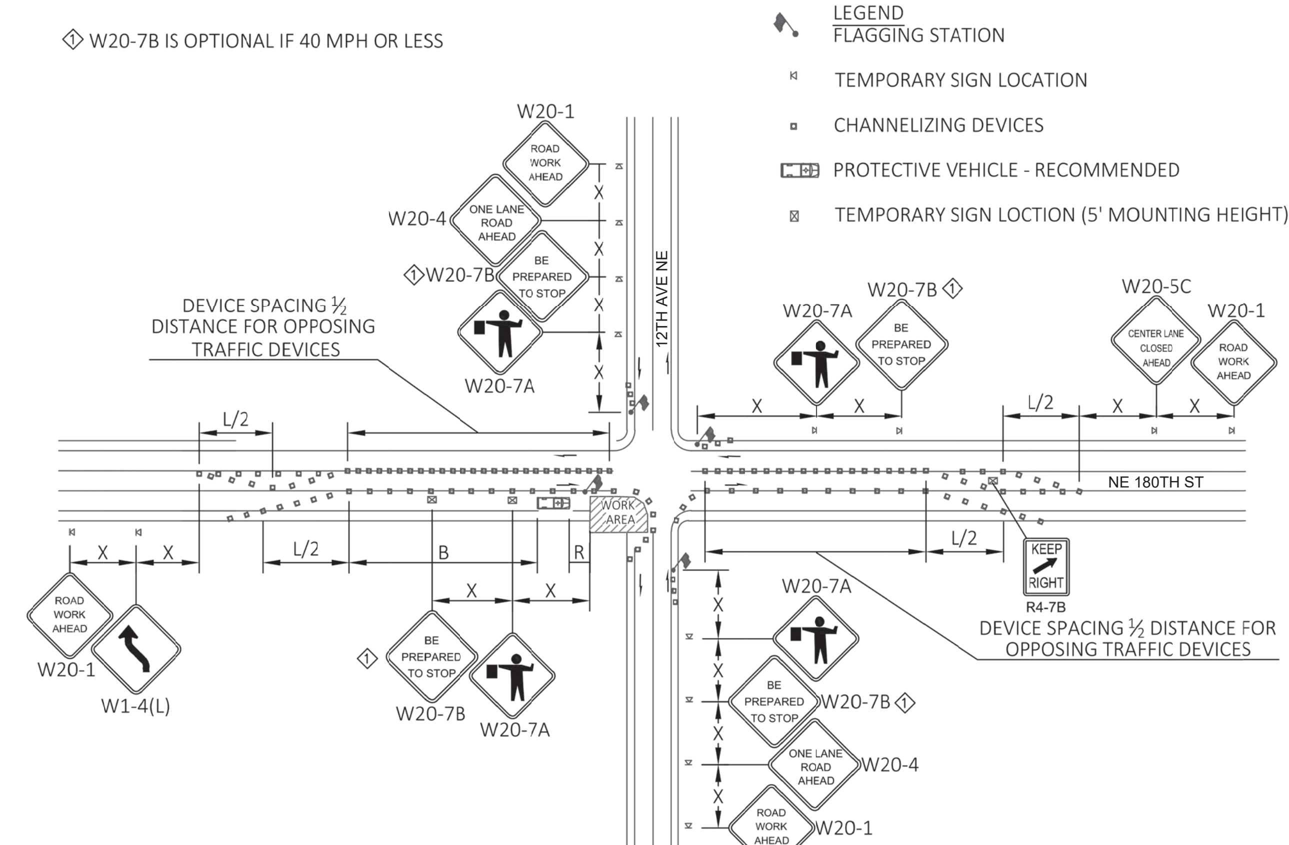
CHANNELIZATION DEVICE SPACING (feet)		
MPH	TAPER	TANGENT
35/ 45	10 to 20	60
25/ 30	10 to 20	40

BUFFER DATA				
LONGITUDINAL BUFFER SPACE = B				
SPEED (MPH)	25	30	35	40
LENGTH (feet)	155	200	250	305
BUFFER VEHICLE ROLL AHEAD DISTANCE = R				
TRANSPORTABLE ATTENUATOR MINIMUM HOST VEHICLE WEIGHT 15,000 LBS. THE MAXIMUM WEIGHT SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATION	30 FEET MIN TO 100 FEET MAX			
PROTECTIVE VEHICLE MAY BE A WORK VEHICLE STRATEGICALLY LOCATED TO SHIELD THE WORK AREA	NO SPECIFIED DISTANCE REQUIRED			

SIGN SPACING = X (1)		
RURAL ROADS & URBAN ARTERIALS	35/ 40 MPH	350'±
RURAL ROADS, URBAN ARTERIALS, RESIDENTIAL & BUSINESS DISTRICTS	25/ 30 MPH	200'± (2)
URBAN STREETS	25 MPH OR LESS	100'± (2)

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERSECTIONS AND DRIVEWAYS.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

TRAFFIC CONTROL PLAN - NE 180TH ST & 12TH AVE NE



NOTES:

1. RECOMMEND EXTENDING DEVICE TAPER (L/3) ACROSS SHOULDER.
2. IF A SIGNAL IS PRESENT, IT SHALL BE SET TO "RED FLASH MODE" OR TURNED OFF DURING FLAGGING OPERATIONS.
3. LAW ENFORCEMENT OFFICER MAY BE USED IN LIEU OF FLAGGERS TO CONTROL INTERSECTION TRAFFIC. REQUIRED AT SIGNAL.
4. FOR SPEED LIMIT OF 30 MPH OR LESS USE SIGN W1-3 IN LIEU OF SIGN W1-4.
5. MAINTAIN A MINIMUM OF ONE ACCESS POINT FOR EACH BUSINESS WITHIN WORK AREA LIMITS.
6. ALL SIGNS ARE BLACK ON ORANGE UNLESS OTHERWISE DESIGNATED. MIN LANE WIDTH = 11'.

BUFFER DATA				
LONGITUDINAL BUFFER SPACE = B				
SPEED (MPH)	25	30	35	40
LENGTH (feet)	155	200	250	305
BUFFER VEHICLE ROLL AHEAD DISTANCE = R				
PROTECTIVE VEHICLE - MAY BE A WORK VEHICLE STRATEGICALLY LOCATED TO SHIELD THE WORK AREA	NO SPECIFIED DISTANCE REQUIRED			
TRANSPORTATION ATTENUATOR - MINIMUM HOST VEHICLE WEIGHT 15,000 LBS. THE MAXIMUM WEIGHT SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATION.	30 FEET MIN - 100 FEET MAX			

SIGN SPACING = X (1)		
RURAL ROADS & URBAN ARTERIALS	35/ 40 MPH	350'±
RURAL ROADS, URBAN ARTERIALS, RESIDENTIAL & BUSINESS DISTRICTS	25/ 30 MPH	200'± (2)
URBAN STREETS	25 MPH OR LESS	100'± (2)

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERSECTIONS AND DRIVEWAYS.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

CHANNELIZATION DEVICE SPACING (feet)		
MPH	TAPER	TANGENT
35/ 45	30	60
25/ 30	20	40

TRAFFIC CONTROL PLAN - WORK WITHIN INTERSECTION

CALL 811
2 BUSINESS DAYS BEFORE YOU DIG
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

BASE MAP/TOPOGRAPHY PROVIDED BY OTHERS. DCG CANNOT BE HELD LIABLE FOR ACCURACY. CONTRACTOR SHALL FIELD VERIFY GRADES, UTILITIES, AND ALL OTHER EXISTING FEATURES AND CONDITIONS, IF CONDITIONS ARE NOT AS SHOWN AND/OR PLANS CANNOT BE CONSTRUCTED AS SHOWN, CONTACT DCG PRIOR TO CONSTRUCTION.

No.	DATE	BY	REVISION
1	12/12/2019	BI	REVISIONS PER CITY REVIEW COMMENTS
2	02/28/2020	BI	CYCLE 2 - REVISIONS PER CITY REVIEW COMMENTS
3	05/06/2020	BI	CYCLE 3 - REVISIONS PER CITY REVIEW COMMENTS

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F: 206.523.1012
www.dcgengr.com

BENJAMIN J. IODINE — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — Digitally signed by Benjamin J. Iodins, Date: 2020.05.09

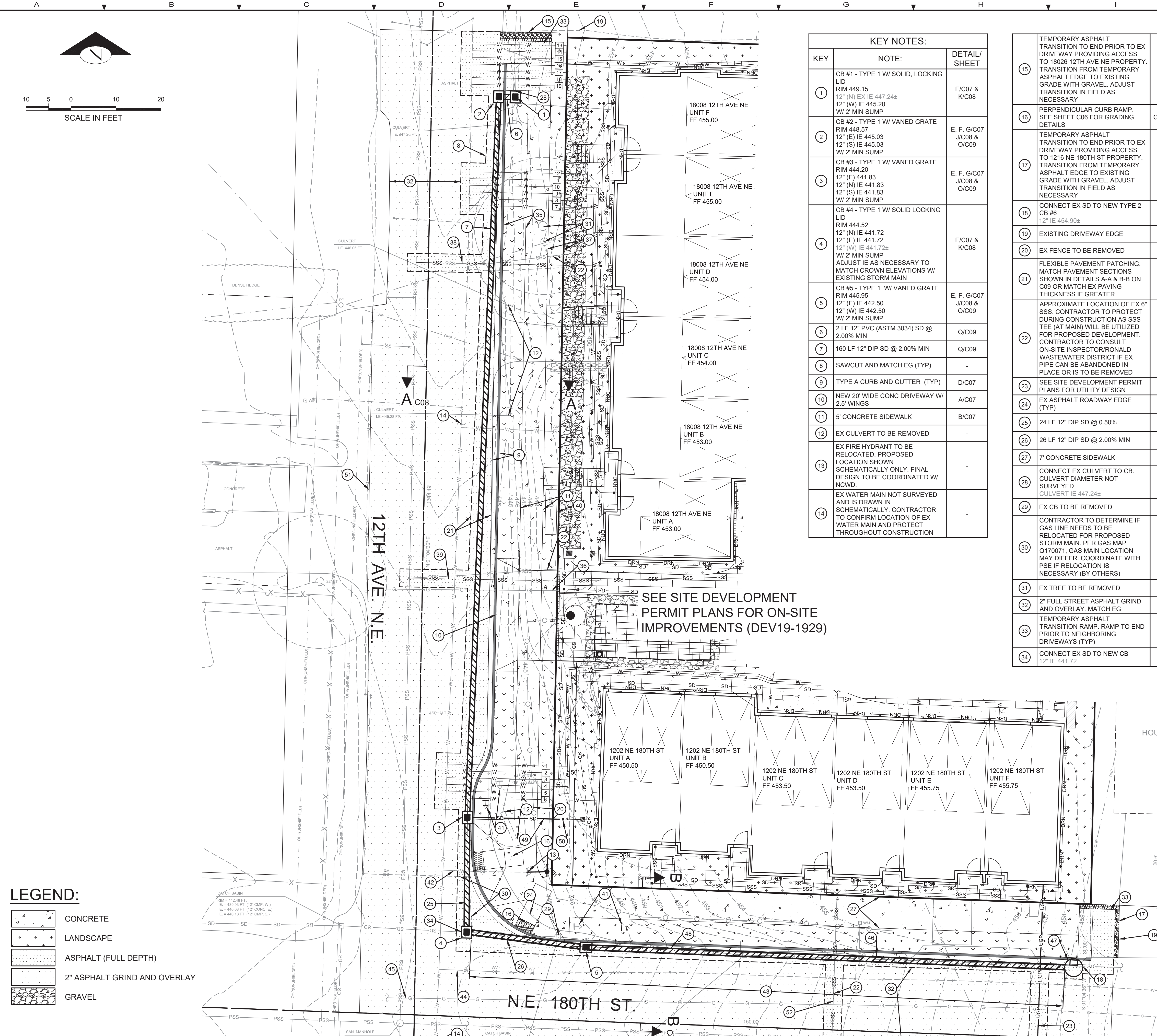
OWNER: BLUE FERN DEVELOPMENT, LLC, 11232 120TH AVE NE, STE 204, KIRKLAND, WA 98033

PROJECT: 1202 NE 180TH ST, 18008/18016 12TH AVE NE, SHORELINE, WA — TRAFFIC CONTROL PLAN

PROJ. MANAGER:	BI
DESIGNED BY:	JL
DRAWN BY:	JS
CHECKED BY:	BI
SCALE:	AS SHOWN
DATE: 05/06/20	REV. 3
SHEET	5 OF 9

SHEET NUMBER

C05



KEY NOTES:

KEY	NOTE:	DETAIL/ SHEET
1	CB #1 - TYPE 1 W/ SOLID, LOCKING LID RIM 449.15 12" (N) EX IE 447.24± 12" (W) IE 445.20 W/ 2' MIN SUMP	E/C07 & K/C08
2	CB #2 - TYPE 1 W/ VANED GRATE RIM 448.57 12" (E) IE 445.03 12" (S) IE 445.03 W/ 2' MIN SUMP	E, F, G/C07 J/C08 & O/C09
3	CB #3 - TYPE 1 W/ VANED GRATE RIM 444.20 12" (E) 441.83 12" (N) IE 441.83 12" (S) IE 441.83 W/ 2' MIN SUMP	E, F, G/C07 J/C08 & O/C09
4	CB #4 - TYPE 1 W/ SOLID LOCKING LID RIM 444.52 12" (N) IE 441.72 12" (E) IE 441.72 12" (W) IE 441.72± W/ 2' MIN SUMP ADJUST IE AS NECESSARY TO MATCH CROWN ELEVATIONS W/ EXISTING STORM MAIN	E/C07 & K/C08
5	CB #5 - TYPE 1 W/ VANED GRATE RIM 445.95 12" (E) IE 442.50 12" (W) IE 442.50 W/ 2' MIN SUMP	E, F, G/C07 J/C08 & O/C09
6	2 LF 12" PVC (ASTM 3034) SD @ 2.00% MIN	Q/C09
7	160 LF 12" DIP SD @ 2.00% MIN	Q/C09
8	SAWCUT AND MATCH EG (TYP)	-
9	TYPE A CURB AND GUTTER (TYP)	D/C07
10	NEW 20' WIDE CONC DRIVEWAY W/ 2.5' WINGS	A/C07
11	5' CONCRETE SIDEWALK	B/C07
12	EX CULVERT TO BE REMOVED	-
13	EX FIRE HYDRANT TO BE RELOCATED. PROPOSED LOCATION SHOWN SCHEMATICALLY ONLY. FINAL DESIGN TO BE COORDINATED W/ NCWD.	-
14	EX WATER MAIN NOT SURVEYED AND IS DRAWN IN SCHEMATICALLY. CONTRACTOR TO CONFIRM LOCATION OF EX WATER MAIN AND PROTECT THROUGHOUT CONSTRUCTION	-

15	TEMPORARY ASPHALT TRANSITION TO END PRIOR TO EX DRIVEWAY PROVIDING ACCESS TO 18026 12TH AVE NE PROPERTY. TRANSITION FROM TEMPORARY ASPHALT EDGE TO EXISTING GRADE WITH GRAVEL. ADJUST TRANSITION IN FIELD AS NECESSARY	-
16	PERPENDICULAR CURB RAMP. SEE SHEET C06 FOR GRADING DETAILS	C06 & I/C08
17	TEMPORARY ASPHALT TRANSITION TO END PRIOR TO EX DRIVEWAY PROVIDING ACCESS TO 1216 NE 180TH ST PROPERTY. TRANSITION FROM TEMPORARY ASPHALT EDGE TO EXISTING GRADE WITH GRAVEL. ADJUST TRANSITION IN FIELD AS NECESSARY	-
18	CONNECT EX SD TO NEW TYPE 2 CB #6 12" IE 454.90±	-
19	EXISTING DRIVEWAY EDGE	-
20	EX FENCE TO BE REMOVED	-
21	FLEXIBLE PAVEMENT PATCHING. MATCH PAVEMENT SECTIONS SHOWN IN DETAILS A-A & B-B ON C09 OR MATCH EX PAVING THICKNESS IF GREATER	H/C07, A-A & B-B/C08
22	APPROXIMATE LOCATION OF EX 6" SSS. CONTRACTOR TO PROTECT DURING CONSTRUCTION AS SSS TEE (AT MAIN) WILL BE UTILIZED FOR PROPOSED DEVELOPMENT. CONTRACTOR TO CONSULT ON-SITE INSPECTOR/RONALD WASTEWATER DISTRICT IF EX PIPE CAN BE ABANDONED IN PLACE OR IS TO BE REMOVED	-
23	SEE SITE DEVELOPMENT PERMIT PLANS FOR UTILITY DESIGN	-
24	EX ASPHALT ROADWAY EDGE (TYP)	-
25	24 LF 12" DIP SD @ 0.50%	Q/C09
26	26 LF 12" DIP SD @ 2.00% MIN	Q/C09
27	7' CONCRETE SIDEWALK	B/C07
28	CONNECT EX CULVERT TO CB. CULVERT DIAMETER NOT SURVEYED CULVERT IE 447.24±	-
29	EX CB TO BE REMOVED	-
30	CONTRACTOR TO DETERMINE IF GAS LINE NEEDS TO BE RELOCATED FOR PROPOSED STORM MAIN. PER GAS MAP Q170071, GAS MAIN LOCATION MAY DIFFER. COORDINATE WITH PSE IF RELOCATION IS NECESSARY (BY OTHERS)	-
31	EX TREE TO BE REMOVED	-
32	2" FULL STREET ASPHALT GRIND AND OVERLAY. MATCH EG	H/C07
33	TEMPORARY ASPHALT TRANSITION RAMP. RAMP TO END PRIOR TO NEIGHBORING DRIVEWAYS (TYP)	C/C07
34	CONNECT EX SD TO NEW CB 12" IE 441.72	-

35	5' WIDE AMENITY ZONE	R/C09
36	APPROXIMATE LOCATION OF EX GAS SERVICE TO 18008 12TH AVE NE PER GAS MAP Q170071. CONTRACTOR TO CONFIRM LOCATION AND PROTECT THROUGHOUT CONSTRUCTION. REUSE SERVICE FOR PROPOSED DEVELOPMENT IF SIZED CORRECTLY (TBD BY OTHERS). FINAL DESIGN TO BE COORDINATED W/ PSE	-
37	ALL DISTURBED ROW PERVIOUS SURFACES TO BE AMENDED PER BMP T5.13 (TYP)	-
38	41 LF 6" SDR35 SSS @ 2.00% MIN SLOPE TO CONNECT TO EX SEWER MAIN TEE. INSTALLED UNDER SEPARATE PERMIT #WWU19-2078	-
39	34 LF 6" SDR35 SSS @ 2.00% MIN SLOPE TO CONNECT TO EX SEWER MAIN TEE. INSTALLED UNDER SEPARATE PERMIT #WWU19-2078	-
40	APPROXIMATE LOCATION OF PROPOSED MAILBOXES. FINAL LOCATION TBD BY LOCAL POSTMASTER	-
41	APPROXIMATE LOCATION OF EX STREET SIGN. REPLACE AND RELOCATE TO NEW LOCATION	L & M/C09
42	APPROXIMATE LOCATION OF EX SERVICE TO FIRE HYDRANT. CONTRACTOR TO CONFIRM LOCATION AND PROTECT DURING CONSTRUCTION	-
43	EX SD TO BE REMOVED AND NEW PSD INSTALLED	-
44	APPROXIMATE LOCATION OF EX WATER MAIN. CONTRACTOR TO CONFIRM LOCATION AND PROTECT DURING CONSTRUCTION	-
45	APPROXIMATE LOCATION OF EX GAS MAIN. CONTRACTOR TO CONFIRM LOCATION AND PROTECT DURING CONSTRUCTION	-
46	105 LF DIP SD @ 2.00% MIN	Q/C08
47	CB #6 - TYPE 2 CATCH BASIN W/ VANED GRATE RIM 458.08 12" IE (E) 454.90± 12" IE (W) 454.90 W/ 2' MIN SUMP	G/C07, J/C08, P, N & O/C08
48	APPROXIMATE LOCATION OF EX STORM MAIN. CONTRACTOR TO CONFRIM LOCATION AND PROTECT DURING CONSTRUCTION UNTIL NEW MAIN INSTALLED	-
49	19 LF 12" DIP SD @ 2.00% MIN	-
50	12" SDCO RIM 445.50 12" IE 442.35 (INSTALLED UNDER SEPARATE PERMIT DEV19-1929)	-
51	GRIND AND OVERLAY TO EXTEND TO EDGE OF EX FL. EX FL EDGE TO BE DETERMINED IN FIELD	-
52	33 LF 6" SDR35 SSS @ 2.00% MIN SLOPE TO CONNECT TO EX SEWER MAIN TEE. INSTALLED UNDER SEPARATE PERMIT #WWU19-2078	-

LEGEND:

- CONCRETE
- LANDSCAPE
- ASPHALT (FULL DEPTH)
- 2" ASPHALT GRIND AND OVERLAY
- GRAVEL

EXHIBIT 7

CALL 811
2 BUSINESS DAYS BEFORE YOU DIG
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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3	05/06/2020	BI	CYCLE 3 - REVISIONS PER CITY REVIEW COMMENTS

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D|C|G civil structural

BENJAMIN J. IODINS, STATE OF WASHINGTON, PROFESSIONAL ENGINEER — Digitally signed by Benjamin J. Iodins, Date: 2020.05.09 13:13:38 -07'00'

OWNER: BLUE FERN DEVELOPMENT, LLC
11232 120TH AVE NE, STE 204
KIRKLAND, WA 98033

PROJECT: 1202 NE 180TH ST, 18008/18016 12TH AVE NE
SHORELINE, WA
FRONTAGE IMPROVEMENT PLAN

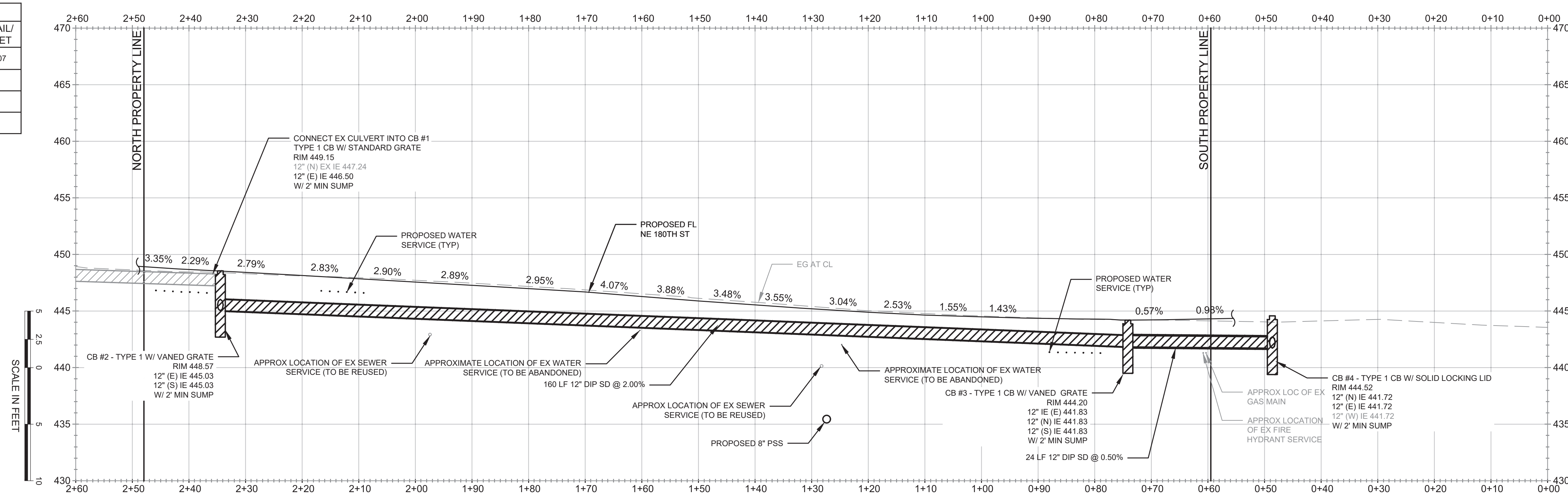
PROJ. MANAGER:	BI
DESIGNED BY:	JL
DRAWN BY:	JS
CHECKED BY:	BI
SCALE:	AS SHOWN
DATE: 05/06/20	REV. 3

SHEET NUMBER
C02

CAD FILE NUMBER: P:\CLIENTS-CIVIL\BLUE FERN DEVELOPMENT\18002, 18008, 18016 12TH AVE NE SHORELINE\DWG\DRAWING\ROW PERMIT PLANS\C02 FRONTAGE IMPROVEMENT PLAN - 12TH AVE.DWG
LAST MODIFIED BY: JOSHS - SAVE DATE: 5/1/2020 10:14 AM - SHEET SET: 18510 WALLINGFORD- ORIGINAL SHEET SIZE: ARCH FULL BLEED D (36.00 X 24.00 INCHES)
AUTOCAD VERSION: CIVIL 3D 2018

KEY	NOTE:	DETAIL/ SHEET
1	2" FULL STREET ASPHALT GRIND AND OVERLAY. MATCH EG	H/C07
2	SAWCUT AND MATCH EG (TYP)	-
3	EX CONTOUR (TYP)	-
4	PROPOSED CONTOUR (TYP)	-

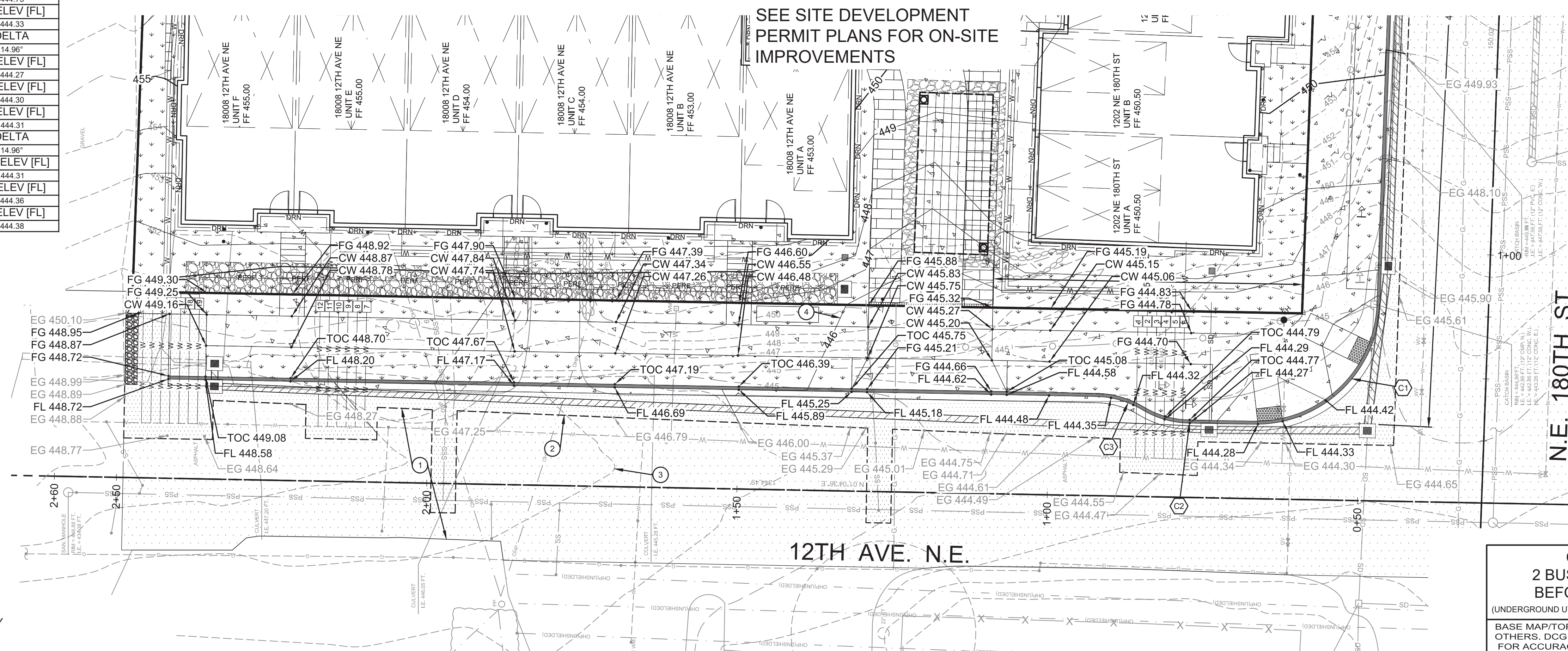
KEY NOTES:



12TH AVE NE GRADING & STORM MAIN PROFILE

V SCALE: 1" = 5' ; H SCALE 1" = 10'

	CURVE DATA TABLE		
C1	RADIUS	LENGTH	DELTA
	20.0'	31.1'	89°
	PC STA	PC OFFSET	PC ELEV [FL]
	0+46.96	31.66	445.20
	1/4 ELEV [FL]	1/2 ELEV [FL]	3/4 ELEV [FL]
	444.29	444.43	444.75
	PT STA	PT OFFSET	PT ELEV [FL]
	0+66.95	12.00'	444.33
C2	RADIUS	LENGTH	DELTA
	15.0'	7.83'	14.96°
	PC STA	PC OFFSET	PC ELEV [FL]
	0+77.27	12.00'	444.27
	1/4 ELEV [FL]	1/2 ELEV [FL]	3/4 ELEV [FL]
	444.28	444.29	444.30
	PT STA	PT OFFSET	PT ELEV [FL]
	0+84.94	14.0'	444.31
C3	RADIUS	LENGTH	DELTA
	15.0'	7.83'	14.96°
	PCC STA	PCC OFFSET	PCC ELEV [FL]
	0+84.94	14.0'	444.31
	1/4 ELEV [FL]	1/2 ELEV [FL]	3/4 ELEV [FL]
	444.33	444.35	444.36
	PT STA	PT OFFSET	PT ELEV [FL]
	0+92.18	15.0'	444.38



LEGEND:

- CONCRETE
- LANDSCAPE
- ASPHALT (FULL DEPTH)
- 2" ASPHALT GRIND AND OVERLAY
- GRAVEL

12TH AVE N GRADING PLAN

SCALE 1" = 10'

CALL 811
2 BUSINESS DAYS
BEFORE YOU DIG
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

BASE MAP/TOPOGRAPHY PROVIDED BY OTHERS. DCG CANNOT BE HELD LIABLE FOR ACCURACY. CONTRACTOR SHALL FIELD VERIFY GRADES, UTILITIES, AND ALL OTHER EXISTING FEATURES AND CONDITIONS, IF CONDITIONS ARE NOT AS SHOWN AND/OR PLANS CANNOT BE CONSTRUCTED AS SHOWN, CONTACT DCG PRIOR TO CONSTRUCTION.

No.	DATE	BY	REVISION
	12/12/2019	BI	REVISIONS PER CITY REVIEW COMMENTS
	02/28/2020	BI	CYCLE 2 - REVISIONS PER CITY REVIEW COMMENTS
	05/06/2020	BI	CYCLE 3 - REVISIONS PER CITY REVIEW COMMENTS

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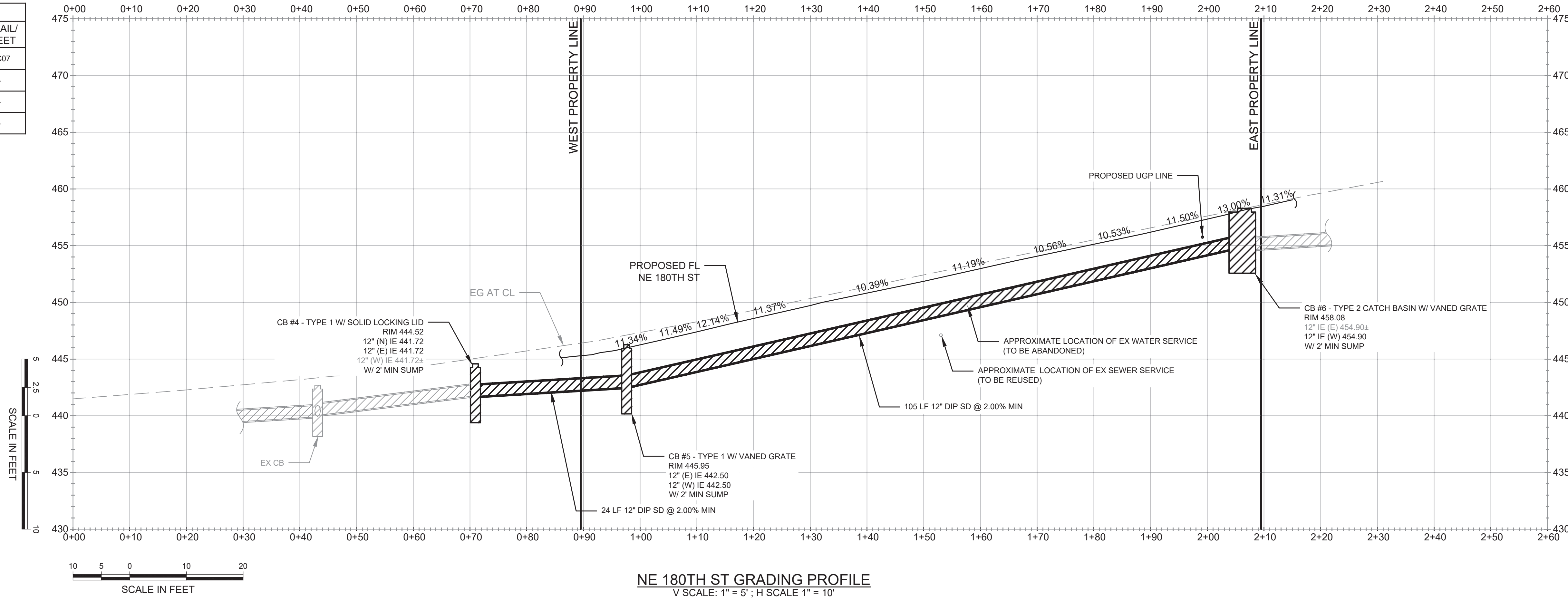
OWNER: BLUE FERN DEVELOPMENT, LLC
11232 120TH AVE NE, STE 204
KIRKLAND, WA 98033

PROJECT: 1202 NE 180TH ST, 18008/18016 12TH AVE NE
SHORELINE, WA
GRADING PLAN - 12TH AVE NE

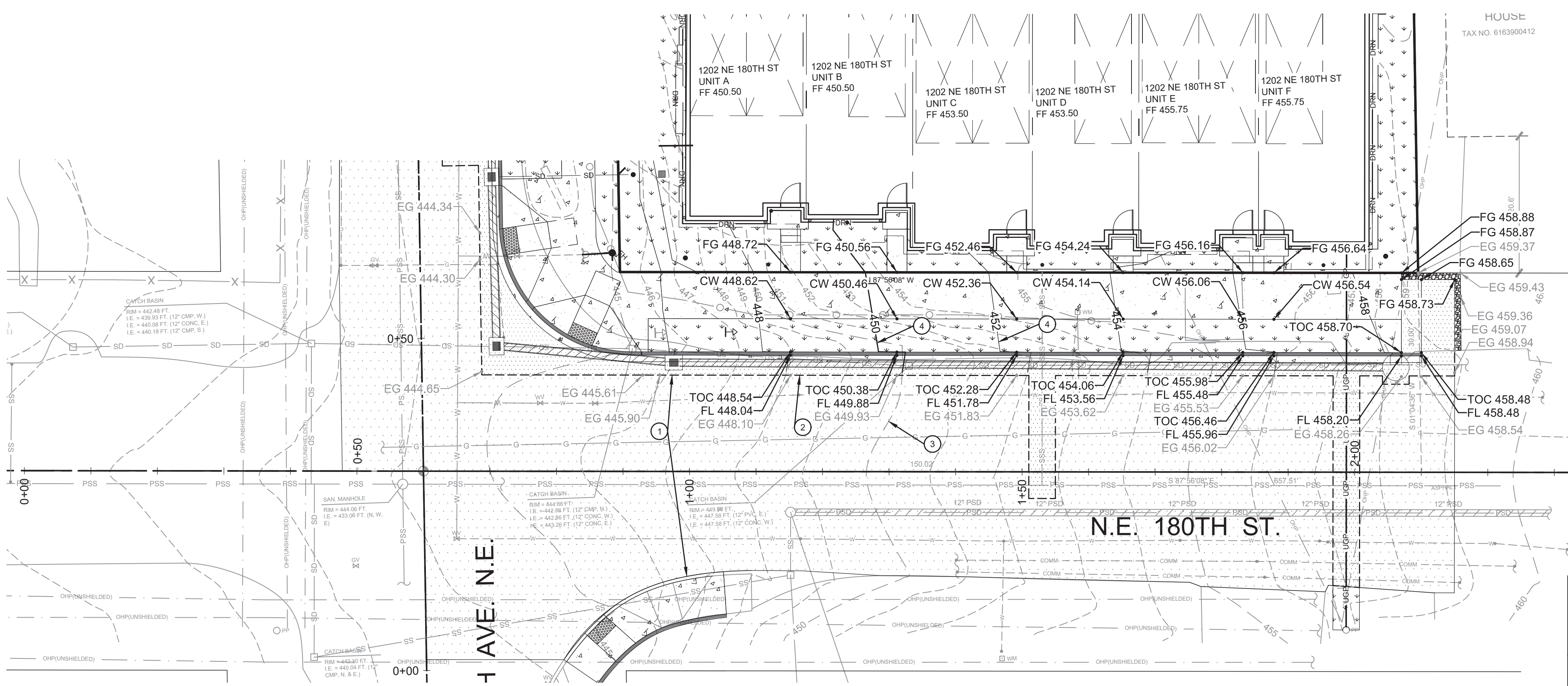
PROJ. MANAGER:	BI
DESIGNED BY:	JL
DRAWN BY:	JS
CHECKED BY:	BI
SCALE:	AS SHOWN
DATE: 05/06/20	REV. 3
SHEET NUMBER	C03

KEY NOTES:

KEY	NOTE:	DETAIL/ SHEET
1	2" FULL STREET ASPHALT GRIND AND OVERLAY, MATCH EG	H/C07
2	SAWCUT AND MATCH EG (TYP)	-
3	EX CONTOUR (TYP)	-
4	PROPOSED CONTOUR (TYP)	-



NE 180TH ST GRADING PROFILE
V SCALE: 1" = 5' ; H SCALE 1" = 10'



NE 180TH ST GRADING PLAN
SCALE 1" = 10'

LEGEND:

- CONCRETE
- LANDSCAPE
- ASPHALT (FULL DEPTH)
- 2" ASPHALT GRIND AND OVERLAY
- GRAVEL

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PROJECT: 1202 NE 180TH ST, 18008/18016 12TH AVE NE
SHORELINE, WA
GRADING PLAN - NE 180TH ST

PROJ. MANAGER:	BI
DESIGNED BY:	JL
DRAWN BY:	JS
CHECKED BY:	BI
SCALE:	AS SHOWN
DATE: 05/06/20	REV. 3
SHEET 4 OF 9	

SHEET NUMBER
C04

CAD FILE NUMBER: P:\CLIENTS-CIVIL\BLUE FERN DEVELOPMENT\18002, 18008, 18016 12TH AVE NE SHORELINE\DWG\DRAWING\ROW PERMIT PLANS\C03 FRONTAGE IMPROVEMENT PLAN - NE 180TH ST.DWG
LAST MODIFIED BY: JOSHS - SAVE DATE: 5/1/2020 10:41 AM - SHEET SET: 18510 WALLINGFORD- ORIGINAL SHEET SIZE: ARCH FULL BLEED D (36.00 X 24.00 INCHES)
AUTOCAD VERSION: CIVIL 3D 2018

CURVE DATA TABLE			
C1	RADIUS	LENGTH	DELTA
	20.0'	31.1'	89°
	PC STA	PC OFFSET	PC ELEV [FL]
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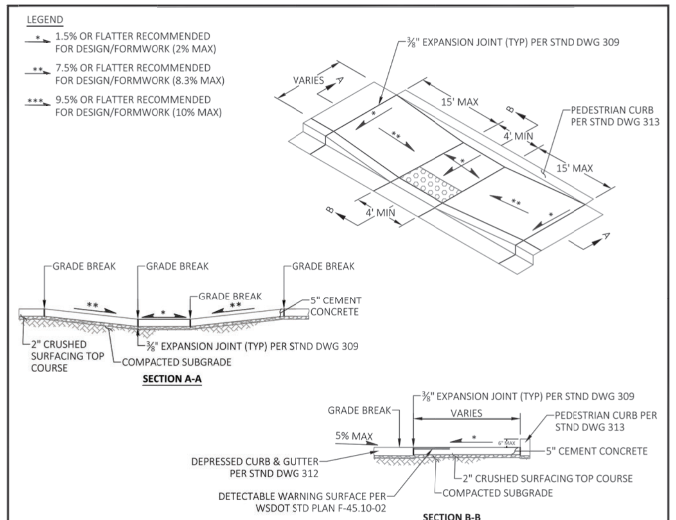
	1/4 ELEV [FL]	1/2 ELEV [FL]	3/4 ELEV [FL]
	444.29	444.43	444.75
	PT STA	PT OFFSET	PT ELEV [FL]
	0+66.95	12.00'	444.33
C2	RADIUS	LENGTH	DELTA
	15.0'	7.83'	14.96°
	PC STA	PC OFFSET	PC ELEV [FL]
	0+77.27	12.00'	444.27
	1/4 ELEV [FL]	1/2 ELEV [FL]	3/4 ELEV [FL]
	444.28	444.29	444.30
	PT STA	PT OFFSET	PT ELEV [FL]
	0+84.94	14.0'	444.31
C3	RADIUS	LENGTH	DELTA
	15.0'	7.83'	14.96°
	PCC STA	PCC OFFSET	PCC ELEV [FL]
	0+84.94	14.0'	444.31
	1/4 ELEV [FL]	1/2 ELEV [FL]	3/4 ELEV [FL]
	444.33	444.35	444.36
	PT STA	PT OFFSET	PT ELEV [FL]
	0+92.18	15.0'	444.38

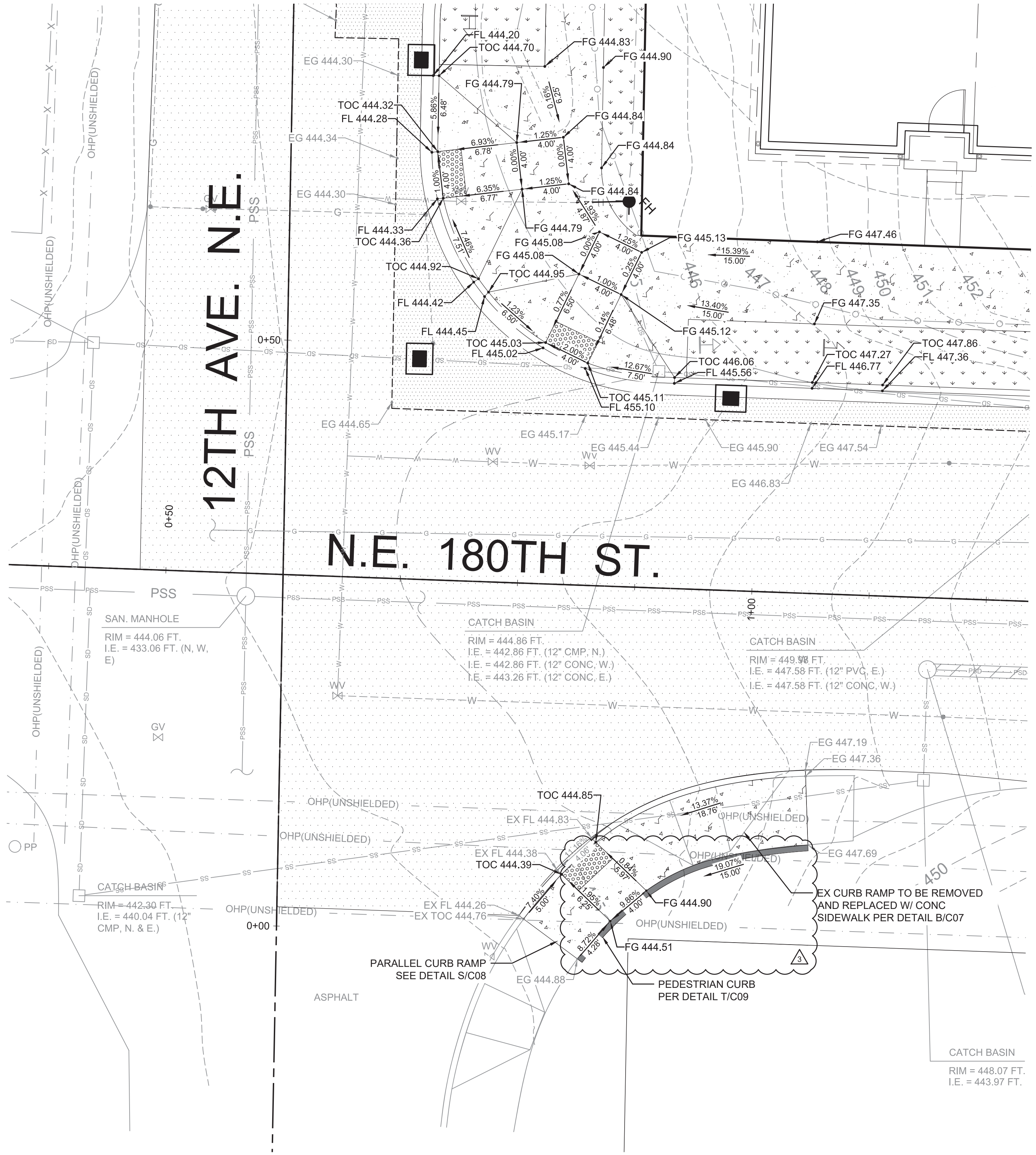


NOTES:

1. WHERE "GRADE BREAK" IS CALLED OUT, THE ENTIRE LENGTH OF THE GRADE BREAK BETWEEN THE TWO ADJACENT SURFACES SHALL BE FLUSH.
2. DO NOT PLACE GRATINGS, JUNCTION BOXES, ACCESS COVERS, OR OTHER APPURTENANCES ON ANY PART OF THE CURB RAMP OR LANDING, OR IN FRONT OF THE CURB RAMP WHERE IT CONNECTS TO THE ROADWAY.
3. BROOM FINISH PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAVEL.
4. THE CURB RAMP LENGTH IS NOT REQUIRED TO EXCEED 15 FEET UNLESS SHOWN OTHERWISE ON THE CONTRACT PLANS. WHEN APPLYING THE 15-FOOT MAX LENGTH THE RUNNING SLOPE IS ALLOWED TO EXCEED 8.3%. USE A SINGLE CONSTANT SLOPE FROM BOTTOM OF RAMP TO TOP OF RAMP TO MATCH THE LANDING OVER A HORIZONTAL DISTANCE OF 15 FEET. DO NOT INCLUDE THE ABUTTING LANDING IN THE 15-FOOT MAX MEASUREMENT.
5. CURB RAMPS SHALL BE ADA COMPLIANT.
6. RAMP AND LANDING WIDTHS SHALL NOT INCLUDE EXPANSION JOINTS.
7. AT MARKED CROSSWALKS, THE CONNECTION BETWEEN THE LANDING AND THE ROADWAY MUST BE CONTAINED WITHIN THE WIDTH OF THE CROSSWALK MARKINGS.
8. BROOM FINISH PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAVEL.

APPROVED BY: TRICIA JUHNKE, CITY ENGINEER	CITY OF SHORELINE Public Works	STANDARD DETAIL NUMBER: 320	SCALE: NOT TO SCALE
PUBLICATION DATE: 3/1/19 / REVISION DATE: 11/1/18		**Curb Ramp: Type Parallel**	

ADA RAMP DETAIL
COS STD PLAN 320
NTS
S / C06



ADA RAMP GRADING
12TH AVE NE & 180TH ST
SCALE: 1" = 5'

SCALE IN FEET

No.	DATE	BY	REVISION
1	12/12/2019	BI	REVISIONS PER CITY REVIEW COMMENTS
2	02/28/2020	BI	CYCLE 2 - REVISIONS PER CITY REVIEW COMMENTS
3	05/06/2020	BI	CYCLE 3 - REVISIONS PER CITY REVIEW COMMENTS

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DCG civil structural
9706 4th Ave NE
Suite 300
Seattle, WA 98115
P: 206.523.0024
F: 206.523.1012
www.dcgengr.com

OWNER: BLUE FERN DEVELOPMENT, LLC
11232 120TH AVE NE, STE 204
KIRKLAND, WA 98033

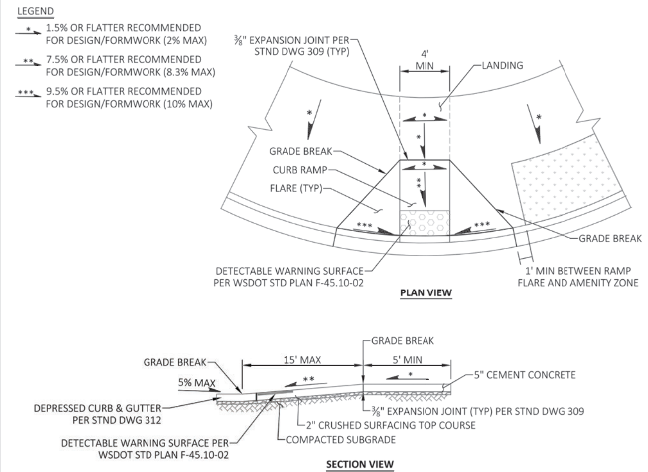
PROJECT: 1202 NE 180TH ST, 18008/18016 12TH AVE NE
SHORELINE, WA
ADA RAMP DETAILS

CALL 811
2 BUSINESS DAYS BEFORE YOU DIG
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

BASE MAP/TOPOGRAPHY PROVIDED BY OTHERS. DCG CANNOT BE HELD LIABLE FOR ACCURACY. CONTRACTOR SHALL FIELD VERIFY GRADES, UTILITIES, AND ALL OTHER EXISTING FEATURES AND CONDITIONS, IF CONDITIONS ARE NOT AS SHOWN AND/OR PLANS CANNOT BE CONSTRUCTED AS SHOWN, CONTACT DCG PRIOR TO CONSTRUCTION.

PROJ. MANAGER:	BI
DESIGNED BY:	JL
DRAWN BY:	JS
CHECKED BY:	BI
SCALE:	AS SHOWN
DATE: 05/06/20	REV. 3 / SHEET 6 OF 9
SHEET NUMBER	C06

CAD FILE NUMBER: P:\CLIENTS-CIVIL\BLUE FERN DEVELOPMENT\18002, 18008, 18016 12TH AVE NE SHORELINE\DWG\DRAWING\ROW PERMIT PLANS\C06 ADA RAMP DETAILS.DWG
LAST MODIFIED BY: JOSHS - SAVE DATE: 5/6/2020 12:25 PM - SHEET SET: 18510 WALLINGFORD- ORIGINAL SHEET SIZE: ARCH FULL BLEED D (36.00 X 24.00 INCHES)
AUTOCAD VERSION: CIVIL 3D 2018



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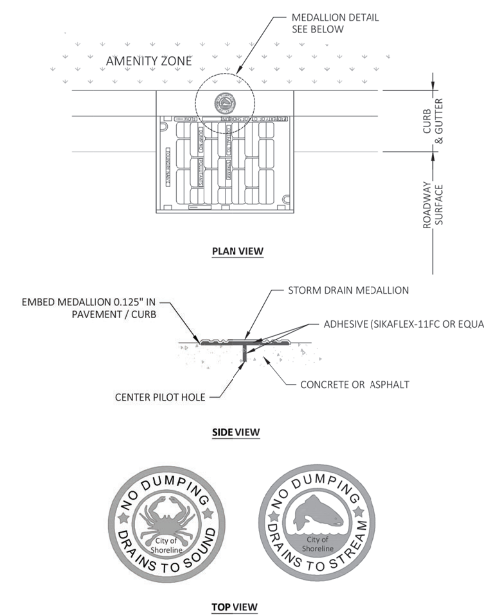
5. CURB RAMPS SHALL BE ADA COMPLIANT.
6. RAMP AND LANDING WIDTHS SHALL NOT INCLUDE EXPANSION JOINTS.
7. LANDING WIDTH SHALL MATCH CURB RAMP WIDTH.
8. AT MARKED CROSSWALKS, THE CONNECTION BETWEEN THE LANDING AND THE ROADWAY MUST BE CONTAINED WITHIN THE WIDTH OF THE CROSSWALK MARKINGS.
9. SHARED DIAGONAL PERPENDICULAR RAMPS SHALL NOT BE INSTALLED UNLESS ALL OTHER DESIGN OPTIONS ARE UNABLE TO BE CONSTRUCTED DUE TO SITE CONSTRAINTS.
10. RAMP CENTERLINE SHALL BE RADIAL/PERPENDICULAR TO THE ALIGNMENT OF THE FACE OF CURB.

APPROVED BY: TRICIA JUHNKE, CITY ENGINEER
PUBLICATION DATE: 3/1/19 | REVISION DATE: 10/3/18
CITY OF SHORELINE Public Works
STANDARD DETAIL NUMBER: **318** | SCALE: **NOT TO SCALE**

Curb Ramp: Type Perpendicular

ADA RAMP
COS STD PLAN 318
NOT TO SCALE
I / C02



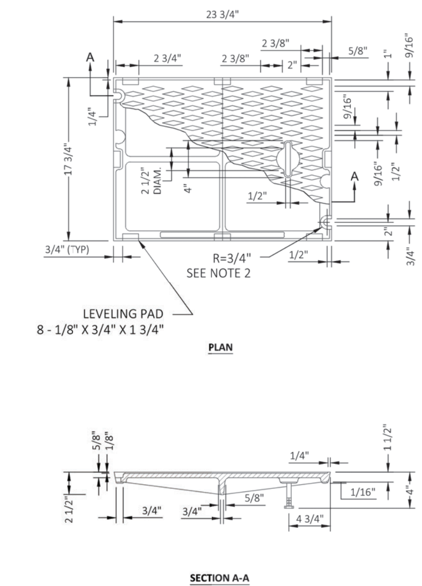
NOTE:

1. CLEAN MOUNTING SURFACE USING WIRE BRUSH. BLOW ALL DUST AND DEBRIS FROM MOUNTING AREA.
2. APPLY ADHESIVE TO BACK OF MEDALLION AND PILOT HOLE.
3. PLACE MEDALLION ON TOP SURFACE OF CURB OR AS DIRECTED BY ENGINEER.
4. ENSURE MEDALLION IN SEATED INTO ADHESIVE BY APPLYING PRESSURE AS REQUIRED.

APPROVED BY: TRICIA JUHNKE, CITY ENGINEER
PUBLICATION DATE: 3/1/19 | REVISION DATE: 12/28/18
CITY OF SHORELINE Public Works
STANDARD DETAIL NUMBER: **725** | SCALE: **NOT TO SCALE**

Storm Drain Medallion

STORM DRAIN MEDALLION
COSH STD PLAN 725
NOT TO SCALE
J / C02



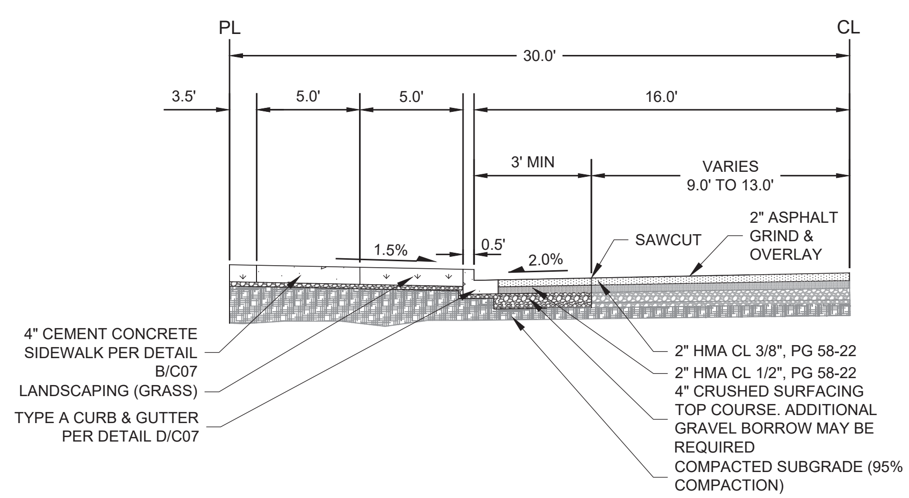
NOTES:

1. USE WITH FRAME (SEE STND DWG 730) DRILLED & TAPPED FOR LOCKING BOLTS.
2. FOR FRAME AND GRATES WITHIN THE TRAVEL LANE USE, FOUR LOCKING BOLTS.
3. USE WITH TWO LOCKING 5/8"-11 NC STAINLESS STEEL TYPE 304 STEEL SOCKET HEAD (ALLEN HEAD) CAP SCREWS 2" LONG.
4. MATERIAL IS CAST IRON PER ASTM A48 CLASS 30.

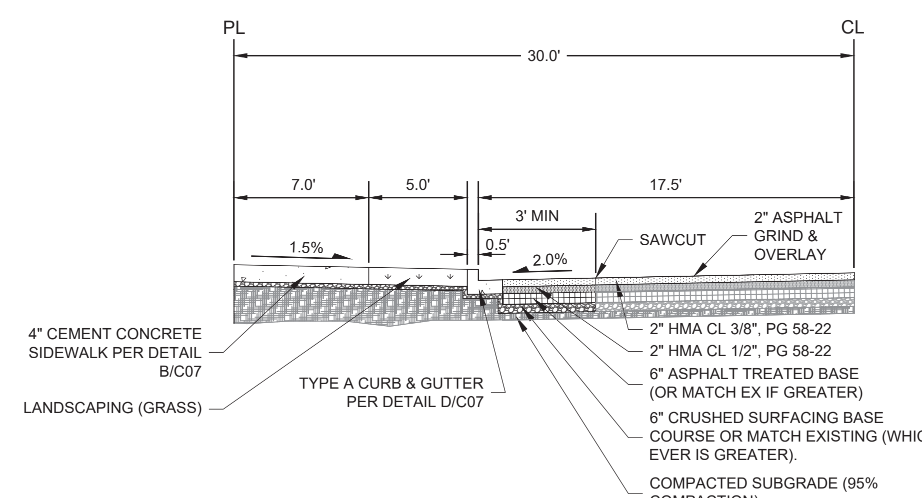
APPROVED BY: TRICIA JUHNKE, CITY ENGINEER
PUBLICATION DATE: 3/1/19 | REVISION DATE: 12/28/18
CITY OF SHORELINE Public Works
STANDARD DETAIL NUMBER: **731** | SCALE: **NOT TO SCALE**

Rectangular Solid Metal Cover

RECTANGULAR SOLID METAL COVER
COSH STD PLAN 310
NOT TO SCALE
K / C02



TYPICAL ROAD CROSS SECTION - 12TH AVE NE
NOT TO SCALE
A-A / C02



TYPICAL ROAD CROSS SECTION -NE 180TH ST
NOT TO SCALE
B-B / C02

No.	DATE	BY	REVISION
1	12/12/2019	BI	REVISIONS PER CITY REVIEW COMMENTS
2	02/28/2020	BI	CYCLE 2 - REVISIONS PER CITY REVIEW COMMENTS
3	05/06/2020	BI	CYCLE 3 - REVISIONS PER CITY REVIEW COMMENTS

DCG civil structural
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OWNER: BLUE FERN DEVELOPMENT, LLC
11232 120TH AVE NE, STE 204
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PROJECT: 1202 NE 180TH ST, 18008/18016 12TH AVE NE
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PROJ. MANAGER:	BI
DESIGNED BY:	JL
DRAWN BY:	JS
CHECKED BY:	BI
SCALE:	AS SHOWN
DATE:	05/06/20
REV.	3
SHEET	8 OF 9
SHEET NUMBER	C08

EXHIBIT 8

City of Shoreline
Planning & Community Development
PERMIT APPLICATION

17500 Midvale Avenue North Shoreline, WA 98133-4905
Phone: (206) 801-2500 Fax: (206 801-2788
Email: pcd@shorelinewa.gov Web: www.shorelinewa.gov
Permit hours —M, T, Th, F: 8:00 a.m. to 4:00 p.m. | W: 1:00 to 4:00 p.m.

PARCEL INFORMATION (Include all parcel(s) information. Attach additional sheets, if necessary.)

Project Address 18002, 18008, 18016 12th Ave NE Shoreline, WA 98133
(Leave blank if address is not assigned)

Parcel Number (Property Tax Account Number) 616390-0410, 616390-0411, 616390-0420

Legal Description Please see attached
Attach separate sheet for Legal Description

PROPERTY OWNER INFORMATION

Name Please see attached Email

Company Name Phone

Address City State Zip

OWNER'S AUTHORIZED AGENT

Name Michelle Branley Email michelle@bluefern.com

Company Name Blue Fern Development LLC Phone 425-629-3854

Address 11232 120th Ave NE #204 City Kirkland State WA Zip 98033

PROJECT INFORMATION

Type of Application: ☑ Single Family ☐ Multi-Family ☐ Non-Residential ☐ Legislative

Building/Construction:
- ☑ New Construction
- ☐ Addition/Remodel
- ☐ Clearing & Grading
- ☐ Change of Use
- ☑ Demolition
- ☑ Site Development
- ☐ Mechanical
- ☐ Plumbing
- ☐ Investigation Inspection
- ☐ Fire Sprinkler
- ☐ Fire Alarm
- ☐ Other

Land Use:
- ☑ Subdivision
- ☐ Short Plat
- ☐ Zoning Variance
- ☐ Engineering Deviation
- ☐ Floodplain
- ☐ Use - Home Occupation
- ☐ Use - Bed & Breakfast
- ☐ Use - Temporary Use
- ☐ Conditional Use
- ☐ Code Interpretation
- ☐ Rezone
- ☐ Administrative Design Review

PROJECT DESCRIPTION

Planned Action Determination of Consistency Review for the following project: Construction of 19 fee-simple townhome units in 3 separate buildings. Demolition of 3 existing single family residences, 2 detached garages and 1 shed. Installation of required infrastructure and utilities on site, frontage improvements along the Right-of-Way and landscaping. Lot merger of 3 existing lots and subsequent subdivision of property.

Construction Value

CONTRACTOR INFORMATION

Company Name Teak Construction, LLC Email michelle@bluefern.com

Contact Person Michelle Branley Phone 425-629-3854

Address 11232 120th Ave NE #204 City Kirkland State WA Zip 98033

L&I Contractor's License # TEAKCCL8040L Expiration Date 9/13/2019

I am the property owner or authorized agent of the property owner. I certify to that, to the best of my knowledge, the information submitted in support of this permit application is true and correct. I certify that I will comply with all applicable City of Shoreline regulations pertaining to the work authorized by the issuance of a permit. I understand that issuance of this permit does not remove the owner's responsibility for compliance with state or federal laws regulating construction or environmental laws. I grant permission for City staff and agents to enter areas covered by this permit for the sole purpose of inspecting these areas in order to process this application and to enforce code provisions related to the issued permit(s).

Signature of **PROPERTY OWNER** **OR** Signature of **AUTHORIZED AGENT** Michelle K Branley Date 7-9-19

Print Name Print Name Michelle K Branley, Authorized Agent

CRITICAL AREAS WORKSHEET

☐ Yes ☒ No Is there any standing or running water on the surface of the property or on any adjacent property at any time during the year?

☐ Yes ☒ No Does the site have steep slopes with little to no vegetation?

☐ Yes ☒ No Has any portion of the property or any adjacent property ever been identified as a wetland or swamp?

☐ Yes ☒ No Does the site contain high percentages of silt and/or very fine sand?

☐ Yes ☒ No Are any willows, skunk cabbage, alders, cottonwoods, or cattails present on your property or adjacent properties?

☐ Yes ☒ No Does the site contain ground water seepage or springs near the surface of the ground?

☐ Yes ☒ No Are there any indications on any portion of the property or on any adjacent property of rockslides, earthflows, mudflows, landslides, or other slope failure?

☐ Yes ☒ No Is the property within or adjacent to a floodplain?

Please indicate which line best represents the steepest slope found on your property. ☐ 0%-5% ☐ 5%-10% ☒ 10%-15% ☐ 15%-20% ☐ 20%-25% ☐ 25%+

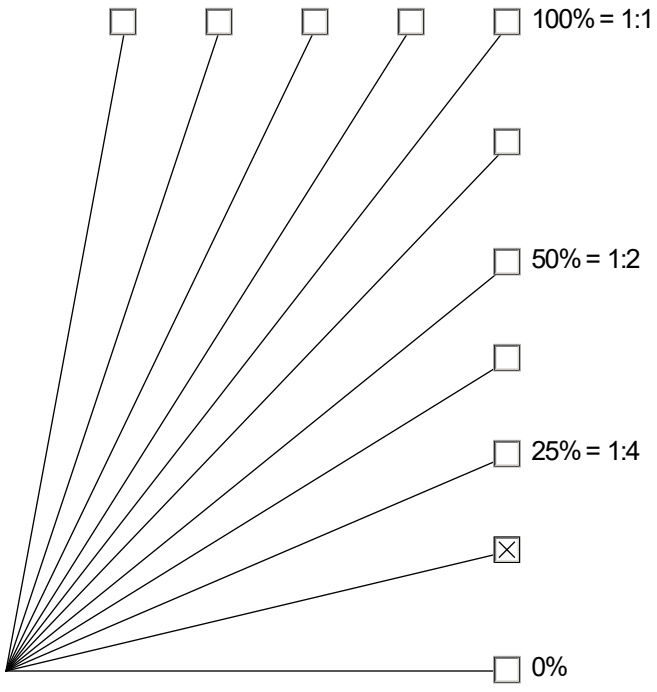
Please describe the site conditions for any "yes" answer:

Who prepared this information? Alexander Clohesey

How to Determine the Slope of a Hillside

The slope is considered the vertical measure as it relates to the horizontal measure. For example if a slope has a rise of one foot over a four foot horizontal distance the slope would be be 1:4 or a 25% slope.

(Check appropriate slope percentage box and mark correct box on diagram below.)



Property Owner Information and Legal Descriptions– Attach with Permit Applications

Property Parcel Number: 616390-0410
Name: Stephen J Devight
Address: 18002 12th Ave NE Shoreline, WA 98155
Legal Description:
THE SOUTH 60 FT OF THE WEST 120 FT OF LOT 1, BLOCK 3, NORTHEND COUTRY ESTATES, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 28 OF PLATS, PAGE 37, RECORDS OF KING COUNTY, WASHINGTON.

Property Parcel Number: 616390-0411
Name: Austin and Samantha Bowers
Address: 18008 12th Ave NE Shoreline, WA 98155
Legal Description:
WEST 120 FT OF LOT 1, BLOCK 3, NORTHEND COUTRY ESTATES, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 28 OF PLATS, PAGE 37, RECORDS OF KING COUNTY, WASHINGTON. EXCEPT THE SOUTH 60 FT THEREOF.

Property Parcel Number: 616390-0420
Name: Susan E. Butler
Address: 18016 12th Ave NE Shoreline, WA 98155
Legal Description:
THE SOUTH 60 FT OF THE WEST 135 FT OF LOT 2, BLOCK 3, NORTHEND COUTRY ESTATES, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 28 OF PLATS, PAGE 37, RECORDS OF KING COUNTY, WASHINGTON.

SEPA ENVIRONMENTAL CHECKLIST

Purpose of checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants: [help]

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for Lead Agencies:

Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals: [help]

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

A. BACKGROUND [help]

1. Name of proposed project, if applicable: [help]
   12TH AVE. TOWNHOMES
2. Name of applicant: [help]
   BLUE FERN DEVELOPMENT, LLC
3. Address and phone number of applicant and contact person: [help]
   11232 120TH AVE. NE, STE 204, KIRKLAND WA 98033 ATTN: MICHELLE BRANLEY PH: 425.629.3854
4. Date checklist prepared: [help]
   7/10/19 EDITS: 12/11/19
5. Agency requesting checklist: [help]
   CITY OF SHORELINE
6. Proposed timing or schedule (including phasing, if applicable): [help]
   ESTIMATED CONSTRUCTION START: 6 MONTHS – 1 YEAR FROM DATE OF SUBMITTAL

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain. [help]

NO.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal. [help]

GEOTECHNICAL REPORT, ARBORIST REPORT, STORMWATER REPORT

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. [help]

NO.

10. List any government approvals or permits that will be needed for your proposal, if known. [help]

PRELIMINARY PLAT, BUILDING PERMITS (3 TOTAL), SITE DEVELOPMENT PERMIT, ROW PERMIT, DEMOLITION PERMIT, FINAL PLAT, LOT MERGER

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.) [help]

PROPOSAL TO DEVELOP 19 FEE-SIMPLE TOWNHOME UNITS (SINGLE-FAMILY ATTACHED) IN THREE BUILDINGS + ASSOCIATED SITE AND ROW DEVELOPMENT.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. [help]

18002, 18008, 18016 12TH AVE NE SHORELINE, WA 98133

B. ENVIRONMENTAL ELEMENTS [help]

1. Earth

a. General description of the site [help]
(circle one): Flat, rolling, hilly, steep slopes, mountainous,
(other) FLAT + SLOPED

b. What is the steepest slope on the site (approximate percent slope)? [help]

10% - 15%

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils. [help]

MEDIUM DENSE TO DENSE SILTY SAND WITH GRAVEL

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe. [help]

NO

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill. [help]

THE ABOVE ACTIVITIES WILL OCCUR FOR THE PURPOSE OF SITE DEVELOPMENT.
CUT = 2090 CY'S FILL = 56 CY'S

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe. [help] IMPLEMENTATION AND MAINTENANCE OF BMPs FOR EROSION PREVENTION WILL ADEQUATELY MITIGATE EROSION POTENTIAL

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? [help]

APPROX. 80%

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any: [help]

UTILIZATION OF INDUSTRY BEST MANAGEMENT PRACTICES TO CONTROL EROSION.

2. Air

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known. [help]

TYPICAL OF [redacted]9 SINGLE FAMILY HOMES

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe. [help]

NO

c. Proposed measures to reduce or control emissions or other impacts to air, if any: [help]

NONE PROPOSED

3. **Water**

a. Surface Water: [help]

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. [help]

NO

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans. [help]

NO

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material. [help]

N/A

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. [help]

NO

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan. [help]

NO

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge. [help]

NO

b. Ground Water:

1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known. [help]

NO

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve. [help]

NONE PROPOSED

c. Water runoff (including stormwater):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe. [help]

RUNOFF WILL BE FROM ROOFTOPS, DRIVES AND SIDEWALKS. RUN OFF TO BE COLLECT AT 2 ON-SITE FACILITIES.

2) Could waste materials enter ground or surface waters? If so, generally describe. [help]

NO

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

NO

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

PROPOSED MEASURES INCLUDE: PERMEABLE PAVEMENT, ON-SITE INFILTRATION FACILITIES

4. **Plants** [help]

a. Check the types of vegetation found on the site: [help]

__X__ deciduous tree: alder, maple, aspen, other
__X__ evergreen tree: fir, cedar, pine, other
__X__ shrubs
__X__ grass
____ pasture
____ crop or grain
____ Orchards, vineyards or other permanent crops.
____ wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
____ water plants: water lily, eelgrass, milfoil, other
____ other types of vegetation

b. What kind and amount of vegetation will be removed or altered? [help]

ALL ONSITE VEGETATION WILL BE REMOVED AND REPLACED

c. List threatened and endangered species known to be on or near the site. [help]

N/A NONE ARE KNOWN

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any: [help]

SEE LANDSCAPE PLANS

e. List all noxious weeds and invasive species known to be on or near the site.

N/A NONE ARE KNOWN

5. **Animals**

a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site. Examples include: [help]

birds: hawk, heron, eagle, songbirds, other:
mammals: deer, bear, elk, beaver, other:
fish: bass, salmon, trout, herring, shellfish, other _____

TYPICAL URBAN TOLERANT ANIMALS SUCH AS SQUIRELS, CHIPMUNKS, RACOONS, SONGBIRDS, CROWS, ETC.

b. List any threatened and endangered species known to be on or near the site. [help]

N/A NONE ARE KNOWN

c. Is the site part of a migration route? If so, explain. [help]

No

d. Proposed measures to preserve or enhance wildlife, if any: [help]

NONE PROPOSED

e. List any invasive animal species known to be on or near the site.

N/A RODENTS TO BE ELIMINATED THROUGH RODENT ABATEMENT

6. **Energy and natural resources**

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc. [help]

ELECTRIC + NATURAL GAS FOR RESIDENTIAL HEATING

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe. [help]

No.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any: [help]

PROPOSED BUILT GREEN 4 STAR

7. **Environmental health**

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe. [help]

NO

1) Describe any known or possible contamination at the site from present or past uses.

NONE KNOWN

2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

N/A NONE ARE KNOWN

3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

N/A NONE WILL BE USED

4) Describe special emergency services that might be required.

N/A NONE WILL BE REQUIRED

5) Proposed measures to reduce or control environmental health hazards, if any:

NONE PROPOSED

b. **Noise**

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)? [help] TRAFFIC ALONG 12TH AVE NE AND NE 180TH ST.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site. [help] SHORT TERM NOISE FROM CONSTRUCTION WITHIN ALLOWED CONSTRUCTION HOURS. LONG TERM TYPICAL RESIDENTIAL NOISE

3) Proposed measures to reduce or control noise impacts, if any: [help]

CONSTRUCTION DURING APPROVED CITY HOURS

8. **Land and shoreline use**

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe. [help]

CURRENT USE – RESIDENTIAL. NO AFFECT

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use? [help] NO.

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:

NO.

c. Describe any structures on the site. [help]

3 SINGLE FAMILY HOMES, 2 DETACHED GARAGES, 1 CARPORT AND 1 SHED

d. Will any structures be demolished? If so, what? [help]

ALL STRUCTURES DEMOLISHED

e. What is the current zoning classification of the site? [help]

MUR-35'

f. What is the current comprehensive plan designation of the site? [help]

STATION AREA 3

g. If applicable, what is the current shoreline master program designation of the site? [help]

N/A

h. Has any part of the site been classified as a critical area by the city or county? If so, specify. [help]

NO

i. Approximately how many people would reside or work in the completed project? [help]

38-49

j. Approximately how many people would the completed project displace? [help]

6

k. Proposed measures to avoid or reduce displacement impacts, if any: [help]

NONE PROPOSED

L. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any: [help]

COMPLIANCE W/ ZONING AND COMPREHENSIVE

m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any:

N/A - NONE NEARBY THE SITE

9. **Housing**

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing. [help] 19 MIDDLE-INCOME TOWNHOMES

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing. [help] 3 MIDDLE-INCOME HOMES

c. Proposed measures to reduce or control housing impacts, if any: [help]

NONE PROPOSED

10. **Aesthetics**

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed? [help] BUILDING 1 = 34'-10½", BUILDING 2 = 34'-6½", BUILDING 3 = 34'-9½". FIBER-CEMENT LAP SIDING + PANELING

b. What views in the immediate vicinity would be altered or obstructed? [help]

NONE

c. Proposed measures to reduce or control aesthetic impacts, if any: [help]

HIGH QUALITY/DURABLE MATERIALS THAT FIT W/ A RESIDENTIAL AESTHETIC

11. **Light and glare**

a. What type of light or glare will the proposal produce? What time of day would it mainly occur? [help] LIGHT AND GLARE TYPICAL OF RESIDENTIAL HOMES

b. Could light or glare from the finished project be a safety hazard or interfere with views? [help]

NO

c. What existing off-site sources of light or glare may affect your proposal? [help]

NO

d. Proposed measures to reduce or control light and glare impacts, if any: [help]

ORIENT LIGHTING INWARD AND DOWN

12. **Recreation**

a. What designated and informal recreational opportunities are in the immediate vicinity? [help]
RESTAURANTS + SHOPS ALONG 15TH AVE NE TO EAST OF SITE. ST. MARK CATHOLIC CHURCH AND PARK SPACE

b. Would the proposed project displace any existing recreational uses? If so, describe. [help]
NO.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any: [help]
NONE PROPOSED

13. **Historic and cultural preservation**

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers located on or near the site? If so, specifically describe. [help]
NO

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources. [help]
NO

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc. [help] REVIEW GIS AND STATE RECORDS

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.
NONE PROPOSED

14. **Transportation**

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any. [help]
12TH AVE NE AND NE 180TH ST. SITE ACCESS FROM 12TH AVE.

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop? [help]
YES, APPROX. 2 BLOCKS

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate? [help]
35 PARKING SPACES PROPOSED, 6 REMOVED

d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private). [help]
FRONTAGE IMPROVEMENTS ALONG 12TH AVE NE AND NE 180TH ST.

e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe. [help]

GENERALLY NEAR THE FUTURE 185TH ST. LIGHT-RAIL STATION

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates? [help]

10.64 AM PEAK HOUR WEEKDAY TRIPS. ITE MANUAL

g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

NO

h. Proposed measures to reduce or control transportation impacts, if any: [help]

NONE PROPOSED

15. **Public services**

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe. [help]

YES, INCREASED NEED COMMENSURATE W/ THE ADDITION OF 16 SINGLE FAMILY HOMES

b. Proposed measures to reduce or control direct impacts on public services, if any. [help]

PAYMENT OF APPLICABLE IMPACT FEES

16. **Utilities**

a. Circle utilities currently available at the site: [help]
electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other _____

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed. [help]

ALL AVAILABLE AT SITE

C. SIGNATURE [HELP]

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: Alex Clahesey Alex Clahesey

Name of signee ALEXANDER CLAHESEY

Position and Agency/Organization PROJECT MANAGER AT MULBRANDT ARCHITECTS

Date Submitted: 7/18/19

DATE EDITTED: 12/11/19

D. **SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS** [help]

(IT IS NOT NECESSARY to use this sheet for project actions)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

Proposed measures to avoid or reduce such increases are:

2. How would the proposal be likely to affect plants, animals, fish, or marine life?

Proposed measures to protect or conserve plants, animals, fish, or marine life are:

3. How would the proposal be likely to deplete energy or natural resources?

Proposed measures to protect or conserve energy and natural resources are:

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

Proposed measures to protect such resources or to avoid or reduce impacts are:

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

Proposed measures to avoid or reduce shoreline and land use impacts are:

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

Proposed measures to reduce or respond to such demand(s) are:

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

EXHIBIT 10

City of Shoreline
Planning & Community Development
17500 Midvale Avenue North Shoreline, WA 98133-4905
Phone: (206) 801-2500 Fax: (206) 801-2788
Email: pcd@shorelinewa.gov Web: www.shorelinewa.gov

TREE RETENTION CALCULATION WORKSHEET

Project Address: 18002, 18008, 18016 12th Ave NE Shoreline, WA 98133

Worksheet Completed by (Name) : Alexander Clohesey

Contact Phone Number: 425.454.7130

NOTES:
1. If a tree is non-significant, list it below, but do not include in retention and replacement calculations, label as non-significant in the Replace column.
2. See SMC 20.50.310(B) on page 2 for the exempt number of trees for the size of lot, which are also exempt from replacement requirements.
3. In certain critical areas such as steep slopes or stream buffers, trees may not be removed unless they are hazardous to persons or property. Check with City staff for regulations.

☐ **CHECK BOX IF NO TREES TO BE REMOVED**

Tree #	Tree Species/Name	DBH (in)	Significant	Remove?	Replace (count)	Notes
Ex. A	*Western Red Cedar*	*22*	*Y*	*Y*	*3*	
Ex. B	*Big Leaf Maple*	*10*	*N*	*Y*	*N/A*	
1	Norway Maple	17	Y	Y		
2	Birch	20	Y	Y		Poor Health
3	Norway Mapl	14	Y	Y		
5	Purple Leaf Plum	14	Y	Y		Poor Health
9	Black Pine	14	Y	N		Thin Foliage
10	Black Pine	10	Y	Y		

Tree Calculations	Totals
Significant Trees on Lot/Site **(A)**	6
Significant Trees to be Removed	5
Significant Trees to be Retained (Min 20%)	1
Exempt from Replacement **(B)** (Table 20.50.310(B)(I) Below	5
Trees Requiring Replacement	0
Replacement Trees **(C)**	0

A. Significant Tree -

Any **Conifer** Tree that is eight (8) inches or greater in diameter at breast height (DBH) and any **Deciduous** Tree that is twelve (12) inches or greater in diameter at breast height (DBH).

Only significant trees are regulated except in environmentally critical areas where all trees are regulated.

DBH - Diameter of tree at breast height or 4 1/2 feet above average grade.

B. SMC.20.50.310(B) - Exempt Trees – The removal of three (3) significant trees on lots up to 7,200 square feet and one (1) additional significant tree for every 7,200 square feet of lot area (excluding trees 30" or more in diameter (94.2" in circumference))

C. Tree Replacement per SMC 20.50.360(C)

Coniferous Tree Circumferences		Coniferous Tree Diameters
0" - 24.8" = non-significant	or	0" - 7" = non-significant
24.8" - 34.1" = 1 replacement tree	or	8" - 11" = 1 replacement tree
34.1" - 43.4" = 2 replacement trees	or	11" - 14" = 2 replacement trees
43.4"+ = 3 replacement trees	or	14"+ = 3 replacement trees
Deciduous Tree Circumferences		**Deciduous Tree Diameters**
0" - 37.2" = non-significant	or	0" - 12" = non-significant
37.2" - 46.5" = 1 replacement tree	or	12" - 15" = 1 replacement tree
46.5" - 55.8" = 2 replacement trees	or	15" - 18" = 2 replacement trees
55.8"+ = 3 replacement trees	or	18"+ = 3 replacement trees
Replacement Size: Conifers 6' Height and Deciduous 1 1/2" caliper		

Trees proposed for removal have been clearly marked on the site and tree protection measures are in place. (A city planner will visit the site to confirm prior to reviewing your application.)

AC **Initial here to acknowledge this requirement**

Note: This worksheet is provided as an aid and is for informational use only. It is not a substitute for the Shoreline Municipal Code or the Shoreline Development Code.

EXHIBIT 11

SCALE IN FEET

LEGEND:

EX TREE TO BE REMOVED

TREE PROTECTION FENCING

KEY NOTES:		
KEY	NOTE:	DETAIL/ SHEET
1	TREE PROTECTION FENCING (4' MIN HEIGHT CHAIN LINK FENCING OR 5' MIN HEIGHT POLYETHYLENE LAMINAR FENCING)	-
2	TREE DRIPLINE (TYP)	-
3	TREE NUMBER (TYP)	-

GENERAL NOTES:

1. SEE ARBORIST REPORT CREATED BY FAVERO GREENFOREST FOR ADDITIONAL TREE RETENTION AND PROTECTION INFORMATION.

TREE CALCULATION NOTES:

1. THE TOTAL LOT SIZE IS 23,515 SF AND IS ALLOWED 6 EXEMPT TREES PER SMC 20.50.310 (B)(I).
2. PER SMC 20.50.360(C), SIGNIFICANT TREES INCLUDE ALL CONIFERS OVER 8" IN DIAMETER AND DECIDUOUS OVER 12" IN DIAMETER.

TREE RETENTION TABLE	
TREE DESCRIPTION:	QTY:
SIGNIFICANT TREES ON PROJECT SITE	6
SIGNIFICANT TREES TO BE REMOVED	5
SIGNIFICANT TREES TO BE RETAINED ON SITE	1
REQUIRED REPLACEMENT TREES	0
PROPOSED REPLACEMENT TREES (SEE LANDSCAPE/ARCHITECTURAL PLANS FOR DETAILS)	0

TREE IDENTIFICATION TABLE

SOURCE: FAVERO GREENFOREST, ARBORIST

I.D. #	DIAMETER	TREE NAME
1	17"	NORWAY MAPLE
2	20"	BIRCH
3	14"	NORWAY MAPLE
4	28"	HEMLOCK
5	14"	PURPLE LEAF PLUM
6	19"	DOUGLAS FIR
7	23"	DOUGLAS FIR
8	20"	DOUGLAS FIR
9	14"	BLACK PINE
10	10"	BLACK PINE

CALL 811
2 BUSINESS DAYS
BEFORE YOU DIG
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

BASE MAP/TOPOGRAPHY PROVIDED BY OTHERS. DCG CANNOT BE HELD LIABLE FOR ACCURACY. CONTRACTOR SHALL FIELD VERIFY GRADES, UTILITIES, AND ALL OTHER EXISTING FEATURES AND CONDITIONS, IF CONDITIONS ARE NOT AS SHOWN AND/OR PLANS CANNOT BE CONSTRUCTED AS SHOWN, CONTACT DCG PRIOR TO CONSTRUCTION.

No.	DATE	BY	REVISION
1	12/11/2019	BI	CYCLE 1 - CITY CORRECTIONS
2	02/28/2020	BI	CYCLE 2 - CITY CORRECTIONS

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DCG civil structural
9706 4th Ave NE
Suite 300
Seattle, WA 98115
P: 206.523.0024
F: 206.523.1012
www.dcgengr.com

BENJAMIN J. IDDINS, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER
Digitally signed by Benjamin J. Iddins
Date: 2020.02.28 15:33:45 -08'00'

OWNER: BLUE FERN DEVELOPMENT, LLC
11232 120TH AVE NE, STE 204
KIRKLAND WA, 98033

PROJECT: 1202 NE 180TH ST, 18008/18016 12TH AVE NE
SHORELINE, WA 98133
TREE RETENTION PLAN

PROJ. MANAGER:	BI
DESIGNED BY:	JL
DRAWN BY:	JS
CHECKED BY:	BI
SCALE:	AS SHOWN
DATE: 2/28/2020	REV. 2 / SHEET 3 OF 12

SHEET NUMBER
C03

CAD FILE NUMBER: P:\CLIENTS-CIVIL\BLUE FERN DEVELOPMENT\18002 - 18008, 18016 12TH AVE NE SHORELINE\DWG\DRAWING\SITE DEVELOPMENT PERMIT PLANS\C03 TREE RETENTION PLAN.DWG
LAST MODIFIED BY: LOPE - SAVE DATE: 2/28/2020 1:15 PM - SHEET SET: 18510 WALLINGFORD- ORIGINAL SHEET SIZE: ARCH FULL BLEED D (36.00 X 24.00 INCHES)
AUTOCAD VERSION: CIVIL 3D 2018

Greenforest Incorporated

Consulting Arborist

TO: Jordan Salisbury, VP of Acquisitions & Entitlement
Blue Fern Development, LLC
11232 120th Ave NE, Ste. 204
Kirkland, WA 98033

REFERENCE: Arborist Report

SITE ADDRESS: 18002/18008/18016 - 12th Ave NE, Shoreline WA
TPN 616390-0410, 0411 & 0420

DATE: May 29, 2019

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

INTRODUCTION

You contacted me and contracted my services as a consulting arborist. My assignment is to inspect and assess trees at the above referenced site. The purpose of this *arborist report* is to establish the condition of the regulated trees to satisfy City of Shoreline permit submittal requirements.

You provided me a topographic survey of the subject parcels. I visited the site 4/19/2019 and visually inspected the trees, which are the subject of this report. This report establishes the condition of the trees, and represents all regulated trees on the project site:

SUMMARY

6	*Onsite*
2	*Right-Of-Way*
2	*Offsite*

The site includes three contiguous residential parcels, each with a single-family residence. The regulated trees (and those offsite & within the ROW) include native and ornamental evergreen conifers, and ornamental deciduous species.

LIMITATIONS AND USE OF THIS REPORT

This tree report establishes, via the most practical means available, the existing conditions of the trees on the subject property. Ratings for health and structure/form, as well as any recommendations are valid only through the development and construction process. This report is based solely on what is readily visible and observable, without any invasive means.

There are several conditions that can affect a tree's condition that may be pre-existing and unable to be ascertained with a visual-only analysis. No attempt was made to determine the presence of hidden or concealed conditions which may contribute to the risk or failure potential of trees on the site. These conditions include root and stem (trunk) rot, internal cracks, structural defects or construction damage to roots, which may be hidden beneath the soil. Additionally, construction and post-construction circumstances can cause a relatively rapid deterioration of a tree's condition.

TREE INSPECTION

I visually inspected each tree from the ground. I performed a Level 1 risk assessment.[1] This is the standard assessment for populations of trees near specified targets, conducted in order to identify obvious defects or specified conditions such as a pre-development inventory. This is a limited visual assessment focuses on identifying trees with imminent and/or probable likelihood of failure, and/or other visible conditions that will affect tree retention.

I tagged each tree with a 1" x 3.5" aluminum tag indicating tree number. I recorded tree species and size (DBH). I estimated the average dripline of each tree. I rated the condition of each tree, both health and structure/form. A tree's structure/form is distinct from its health. This inspection identifies what is visible with both.

High-risk trees can appear healthy in that they can have a dense, green canopy. This may occur when there is sufficient sapwood or adventitious roots present to maintain tree health, but inadequate strength for structural support.

Conversely, trees in poor health may or may not be structurally stable. For example, tree decline due to root disease is likely to cause the tree to be structurally unstable, while decline due to drought or insect attack may not.

[1] Companion publication to the ANSI A300 Part 9: Tree Shrub and Other woody Plant Management – Standard Practices, Tree Risk Assessment. 2011. ISA.

One way that tree health and structure are linked is that healthy trees are more capable of compensating for structural defects. A healthy tree can develop adaptive growth that adds strength to parts weakened by decay, cracks, and wounds.

This report identifies unhealthy trees based on existing health conditions and tree structure/form, and specifies which trees are most suitable for preservation.[2]

No invasive procedures were performed on any trees. The results of this inspection are based on what was visible at the time of the inspection.

The attached inventory summarizes my inspection results and provides the following information for each tree:

Tree Category determined by SMC §20.20.048

Significant Tree - any tree eight inches or greater in diameter at breast height if it is a conifer and 12 inches or greater in diameter at breast height if it is a non-conifer.

Landmark Tree - any healthy tree over 30 inches in diameter at breast height or any tree that is particularly impressive or unusual due to its size, shape, age, historical significant or any other trait that epitomizes the character of the species, or that is an regional erratic.

Hazardous Tree - a tree that is dead, or is so affected by a significant structural defect or disease that falling or failure appears imminent, or a tree that impedes safe vision or traffic flow, or that otherwise currently poses a threat to life or property.

Tree number as shown on tag in the field, and on attached exhibit.

DBH diameter of tree at breast height. Generally this is a point 4 1/2 feet above average grade. (For species of trees whose normal growth habit is characterized by multiple stems (e.g., hazelnut, vine maple) diameter shall mean the average diameter of all stems of the tree, measured at a point six inches from the point where the stems digress from the main trunk. In no case shall a branch more than six inches above average grade be considered a stem. For the purposes of Code enforcement, if a tree has been removed and only the stump remains, the size of the tree shall be diameter of the top of the stump. SMC §20.20.016)

[2] Companion publication to the ANSI A300 Part 5: Tree Shrub and Other woody Plant Maintenance – Standard Practices, Managing Trees During Construction. 2008. ISA.

Tree Species common name.

Dripline average branch extension from the trunk as radius in feet.

Health and Structure/Form ratings '1' indicates good to excellent condition; no visible health-related problems or structural defects, '2' indicates fair condition; minor visible problems or defects that may require attention if the tree is retained, and '3' indicates poor condition; significant visible problems or defects and tree removal is recommended.

Comments on Condition obvious structural defects or diseases visible at time of inspection.

Tree Type

Broad-**L**eafed - trees with flat leaves, not scaled or needle shaped, which usually lose their foliage at the end of the growing season.

Coniferous - any of various mostly needle-leaved or scale-leaved, chiefly evergreen, cone-bearing gymnosperms.

Deciduous - trees that shed or otherwise loose their foliage at the end of the growing season, such as maples, alders, oaks, and willows.

Evergreen - trees that maintain the majority of their foliage each year when grown in the Shoreline area.

Tree Stand or Cluster - a group of three or more trees of any size or species, whose driplines touch.

OFFSITE TREES

Tree #8

- 20" DBH Douglas-fir with 10' Dripline overhanging PL.
- No visible defects.
- Normal health/vitality
- Recommended limits of soil disturbance: 10' from center of trunk.

Tree #4

- 28" DBH Western hemlock, with 14' Dripline overhanging PL.
- No visible defects.
- Declining health/low vitality; heavy cone set (stress indicator).
- Steel cable wrapped around trunk 30' from grade.
- Recommended limits of soil disturbance: 14' from center of trunk.
- This tree is likely to continue to decline in health/vitality, regardless of the proposed construction.

LIMITS OF DISTURBANCE

The above limits of soil disturbance for the 2 offsite trees are the distance in feet from the center of the trunk for the side of the tree to be impacted by construction. They are determined using rootplate [3] and trunk diameter,[4,5] and ISA Best Management Practices.[6] These are the minimum distances from the trees for any soil disturbance (except for shallow filling and possibly patios/decks/pathways constructed within the area beyond the foundation cuts, which shall be approved by the project arborist), and they represent the area to be protected during construction. These limits are malleable and may be adjusted during the construction process.

ATTACHMENTS:

1. Assumptions and Limiting Conditions
2. Certification of Performance
3. Significant Tree Inventory
4. Tree Number Exhibit

[3] Coder, Kim D. 2005. *Tree Biomechanics Series*. University of Georgia School of Forest Resources.
[4] Smiley, E. Thomas, Ph. D. *Assessing the Failure Potential of Tree Roots, Shade Tree Technical Report*. Bartlett Tree Research Laboratories.
[5] Fite, Kelby and E. Thomas Smiley. 2009. *Managing Trees During construction; Part Two*. Arborist News. ISA.
[6] Companion publication to the ANSI A300 Series, Part 5: Managing Trees During Construction. 2008. ISA.

Attachment No. 1 - Assumptions & Limiting Conditions

1. A field examination of the site was made 4/19/2019. My observations and conclusions are as of that date.

2. 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.

3. 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.

4. Loss or alteration of any part of this report invalidates the entire report.

5. Unless required by law otherwise, possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person to whom it is addressed, without the prior expressed written or verbal consent of the consultant/appraiser.

6. Any legal description provided to the consultant/appraiser is assumed to be correct. Any titles and ownership to any property are assumed to be good and marketable. No responsibility is assumed for matters legal in character. Any and all property is appraised or evaluated as though free and clear, under responsible ownership and competent management.

7. 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.

8. The consultant does not assume any liability for the subject tree and does not represent the transfer of such for any risks associated with the tree from the landowner to the consultant. Risk management is solely the responsibility of the landowner.

Attachment No. 2 - Certification of Performance

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:

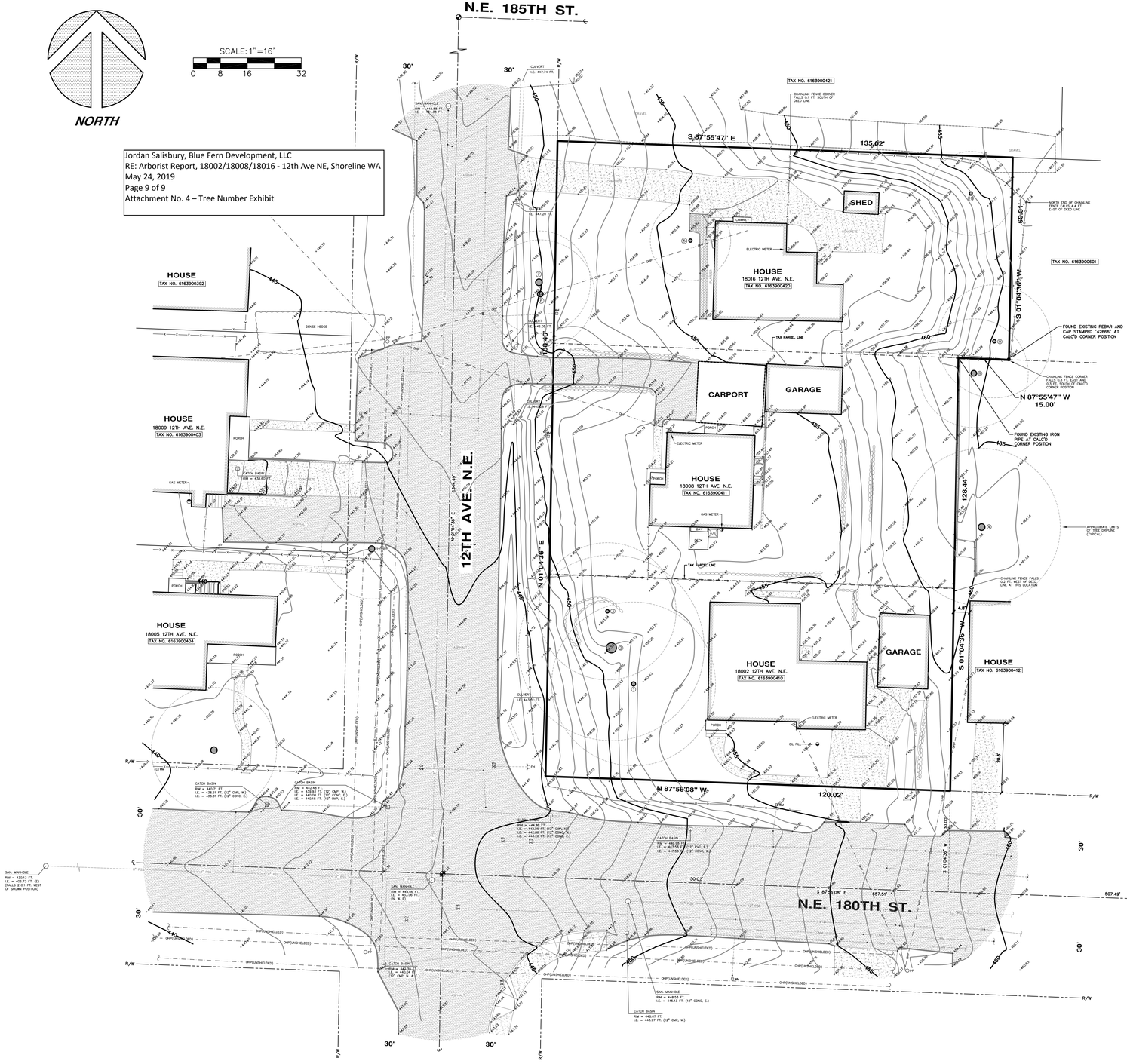
GREENFORREST, Inc.
By Favero Greenforest, M. S.

Date: May 24, 2019

Attachment No. 3 – Significant Tree Inventory

Category	Tree No.	DBH	Species	Dripline	Health	Structure/ Form	Comments on Condition	Tree Type	Stand or Cluster
Significant	1	17	Norway maple	18	1	1		BL,D	YES
Significant	2	20	Birch	22	2	1	Branch dieback	BL,D	YES
Significant	3	14	Norway maple	16	1	1		BL,D	YES
Significant	5	14	Purpleleaf plum	12	2	1	Old age, poorly pruned, included bark	BL,D	NO
Significant	9	14	Black pine	16	2	1	Thin foliage	C,E	YES
Significant	10	10	Black pine	12	1	1		C,E	YES
STREET RIGHT-OF-WAY TREES									
	6	19	Douglas-fir	15	1	2		C,E	NO
	7	23	Douglas-fir	19	1	1		C,E	NO
OFFSITE TREES									
	4	28	Hemlock	18	2	1	Heavy cone set, thin foliage, low vitality	C,E	NO
	8	20	Douglas-fir	15	1	1		C,E	YES

See report body for definitions.



NOTES

1. THIS SURVEY WAS PERFORMED BY FIELD TRAVERSE USING A 10 SECOND "TOTAL STATION" THEODOLITE SUPPLEMENTED WITH A 100 FT. STEEL TAPE. THIS SURVEY MEETS OR EXCEEDS THE STANDARDS FOR LAND BOUNDARY SURVEYS AS SET FORTH IN WAC CHAPTER 332–130–090.

2. CONTOUR INTERVAL = 1 FT.

3. ELEVATION DATUM = NAVD'88, AS PER DIRECT OBSERVATIONS USING GPS EQUIPMENT ON DECEMBER 3, 2018.

4. COMBINED PARCEL AREA = 23,515 SQ. FT.

5. THIS SURVEY IS RELIANT UPON THE INFORMATION CONTAINED WITHIN FIRST AMERICAN TITLE INSURANCE COMPANY FILE NO. 4201–3152132, DATED OCT. 29, 2018, FIRST AMERICAN TITLE INSURANCE COMPANY FILE NO. 4201–3152133, DATED OCT. 29, 2018 AND FIRST AMERICAN TITLE INSURANCE COMPANY FILE NO. 4201–3159591, DATED NOV. 09, 2018.

   AS PER TITLE NO. 4201–3159591 EASEMENT NOS. 3705580 & 3700944 ARE LISTED IN SCHEDULE B EXCEPTIONS. FURTHER REVIEW OF SAID EASEMENTS HAS DETERMINED THAT THEY DO NOT ENCUMBER THE SUBJECT PROPERTY.

6. UNDERGROUND UTILITY INFORMATION AS SHOWN HEREON IS APPROXIMATE ONLY AND IS BASED UPON CITY OF SHORELINE GIS AND ALSO AS PER TIES TO ABOVE GROUND STRUCTURES.

7. TREE DIAMETERS AND DRIPLINES DISPLAYED HEREON ARE APPROXIMATE. FOR SPECIFIC GENUS AND DIAMETER, TREES SHOULD BE EVALUATED BY A CERTIFIED ARBORIST.

8. WE HAVE DETERMINED TO THE BEST OF OUR ABILITY THE OVERHEAD HIGH VOLTAGE POWERLINE WHICH IS CLOSEST TO THE PROJECT SITE AND HAVE DISPLAYED ITS HORIZONTAL AND VERTICAL LOCATION HEREON. HOWEVER, ADDITIONAL OVERHEAD SERVICE LINES MAY EXIST WHICH ARE NOT OBVIOUS TO US BY FIELD OBSERVATION AND POTENTIALLY IMPACT PROJECT DESIGN. THEREFORE, PRIOR TO DESIGN AND CONSTRUCTION WE RECOMMEND THAT SEATTLE CITY LIGHT BE CONSULTED REGARDING THE POSSIBLE EXISTANCE OF ADDITIONAL SERVICE LINES NOT DISPLAYED HEREON WHICH SHOULD BE CONSIDERED FOR PROJECT DESIGN.

TREE IDENTIFICATION TABLE

SOURCE: FAVERO GREENFOREST, ARBORIST
(TAKEN FROM EMAIL DATED 05–09–19)

I.D. #	DIAMETER	TREE NAME
1	17"	NORWAY MAPLE
2	20"	BIRCH
3	14"	NORWAY MAPLE
4	28"	HEMLOCK
5	14"	PURPLE LEAF PLUM
6	19"	DOUGLAS FIR
7	23"	DOUGLAS FIR
8	20"	DOUGLAS FIR
9	14"	BLACK PINE
10	10"	BLACK PINE

PROPERTY DESCRIPTIONS

TAX PARCEL NO. 6163900410 (7,201 SQ. FT.)

THE SOUTH 60 FEET OF THE WEST 120 FEET OF LOT 1, BLOCK 3, NORTHEND COUNTRY ESTATES, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 28 OF PLATS, PAGE 37, RECORDS OF KING COUNTY, WA.

TAX PARCEL NO. 6163900411 (8,213 SQ. FT.)

THE WEST 120 FEET OF LOT 1, BLOCK 3, NORTHEND COUNTRY ESTATES, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 28 OF PLATS, PAGE 37, RECORDS OF KING COUNTY, WA.

EXCEPT THE SOUTH 60 FEET THEREOF.

TAX PARCEL NO. 6163900420 (8,101 SQ. FT.)

THE SOUTH 60 FEET OF THE WEST 135 FEET OF LOT 2, BLOCK 3, NORTHEND COUNTRY ESTATES, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 28 OF PLATS, PAGE 37, RECORDS OF KING COUNTY, WA.

BRANDON E. WINTERS
STATE OF WASHINGTON
45803
REGISTERED
PROFESSIONAL LAND SURVEYOR

DATE: 5/13/19

TOPOGRAPHIC SURVEY
18002/18008/18016 12TH AVE. N.E.
SHORELINE, WASHINGTON

CHADWICK & WINTERS
LAND SURVEYING AND MAPPING
1422 N.W. 85TH ST., SEATTLE, WA 98117
PHONE: 206.297.0996
FAX: 206.297.0997
WEB: WWW.CHADWICKWINTERS.COM

PROJECT #:	18–6319
DRAWING:	18–6319TOPO.DWG
CLIENT:	BLUE FERN
DATE:	12–05–18
DRAWN BY:	SAL

Greenforest Incorporated

Consulting Arborist

TO: Alex Clohesey
Milbrandt Architects

REFERENCE: SECOND ADDENDUM TO ARBORIST REPORT
[Protection of Retained Tree #9]

SITE ADDRESS: 18002/18008/18016 - 12th Ave NE, Shoreline WA
TPN 616390-0410, 0411 & 0420

DATE: December 13, 2019

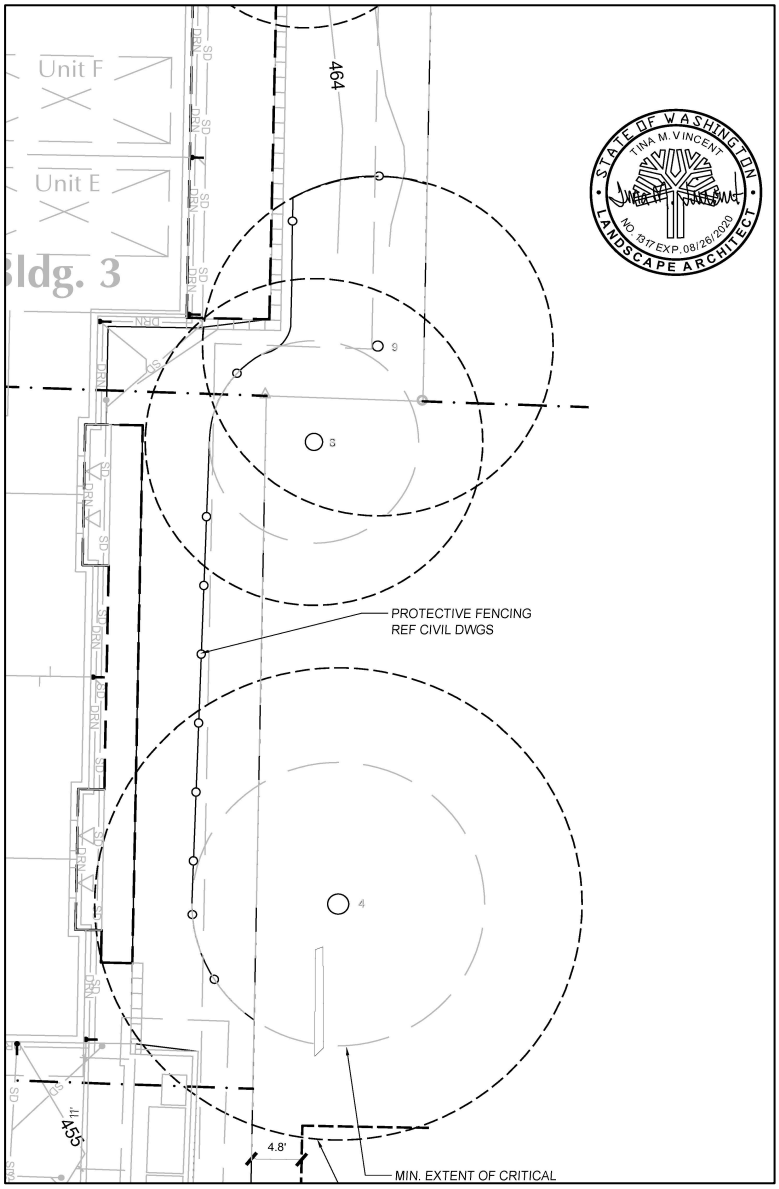
PREPARED BY: Favero Greenforest, ISA Certified Arborist # PN -0143A
ISA Tree Risk Assessment Qualified
ASCA Registered Consulting Arborist® #379

This letter provides for the protection of Tree 9, a 14" DBH Black pine. This tree stands at the east parcel boundary, and has a 14' dripline radius.

The attached exhibit shows the recommended limits of protection fencing, which are contiguous with the protection of offsite tree 8. They include these minimum distances from the center of the trunk:

North –14', or edge of dripline
West – 9' minimum distance from trunk
SW – contiguous with fencing for offsite tree #8
South – no disturbance
East – no disturbance

The basis for the above recommendations comes from multiple sources; my 30+ years experience; species and current condition of the trees.



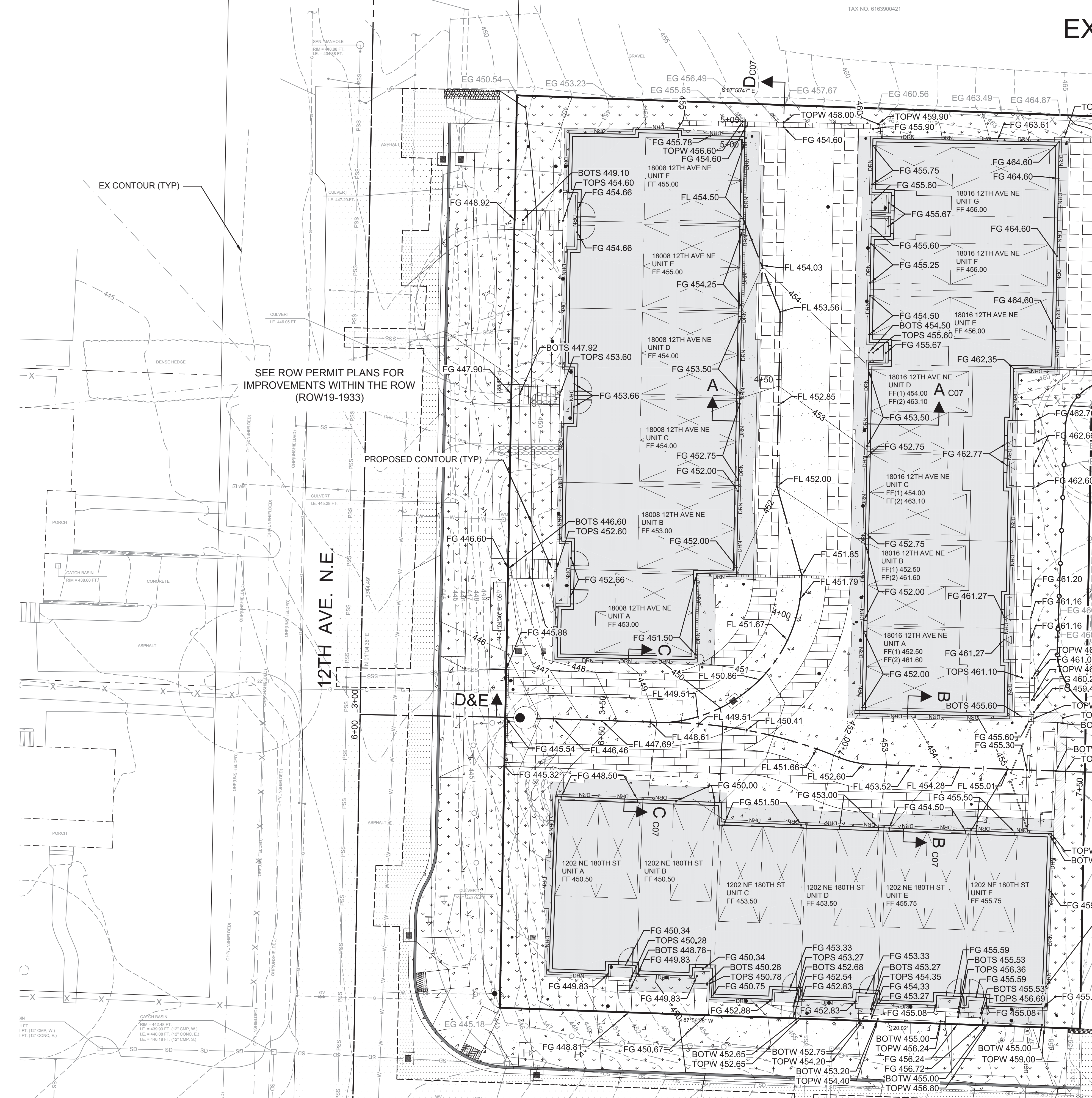
- Coder, Kim D. 2005. *Tree Biomechanics Series*. University of Georgia School of Forest Resources.
- Fite, Kelby and E. Thomas Smiley. 2009. *Managing Trees During construction; Part Two*. Arborist News. ISA.
- *ISA Best Management Practices, companion publication to the ANSI A300 Series Part 5.*
- Matheny, Nelda and James R. Clark. *Trees and Development. A Technical Guide to Preservation of Trees During Land Development*. ISA.
- Matheny, Nelda and James R. Clark. *A Photographic Guide to the Evaluation of Hazard Trees in Urban Areas.* ISA.
- Mattheck, C. *Tree Mechanics*. 2002. Forschungszentrum Karlsruhe GMBH.
- Smiley, E. Thomas, Ph. D. *Assessing the Failure Potential of Tree Roots, Shade Tree Technical Report*. Bartlett Tree Research Laboratories.

EXHIBIT 13

SCALE IN FEET (10 5 0 10 20)

GRADING QUANTITY ESTIMATE:	
TOTAL:	2034 CY's CUT
FILL:	56 CY's
CUT:	2090 CY's

GRADING QUANTITIES GENERATED USING CIVIL 3D SOFTWARE TO COMPARE TRIANGULATED IRREGULAR NETWORKS (TINS). QUANTITIES DO NOT INCLUDE EXCAVATION FOR UTILITIES. BUILDING EXCAVATION WAS ASSUMED TO BE 1' BELOW LOWEST FF ELEVATION. VOLUMES ARE FOR PERMIT ONLY. CONTRACTOR SHALL PROVIDE INDEPENDENT TAKEOFF FOR BIDDING.



LEGEND:

- CONCRETE
- LANDSCAPE
- PERMEABLE PAVER WALKWAY (SEE DETAIL J/C10)
- IMPERMEABLE PAVERS
- PERMEABLE PAVEMENT DRIVEWAY (SEE DETAIL J/C10)
- ASPHALT (FULL DEPTH) (UNDER SEPARATE ROW PERMIT #ROW 19-1933)
- ASPHALT (GRIND & OVERLAY) (UNDER SEPARATE ROW PERMIT #ROW 19-1933)
- GRAVEL

CALL 811
2 BUSINESS DAYS BEFORE YOU DIG
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

BASE MAP/TOPOGRAPHY PROVIDED BY OTHERS. DCG CANNOT BE HELD LIABLE FOR ACCURACY. CONTRACTOR SHALL FIELD VERIFY GRADES, UTILITIES, AND ALL OTHER EXISTING FEATURES AND CONDITIONS. IF CONDITIONS ARE NOT AS SHOWN AND/OR PLANS CANNOT BE CONSTRUCTED AS SHOWN, CONTACT DCG PRIOR TO CONSTRUCTION.

No.	DATE	BY	REVISION
1	12/11/2019	BI	CYCLE 1 - CITY CORRECTIONS
2	02/28/2020	BI	CYCLE 2 - CITY CORRECTIONS

LEED AP™ LEED ACCREDITED PROFESSIONAL ® & THE RELATED ACRONYM, & THE LEGACY LEED AP LOGO ARE TRADEMARKS OWNED BY THE U.S. GREEN BUILDING COUNCIL & ARE AWARDED TO INDIVIDUALS UNDER LICENSE BY THE GREEN BUILDING CERTIFICATION INSTITUTE.

9706 4th Ave NE
Suite 300
Seattle, WA 98115
P: 206.523.0024
F: 206.523.1012
www.dcgengr.com

DCG civil structural

BENJAMIN J. IDDINS — STATE OF WASHINGTON — PROFESSIONAL ENGINEER — Digitally signed by Benjamin Iddins 2020.02.28

OWNER: BLUE FERN DEVELOPMENT, LLC
11232 120TH AVE NE, STE 204
KIRKLAND WA, 98033

PROJECT: 1202 NE 180TH ST, 18008/18016 12TH AVE NE
SHORELINE, WA 98133
ON-SITE GRADING PLAN

PROJ. MANAGER:	BI
DESIGNED BY:	JL
DRAWN BY:	JS
CHECKED BY:	BI
SCALE:	AS SHOWN
DATE: 2/28/2020	REV. 2
SHEET 6 OF 12	
SHEET NUMBER	C06

CAD FILE NUMBER: P:\CLIENTS-CIVIL\BLUE FERN DEVELOPMENT\18002 - 18008, 18016 12TH AVE NE SHORELINE\DWG\DRAWINGS\SITE DEVELOPMENT PERMIT PLANS\C07 DRIVEWAY PROFILES.DWG
LAST MODIFIED BY: LOPE - SAVE DATE: 2/25/2020 4:20 PM - SHEET SET: 18510 WALLINGFORD - ORIGINAL SHEET SIZE: ARCH FULL BLEED D (36.00 X 24.00 INCHES)
AUTOCAD VERSION: CIVIL 3D 2018

NELSON GEOTECHNICAL ASSOCIATES, INC.
GEOTECHNICAL ENGINEERS & GEOLOGISTS

Main Office
17311 – 135th Ave NE, A-500
Woodinville, WA 98072
(425) 486-1669 · FAX (425) 481-2510

Engineering-Geology Branch
5526 Industry Lane, #2
East Wenatchee, WA 98802
(509) 665-7696 · FAX (509) 665-7692

November 20, 2019

Mr. Jordan Salisbury
Blue Fern
11232 – 120th Avenue NE #204
Kirkland, WA 98033
Via Email: jordan@bluefern.com

Stormwater Infiltration Evaluation
Blue Fern 12th Avenue NE Townhome Residential Development Infiltration
18002, 18008, and 18016 – 12th Avenue NE
Shoreline, Washington
NGA Project No. 1140519

Dear Mr. Salisbury:

This letter documents our explorations and provides our opinions and recommendations for the feasibility of stormwater infiltration at the proposed townhome residential development projects located at 18002 (southern property) 18008 (central property) and 18016 (northern property) – 12th Avenue NE in Shoreline, Washington, as shown on the Vicinity Map in Figure 1.

INTRODUCTION

The overall development area consists of three separate properties each occupied by single-family residences and detached structures. The ground surface within the proposed development area generally slopes gently to moderately down from the eastern property lines to the lower western property lines along 12th Avenue NE. We understand that the proposed development plan consists of removing the existing site structures and constructing 19 new townhome residence structures throughout the property along with associated pavement and underground utilities.

Specific grading and stormwater plans were not available at the time this proposal was prepared. However, we understand that stormwater is proposed to be directed into on-site infiltration systems, if feasible. The City of Shoreline uses the 2019 WSDOE Stormwater Management Manual for Western Washington. According to this manual and discussions with your civil engineer, long-term design infiltration rates for this site can be determined by performing on-site infiltration testing consisting of the Small Pilot Infiltration Test (PIT). In accordance with this manual, the soil explorations need to extend to a minimum of one foot below the base of the proposed infiltration system.

SCOPE

The purpose of this study is to explore and characterize the subsurface conditions within the site and to provide opinions and recommendations for stormwater infiltration. Specifically, our scope of services included the following:

1. Review available soil and geologic maps of the area.
2. Explored the subsurface soil and groundwater conditions within the site with trackhoe excavated test pits. NGA provided the trackhoe.
3. Provide long-term design infiltration rates based on one or two on-site, small-scale Pilot Infiltration Test (PIT) per the 2014 SWMMWW. Water for the test was provided by the client.
4. Analyze selected representative soil samples obtained from our explorations for Cation Exchange Capacity (CEC) and organic content.
5. Provide our opinion on the feasibility of infiltration for the onsite soils.
6. Provide recommendations for infiltration system installation.
7. Document the results of our findings, conclusions, and recommendations in a written geotechnical letters for each property.

SITE CONDITIONS

Surface Conditions

The overall development area consists of three separate rectangular-shaped parcels covering a total of approximately 0.55-acres. Each property is currently occupied by a single-family residence structure with a detached garage within the central portion of the properties. The residences are are generally surrounded by yard areas within the western and eastern portions of the property. The remaining areas are generally vegetated with landscaping plants and sparse young to mature trees. The ground surface within the properties is relatively level to gently sloping down from the upper eastern property line to the lower western property line along 12th Avenue NE. The overall site is bound to the north, and east by existing residential properties, to the south by NE 180th Street and to the west by 12th Avenue NE. We did not observe any surface water within the site during our site visit on October 21, 2019.

Subsurface Conditions

Geology: The geologic units for this area are shown on Geologic map of the Edmonds East and part of the Edmonds West quadrangles, Washington, by Minard, J.P. (USGS, 1983). The overall site is mapped as Vashon glacial till (Qvt) with Advance outwash (Qva) mapped immediately to the west fo the property. Glacial till is described as a non-sorted, compact diamict of silt, sand, and sub-rounded to well-rounded clasts. Advanced outwash deposits are described as well-sorted sand and gravel deposits.

Our explorations within the upper eastern portion of the overall site generally encountered surficial topsoil soils underlain by gray, silty fine to medium sand with gravel, consistent with the description of glacial till. Our explorations within the lower western portion of the overall site generally encountered surficial topsoil and/or undocumented fill soils underlain by gray fine to medium sand with varying amounts of silt and gravel consistent with the description of advance outwash deposits at depth.

Explorations: The subsurface conditions within the site were explored on October 21, 2019 by excavating six test pits with a mini trackhoe and two hand auger explorations. The approximate locations of our explorations are shown on the Site Plan in Figure 2. A geologist from Nelson Geotechnical Associates, Inc. (NGA) was present during the explorations and maintained a log of the explorations. The soils were visually classified in general accordance with the Unified Soil Classification System, presented as Figure 3. The logs of the explorations are presented as Figures 4 and 5. We present a brief summary of the subsurface conditions in the following paragraph. For a detailed description of the subsurface conditions, the exploration logs should be reviewed.

At the surface of Test Pit 1, Infiltration Pit 1, and Hand Auger 1, we encountered approximately 0.5 feet of surficial grass and topsoil. Underlying the topsoil in these explorations, we encountered medium dense to very dense, brown-gray to gray silty fine to medium sand with gravel and cobbles that we interpreted as native weathered and unweathered glacial till soils. Test Pit 1, Infiltration Pit 1, and Hand Auger 1 all met refusal within the native unweathered glacial till soils at depths of 4.0 to 9.0 feet below the existing ground surface.

At the surface of Test Pits 2 and 3, Infiltration Pit 2, and Hand Auger 2, we encountered approximately 0.5 to 1.0 feet of surficial grass and topsoil. Underlying the surficial soils within these explorations, we encountered approximately 3.0 to 4.0 feet of loose to medium dense, dark brown silty fine to medium sand with varying amoungs of gravel, organics, and debris that we interpreted as undocumented fill and buried topsoil. Underlying the fill in each of these explorations, we encountered medium dense to dense light brown fine sand with varying amounts of gravel and silt that we interpreted as native advance outwash soils. Test Pits 2 and 3, Infiltration Pit 2, and Hand Auger 2 were terminated within the native advance outwash soils at depths in the range of 3.0 to 8.5 feet below the exising ground surface.

Hydrogeologic Conditions

We did not encounter groundwater within our explorations. If groundwater is encountered during construction we would interpret this as perched groundwater. Perched water occurs when surface water infiltrates through less dense, more permeable soils, such as topsoil and the weathered horizon, and accumulates on top of a less permeable soil. Perched water does not represent a regional groundwater "table" within the upper soil horizons. Perched water tends to vary spatially and is dependent upon the amount of rainfall. We would expect the amount of groundwater to decrease during drier times of the year and increase during wetter periods.

INFILTRATION ANALYSIS

The subsurface soils within our explorations generally consisted of silty fine to medium sand soils that we interpreted to be native glacial till soils to the depths explored. In accordance with the 2019 Stormwater Management Manual for Western Washington, we conducted two Small PITs within Infiltration Pits 1 and 2, as shown on the attached Site Plan in Figure 2. Infiltration Pit 1 measured 4.0-feet long by 3.0-feet wide by 6.5-feet deep. Infiltration Pit 2 measured 4.5-feet long by 3.0-feet wide by 6.5-feet deep. The pits were filled with 12-inches of water at the beginning of the day and we began the soaking period of the PITs for approximately 6 hours. At this time, the water flow rate into the holes was monitored with a Great Plains Industries (GPI) TM 075 water flow meter for the pre-soak period.

Infiltration Pit 1 (east-central): After the 6-hour soaking period was completed, the water level was maintained at approximately 12-inches for one hour for the steady-state period of the test. The flow rate for Infiltration Pit 1 stabilized at 0.018 gallons per minute (1.08 gallons per hour), which equates to an approximate infiltration rate of 0.144 inches per hour. The water was shut off after the steady-state period and the water level within the pit was monitored every 15 minutes for one hour. After one hour, the water level within the pit had dropped 0.1875 inches, resulting in an infiltration rate of 0.1875 inches per hour.

Infiltration Pit 2 (southwestern): After the 6-hour soaking period was completed, the water level was maintained at approximately 12-inches for one hour for the steady-state period of the test. The flow rate for Infiltration Pit 2 stabilized at 0.40 gallons per minute (24 gallons per hour), which equates to an approximate infiltration rate of 2.85 inches per hour. The water was shut off after the steady-state period and the water level within the pit was monitored every 15 minutes for one hour. After one hour, the water level within the pit had dropped 2.25 inches, resulting in an infiltration rate of 2.25 inches per hour.

Water Quality Chemical Testing: In accordance with the 2019 Stormwater Management Manual for Western Washington, infiltration facilities that double as treatment facilities will need to be tested for Cation Exchange Capacity (USEPA method 9081) and Organic Content (ASTM D 2974) to determine if the soil is adequate for removing the target pollutants.

Cation Exchange Capacity (CEC) and Organic Content tests were conducted by AMTest Laboratories on soil samples obtained from the site as shown on Tables 1 and 2 below, respectively. The 2019 Stormwater Management Manual for Western Washington requires soil to be used for treatment to have a CEC greater or equal to 5 milliequivalents (meq) CEC per 100 grams (CEC/100g). The manual also specifies that filtration soils must have a minimum of 1.0 percent organic content. Based on the test results, the upper native glacial site soils generally meet or exceeded the minimum CEC requirements with the exception of two samples which was slightly lower that the minimum 5 meq for CEC. The samples tested were at or less than the minimum organic content requirements. The samples tested did not achieve the minimum CEC threshold as requied by the manual. As a result, it is our opinion that the native site soils to be used for infiltration purposes on the site are not adequate for use as a treatment medium without modification. We recommend that the soils underlying any proposed infiltration systems that are intended to provide water quality treatment should be amended to meet this requirement or additional soils meeting the above requirements be placed below the proposed infiltration systems to provide water quality treatment. The test results are attached to this report as Appendix A.

Table 1. Cation Test Results

Test Pit Number	Depth (Feet)	Cation Test Results (CEC/100g)	Suitable for Filtration (Yes/No)
Test Pit 1	3.0	2.9	No
Infiltration Pit 2	6.0	3.2	No

Table 2. Organic Content Results

Test Pit Number	Depth (Feet)	Organic Content Results (Percent)	Suitable for Filtration (Yes/No)
Test Pit 1	3.0	0.8	No
Infiltration Pit 2	6.0	1.0	Yes

CONCLUSIONS

Based on the results of the small-PIT, and the relatively silty compact nature of the native glacial till soils that underlie the upper eastern portions of the overall site, it is our opinion that the onsite native glacial till soils encountered within this area are not conducive for traditional stormwater infiltration systems. The measured infiltration rate of 0.19 inches per hour obtained during testing within the upper eastern portion of the site is less than the minimum 0.30 inches per hour measured rate required by the City of Shoreline. However, low-impact design infiltration systems such as pervious pavement, rain gardens, or bioswales, could be used within the upper eastern portion of the property as determined by the civil engineer during the final design.

However, based on the results of the small PIT and the granular nature of the glacial outwash soils encountered within the lower western portion of the overall development area, it is our opinion that stormwater infiltration systems are feasible within the lower western portion of the overall development area. In accordance with the Table V_5.1 of the Department of Ecology 2019 Stormwater Management Manual for Western Washington, correction factors of 0.8, 0.5, and 0.9 for site variability and number of locations tested (CF_v) testing method (CF_t), and degree of influent control to prevent siltation and bio-buildup (CF_m), respectively were applied to the field measured infiltration rate of 2.25 inches per hour, selected from the falling-head portion of the testing. A total correction factor of 0.36 was applied to the measured field infiltration rate obtained from the falling head portion of the test to determine the long-term design infiltration rate. Using this correction factor, we calculated a long-term design infiltration rate of 0.81 inches per hour to be utilized in designing the proposed infiltration systems founded within the native granular outwash soils within the lower western portion of the overall development area. We recommend that the base of the on-site infiltration systems be terminated in the native advance outwash deposits.

We did not encounter groundwater or indications of groundwater within the site to the depths explored. It is our opinion that proposed infiltration systems should be able to maintain the minimum separation from the base of the infiltration systems to any impermeable surfaces and/or groundwater table.

If a low impact infiltration system are utilized within the native glacial till soils within the upper eastern portion of the site, we recommend that an overflow component directed to an approved point of discharge be incorporated into the design. The permeable pavement surfacing should be designed in accordance with City of Shoreline standards. The pervious pavement section should be underlain by a minimum of six inches of permeable ballast in accordance with WSDOT Specification 9.03.9(2) but overall thickness should be determined by the civil engineer. The pavement should be swept and pressure-washed on a regular basis to ensure functionality.

We recommend that any proposed low-impact or traditional infiltration systems be placed as to not negatively impact any proposed or existing nearby structures and also meet all required setbacks from existing property lines, structures, and sensitive areas as discussed in the drainage manual. In general, infiltration systems should not be located within proposed fill areas within the site (associated with site grading or retaining wall backfill) as such condition could lead to failures of the placed fills and/or retaining structures. We should be retained to review pavement design and oversee installation.

USE OF THIS LETTER

This letter was prepared for Mr. Jordan Salisbury and his agents, for use in planning and budgeting the above-referenced project only. Our services included an evaluation of the infiltration capability of the site soils at specific locations, and should not be considered as an in-depth geotechnical study of the site or an evaluation of the overall site stability. This letter may be used for bidding and estimating purposes, but our letter, conclusions, and interpretations should not be construed as a warranty of the subsurface conditions. The subsurface conditions between explorations may vary. A contingency for varying conditions should be incorporated into the project plans.

We recommend that NGA be retained to review the design plans and provide monitoring and consultation services during construction to confirm that the conditions encountered are consistent with those indicated by the explorations, to provide recommendations for design changes should the conditions revealed differ from those anticipated, and to evaluate whether or not earthwork activities comply with contract plans and specifications. We should be contacted a minimum of one week prior to construction activities and could attend pre-construction meetings if requested.

Within the limitations of scope, schedule, and budget, our services have been performed in accordance with generally accepted geotechnical engineering practices in effect in this area at the time this letter was prepared. No other warranty, expressed or implied, is made. Our observations, findings, and opinions are a means to identify and reduce the inherent risks to the owner.

o-o-o

We appreciate the opportunity to provide service to you on this project. If you have any questions or require further information, please call.

Sincerely,

NELSON GEOTECHNICAL ASSOCIATES, INC.

LEE S. BELLAH

Lee S. Bellah, LG
Project Geologist

Maher A. Shebl, PhD, PE, M.ASCE
Senior Engineer

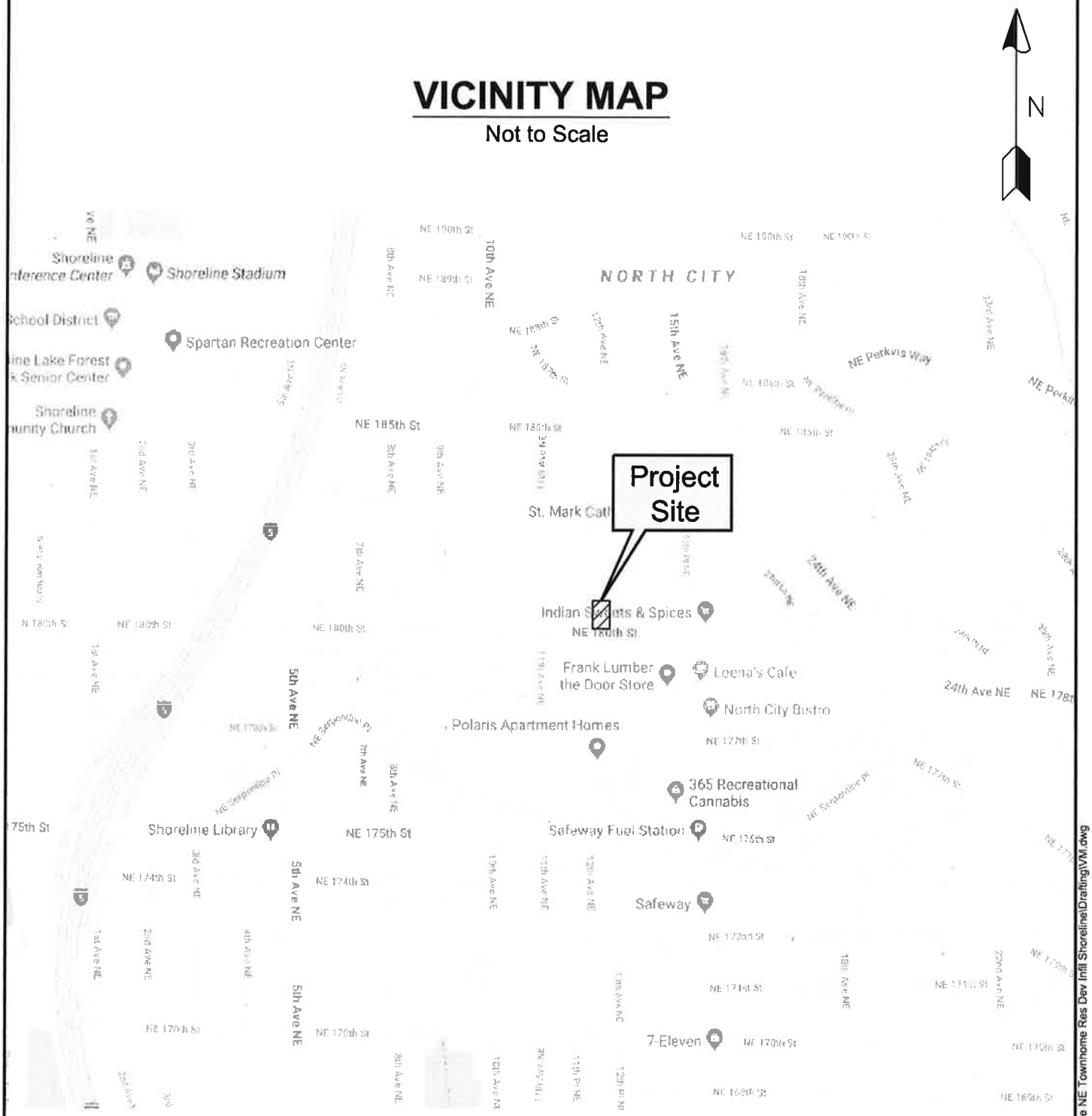
LSB:MAS:dy

Attachments: Five Figures
Appendix A – Cation Exchange Capacity and Organic Content Laboratory Test Results

Applicant Exhibit 14

VICINITY MAP

Not to Scale



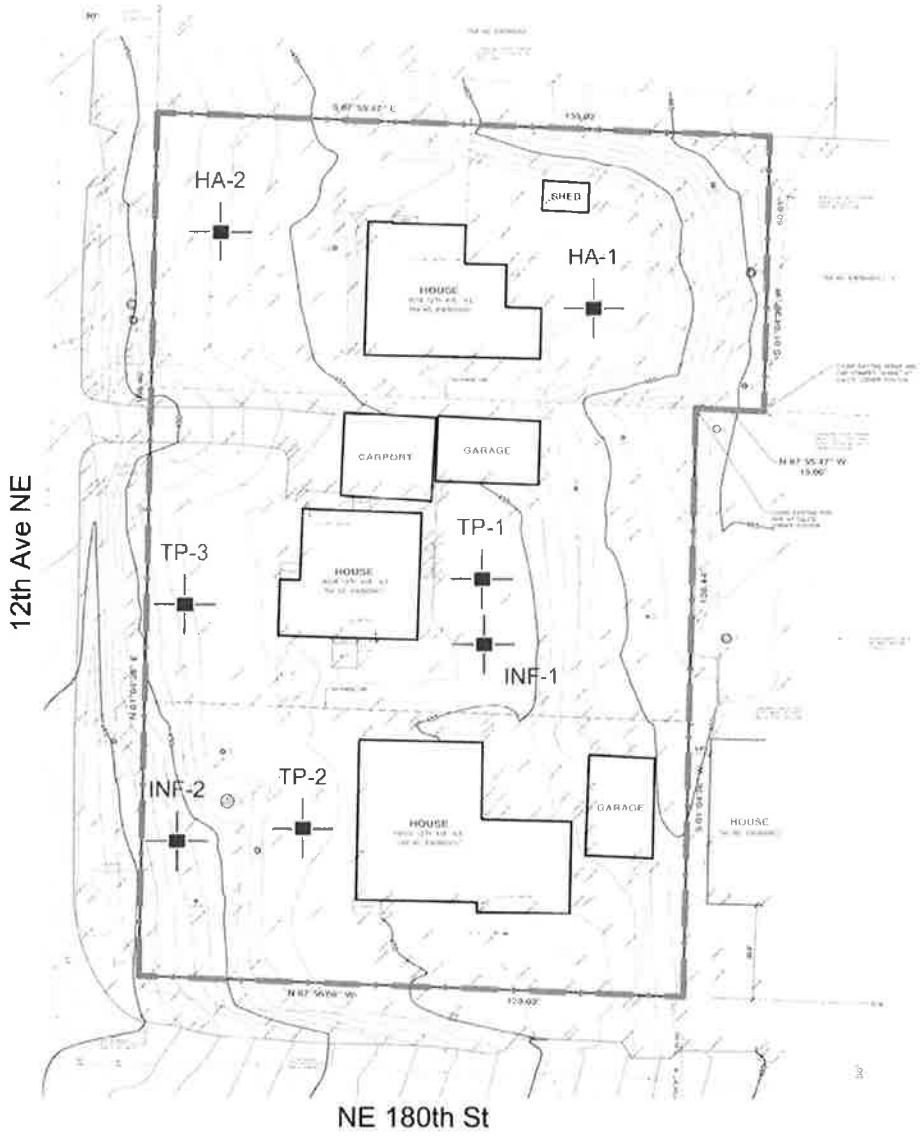
Shoreline, WA

Project Number 1140519	Blue Fern - 12th Ave NE Residential Development Infiltration Vicinity Map	NELSON GEOTECHNICAL ASSOCIATES, INC. NGA GEOTECHNICAL ENGINEERS & GEOLOGISTS Woodinville Office 17311-135th Ave. NE, A-500 Woodinville, WA 98072 (425) 486-1669 / Fax: 481-2510 www.nelsongeotech.com East Wenatchee Office 5526 Industry Lane, #2 East Wenatchee, WA 98802 (509) 665-7696 / Fax: 665-7692	No.	Date	Revision	By	CK
Figure 1			1	11/4/19	Original	DPN	LSB

N:\2019 NGA Project Folders\11405-19 Blue Fern 12th Ave NE Townhome Res Dev Infil Shoreline\Drafting\VM.dwg

Applicant Exhibit 14

Site Plan



LEGEND

Property line

INF-1
Number and approximate location of infiltration test pit

TP-1
Number and approximate location of test pit

HA-1
Number and approximate location of hand auger

0 40 80

Scale: 1 inch = 40 feet

Reference: Site Plan based on a plan dated December 5, 2018 titled "Topographic Survey - 18002/18008/18016 12th Ave NE," prepared by Chadwick & Winters.

Project Number	Blue Fern - 12th Ave NE Residential Development Infiltration Site Plan	NELSON GEOTECHNICAL ASSOCIATES, INC. NGA GEOTECHNICAL ENGINEERS & GEOLOGISTS
1140519		Woodinville Office: 17311-135th Ave. NE, A-500, Woodinville, WA 98072, (425) 486-1669 / Fax: 481-2510
Figure 2		East Wenatchee Office: 5526 Industry Lane, #2, East Wenatchee, WA 98802, (509) 665-7696 / Fax: 665-7692
		www.nelsongeotech.com

No.	Date	Revision	By	CK
1	11/4/19	Original	DPN	LSB

N:\2019 NGA Project Folders\1405-19 Blue Fern 12th Ave NE Townhome Res Dev Infil Shoreline\Drafting\SP.dwg

Applicant Exhibit 14

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			GROUP SYMBOL	GROUP NAME
COARSE - GRAINED SOILS MORE THAN 50 % RETAINED ON NO. 200 SIEVE	GRAVEL MORE THAN 50 % OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVEL	GW	WELL-GRADED, FINE TO COARSE GRAVEL
			GP	POORLY-GRADED GRAVEL
		GRAVEL WITH FINES	GM	SILTY GRAVEL
			GC	CLAYEY GRAVEL
	SAND MORE THAN 50 % OF COARSE FRACTION PASSES NO. 4 SIEVE	CLEAN SAND	SW	WELL-GRADED SAND, FINE TO COARSE SAND
			SP	POORLY GRADED SAND
		SAND WITH FINES	SM	SILTY SAND
			SC	CLAYEY SAND
FINE - GRAINED SOILS MORE THAN 50 % PASSES NO. 200 SIEVE	SILT AND CLAY LIQUID LIMIT LESS THAN 50 %	INORGANIC	ML	SILT
			CL	CLAY
		ORGANIC	OL	ORGANIC SILT, ORGANIC CLAY
	SILT AND CLAY LIQUID LIMIT 50 % OR MORE	INORGANIC	MH	SILT OF HIGH PLASTICITY, ELASTIC SILT
			CH	CLAY OF HIGH PLASTICITY, FAT CLAY
		ORGANIC	OH	ORGANIC CLAY, ORGANIC SILT
HIGHLY ORGANIC SOILS			PT	PEAT

NOTES:

1) Field classification is based on visual examination of soil in general accordance with ASTM D 2488-93.
2) Soil classification using laboratory tests is based on ASTM D 2488-93.
3) Descriptions of soil density or consistency are based on interpretation of blowcount data, visual appearance of soils, and/or test data.

SOIL MOISTURE MODIFIERS:

Dry - Absence of moisture, dusty, dry to the touch

Moist - Damp, but no visible water.

Wet - Visible free water or saturated, usually soil is obtained from below water table

Project Number 1140519	Blue Fern - 12th Ave NE Residential Development Infiltration Soil Classification Chart	NELSON GEOTECHNICAL ASSOCIATES, INC. NGA GEOTECHNICAL ENGINEERS & GEOLOGISTS Woodinville Office: 17311-135th Ave. NE, A-500, Woodinville, WA 98072, (425) 486-1669 / Fax: 481-2510 www.nelsongeotech.com East Wenatchee Office: 5526 Industry Lane, #2, East Wenatchee, WA 98802, (509) 665-7696 / Fax: 665-7692	No.	Date	Revision	By	CK
Figure 3			1	11/4/19	Original	DPN	LSB

N:\2019 NGA Project Folders\11405-19 Blue Fern 12th Ave NE Townhome Res Dev Infil Shoreline\Drafting\SC.dwg

LOG OF EXPLORATION

DEPTH (FEET)	USC	SOIL DESCRIPTION
INFILTRATION PIT ONE		
0.0 – 0.5		GRASS & TOPSOIL
0.5 – 2.5	SM	BROWN-GRAY, SILTY FINE TO MEDIUM SAND WITH GRAVEL (MEDIUM DENSE TO DENSE, MOIST)
2.5 – 6.5	SM	GRAY, CEMENTED, SILTY FINE TO MEDIUM SAND WITH GRAVEL (DENSE TO VERY DENSE, MOIST)
		SAMPLE WAS COLLECTED AT 6.0 FEET GROUNDWATER SEEPAGE WAS NOT ENCOUNTERED TEST PIT CAVING WAS NOT ENCOUNTERED TEST PIT WAS COMPLETED AT 6.5 FEET ON 10/21/19
INFILTRATION PIT TWO		
0.0 – 1.0		GRASS & TOPSOIL
1.0 – 3.5		DARK-BROWN, SILTY FINE TO MEDIUM SAND WITH GRAVEL, ORGANICS, AND ROOTS (LOOSE, MOIST) (**FILL**)
3.5 – 4.0		BURIED TOPSOIL
4.0 – 7.0	SP-SM	LIGHT BROWN, FINE SAND WITH SILT AND GRAVEL (DENSE, MOIST)
		SAMPLE WAS COLLECTED AT 6.0 FEET GROUNDWATER SEEPAGE WAS NOT ENCOUNTERED TEST PIT CAVING WAS NOT ENCOUNTERED TEST PIT WAS COMPLETED AT 7.0 FEET ON 10/21/19
TEST PIT ONE		
0.0 – 0.5		GRASS & TOPSOIL
0.5 – 2.0	SM	BROWN-GRAY, SILTY FINE TO MEDIUM SAND WITH GRAVEL AND COBBLES (MEDIUM DENSE, MOIST)
2.0 – 9.0	SM	GRAY, CEMENTED, SILTY FINE TO MEDIUM SAND WITH GRAVEL AND COBBLES (DENSE TO VERY DENSE, MOIST)
		SAMPLES WERE COLLECTED AT 3.0 AND 7.5 FEET GROUNDWATER SEEPAGE WAS NOT ENCOUNTERED TEST PIT CAVING WAS NOT ENCOUNTERED TEST PIT WAS COMPLETED AT 9.0 FEET ON 10/21/19
TEST PIT TWO		
0.0 – 0.5		GRASS & TOPSOIL
0.5 – 4.0		DARK-BROWN, SILTY FINE TO MEDIUM SAND WITH GRAVEL, ORGANICS, AND ROOTS (LOOSE, MOIST) (**FILL**)
4.0 – 4.5		BURIED TOPSOIL
4.5 – 8.5	SP-SM	LIGHT BROWN, FINE SAND WITH SILT AND GRAVEL (DENSE, MOIST)
		SAMPLES WERE COLLECTED AT 5.5, 6.0, AND 8.0 FEET GROUNDWATER SEEPAGE WAS NOT ENCOUNTERED TEST PIT CAVING WAS NOT ENCOUNTERED TEST PIT WAS COMPLETED AT 8.5 FEET ON 10/21/19

LOG OF EXPLORATION

DEPTH (FEET)	USC	SOIL DESCRIPTION
TEST PIT THREE		
0.0 – 0.5		GRASS & TOPSOIL
0.5 – 3.5		DARK BROWN, SILTY FINE TO MEDIUM SAND WITH GRAVEL, ORGANICS, AND ROOTS (LOOSE, MOIST) (**FILL**)
3.5 – 8.5	SP-SM	LIGHT BROWN, FINE SAND WITH SILT AND GRAVEL (MEDIUM DENSE TO DENSE, MOIST)
		SAMPLES WERE COLLECTED AT 6.0 AND 8.0 FEET GROUNDWATER SEEPAGE WAS NOT ENCOUNTERED TEST PIT CAVING WAS NOT ENCOUNTERED TEST PIT WAS COMPLETED AT 8.5 FEET ON 10/21/19
HAND AUGER ONE		
0.0 – 0.5		GRASS & TOPSOIL
0.5 – 1.5	SM	BROWN-GRAY, SILTY FINE TO MEDIUM SAND WITH GRAVEL (MEDIUM DENSE, MOIST)
1.5 – 4.0	SM	GRAY, CEMENTED, SILTY FINE TO MEDIUM SAND WITH GRAVEL AND COBBLES (DENSE TO VERY DENSE, MOIST)
		SAMPLE WAS COLLECTED AT 3.0 FEET GROUNDWATER SEEPAGE WAS NOT ENCOUNTERED HAND AUGER CAVING WAS NOT ENCOUNTERED HAND AUGER MET REFUSAL ON A COBBLE AT 4.0 FEET ON 10/21/19
HAND AUGER TWO		
0.0 – 0.5		GRASS & TOPSOIL
0.5 – 3.0	SP-SM	LIGHT BROWN-GRAY, FINE TO MEDIUM SAND WITH SILT, GRAVEL, AND COBBLES (MEDIUM DENSE TO DENSE, MOIST)
		SAMPLE WAS COLLECTED AT 3.0 FEET GROUNDWATER SEEPAGE WAS NOT ENCOUNTERED HAND AUGER CAVING WAS NOT ENCOUNTERED HAND AUGER MET REFUSAL ON A COBBLE AT 4.0 FEET ON 10/21/19

APPENDIX A

Cation Exchange Capacity (CEC) and Organic Content Laboratory Test Results

Applicant Exhibit 14

Am Test Inc.
13600 NE 126TH PL
Suite C
Kirkland, WA 98034
(425) 885-1664
www.amtestlab.com

AMTEST LABORATORIES

Professional Analytical Services

ANALYSIS REPORT

NELSON GEOTECH
17311 135TH AVE NE
WOODINVILLE, WA 98072
Attention: LEE BELLAH
Project Name: BLUE FERN 12TH AVE NE DEVELOPMENT
Project #: 1140519
All results reported on an as received basis.

Date Received: 10/25/19
Date Reported: 11/14/19

AMTEST Identification Number **19-A017757**
Client Identification **TP #1 @ 3.0FT**
Sampling Date **10/22/19, 01:00**

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Cation Exchange Capacity	2.9	meq/100g		0.5	SW-846 9081	HKL	11/13/19

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Organic Matter	0.8	%			SM 2540G	AW	11/08/19

AMTEST Identification Number **19-A017758**
Client Identification **INFIL #2 #6.0FT**
Sampling Date **10/22/19, 01:00**

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Cation Exchange Capacity	3.2	meq/100g		0.5	SW-846 9081	HKL	11/13/19

NELSON GEOTECH
Project Name: BLUE FERN 12TH AVE NE DEVELOPMENT
AmTest ID: 19-A017758

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Organic Matter	1.0	%			SM 2540G	AW	11/08/19

Kathy Fugiel
President

Applicant Exhibit 15

GEOTECHNICAL REPORT

12th Avenue Townhomes
18002, 18008, 18016 – 12th Avenue NE
Shoreline, Washington

Project No. T-8091

Terra Associates, Inc.

Prepared for:

Blue Fern Development, LLC
Kirkland, Washington

May 21, 2019

Applicant Exhibit 15

TERRA ASSOCIATES, Inc.

Consultants in Geotechnical Engineering, Geology
and
Environmental Earth Sciences

May 21, 2019
Project No. T-8091

Mr. Jordan Salisbury
Blue Fern Development, LLC
11232 – 120th Avenue NE, Suite 204
Kirkland, Washington 98033

Subject: Geotechnical Report
12th Avenue Townhomes
18002, 18008, 180016 – 12th Avenue NE
Shoreline, Washington

Dear Mr. Salisbury:

As requested, we have conducted a geotechnical engineering study for the subject project. The attached report presents our findings and recommendations for the geotechnical aspects of the project design and construction.

In general, the soil conditions observed at the site consisted of approximately four to eight inches of topsoil overlying medium dense to dense silty sand with gravel (sandy till-like material) to the termination of the test pits and hand holes. There were two exceptions to this general condition. The first was in Test Pit TP-2 where approximately five feet of loose to dense, inorganic fill material was observed overlying approximately two feet of medium dense silty sand with gravel over medium dense to dense sand with silt and gravel to the termination of the test pit. The second was in Test Pit TP-3 where we observed approximately one- and one-half feet of medium dense silty sand with gravel overlying dense to very dense sand with silt and gravel to the termination of the test pits. We did not observe any groundwater seepage during our explorations.

In our opinion, the soil conditions we observed at the site will be suitable for support of the proposed development, provided the recommendations presented in this report are incorporated into project design and construction.

We trust the information presented in this report is sufficient for your current needs. If you have any questions or require additional information, please call.

Sincerely yours,
TERRA ASSOCIATES, INC.

CAROLYN S. DECKER
STATE OF WASHINGTON
47016
REGISTERED
PROFESSIONAL ENGINEER

5/21/19

Carolyn S. Decker, P.E.
Project Engineer

12220 113th Avenue NE, Ste. 130, Kirkland, Washington 98034
Phone (425) 821-7777 • Fax (425) 821-4334

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Geotechnical Report
12th Avenue Townhomes
18002, 18008, 18016 – 12th Avenue NE
Shoreline, Washington

1.0 PROJECT DESCRIPTION

The project consists of redeveloping the site with three townhome buildings with six to seven units per building and associated access and utilities. Site development and building plans were unavailable at the time of this report. Based on existing topography, we would expect grading to be minor with cuts and fills between one and eight feet.

We would expect that the structure will be a two- to three-story, wood-frame building constructed at grade. Foundation loads are expected to be relatively light, in the range of 2 to 6 kips per foot for bearing walls and 30 to 60 kips for isolated columns.

The recommendations contained in the following sections of this report are based on our understanding of the above design features. We should review design drawings as they become available to verify that our recommendations have been properly interpreted and incorporated into project design and to amend or supplement our recommendations, if required.

2.0 SCOPE OF WORK

On April 15, 2019, we observed soil and groundwater conditions at three test pits excavated with a track-mounted mini-excavator to a maximum depth of about eight feet below existing grades and at two hand holes excavated by hand to a maximum depth of about three feet below existing grades. Using the results of our field study and laboratory testing, analyses were undertaken to develop geotechnical recommendations for project design and construction. Specifically, this report addresses the following:

- Soil and groundwater conditions
- Seismic Criteria per 2015 International Building Code (IBC)
- Geologic hazards per City of Shoreline Municipal Code
- Site preparation and grading
- Excavations
- Foundations
- Slab-on-grade floors
- Lateral earth pressure on below-grade walls
- Infiltration feasibility
- Drainage
- Utilities
- Pavements

It should be noted that recommendations outlined in this report regarding drainage are associated with soil strength, design earth pressures, erosion, and stability. Design and performance issues with respect to moisture as it relates to the structure environment are beyond Terra Associates' purview. A building envelope specialist or contractor should be consulted to address these issues, as needed.

3.0 SITE CONDITIONS

3.1 Surface

The project site consists of 3 tax parcels totaling approximately 0.54 acres located at 18002, 18008, 18016 – 12th Avenue NE in Shoreline, Washington. The approximate site location is shown on Figure 1.

The project site is currently developed with three single-family residences and associated access and landscaping. Site grades consist of a slight to moderate slope that descends from the east to the west with an overall relief of approximately 15 to 20 feet. The majority of the elevation relief occurs at the east and west property lines of the existing lots with relatively flat areas where the buildings are located. The grade transitions are supported by slopes and short retaining walls.

3.2 Soils

In general, the soil conditions observed at the site consisted of approximately four to eight inches of topsoil overlying medium dense to dense silty sand with gravel (sandy till-like material) to the termination of the test pits and hand holes. There were two exceptions to this general condition. The first was in Test Pit TP-2 where approximately five feet of loose to dense, inorganic fill material was observed overlying approximately two feet of medium dense silty sand with gravel over medium dense to dense sand with silt and gravel to the termination of the test pit. The second was in Test Pit TP-3 where we observed approximately one- and one-half feet of medium dense silty sand with gravel overlying dense to very dense sand with silt and gravel to the termination of the test pits.

The *Geologic Map of the Edmonds East and part of the Edmonds West Quadrangles,* by J.P. Minard (1985), maps the site as Vashon Till (Qvt). The upper native soils observed in the test pits are consistent with this mapped geology. However, the sand with silt and gravel soils observed at depth in Test Pits TP-2 and TP-3 are generally more consistent with advance outwash which is mapped approximately 200 feet west of the project site.

The preceding discussion is intended to be a general review of the soil conditions encountered. For more detailed descriptions, please refer to the Test Pit and Hand Hole Logs in Appendix A.

3.3 Groundwater

We did not observe any groundwater during our explorations.

3.4 Geological Hazards

Section 20.80.210 of The City of Shoreline Municipal Code (SMC) defines geologically hazardous areas as "...those lands that are susceptible to erosion, landsliding, seismic, or other geological events as identified by WAC 365-190-120."

3.4.1 Erosion Hazard Areas

Section 20.80.220.D of the SMC defines Erosion Hazard Areas as "...lands or areas underlain by soils identified by the U.S. Department of Agriculture Natural Resources Conservation Service (formerly the Soil Conservation Service) as having "severe" or "very severe" erosion hazards. This includes, but is not limited to, the following group of soils when they occur on slopes of 15 percent or greater: Alderwood-Kitsap (AkF), Alderwood gravelly sandy loam (AgD), Kitsap silt loam (KpD), Everett (EvD), and Indianola (InD). (Ord. 723 § 1 (Exh. A), 2015; Ord. 398 § 1, 2006; Ord. 238 Ch. VIII § 3(B), 2000)."

The site location has not been mapped by the U.S. Department of Agriculture Natural Resources Conservation Service. However, based on the topography of the site, it is our opinion that the site does not present an erosion hazard area. Regardless, the site soils would be susceptible to some erosion when exposed during construction. In our opinion, proper implementation and maintenance of Best Management Practices (BMPs) for erosion prevention and sediment control would adequately mitigate the erosion potential in the planned development area. In addition, erosion protection measures as required by the City of Shoreline will need to be in place prior to and during grading activities at the site.

3.4.2 Landslide Hazard Areas

Section 20.80.220.B of the SMC defines landslide hazard areas as "...those areas potentially subject to landslide activity based on a combination of geologic, topographic, and hydrogeologic factors as classified in Subsection B of this section with slopes 15 percent or steeper within a vertical elevation change of at least 10 feet or all areas of prior landslide activity regardless of slope. A slope is delineated by establishing its toe and top, and measuring the inclination over 10 feet of vertical relief (see Figure 20.80.220(A)). The edges of the geologic hazard are identified where the characteristics of the slope cross-section change from one landslide hazard classification to another, or no longer meet any classification. Additionally:

1. The toe of a slope is a distinct topographic break which separates slopes inclined at less than 15 percent from slopes above that are 15 percent or steeper when measured over 10 feet of vertical relief.

2. The top of a slope is a distinct topographic break which separates slopes inclined at less than 15 percent from slopes below that are 15 percent or steeper when measured over 10 feet of vertical relief."

While there are slopes that are steeper than 15 percent on-site, all the slopes have less than 10 feet of vertical relief. Therefore, in our opinion, the site is not a landslide hazard area per the SMC.

3.4.3 Seismic Hazard Areas

Section 20.80.220.C of the SMC defines seismic hazard areas as "... lands that, due to a combination of soil and groundwater conditions, are subject to risk of ground shaking, lateral spreading, subsidence, or liquefaction of soils during earthquakes. These areas are typically underlain by soft or loose saturated soils (such as alluvium) or peat deposits and have a shallow ground water table. These areas are designated as having "high" and "moderate to high" risk of liquefaction as mapped on the Liquefaction Susceptibility and Site Class Maps of Western Washington State by County by the Washington State Department of Natural Areas."

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. Liquefaction mainly affects geologically recent deposits of fine grained sand that is 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, eliminating the soil's strength.

The site is designated as having "very low" risk of liquefaction as mapped on the Liquefaction Susceptibility Map of King County, dated 2004 provided by the Washington State Department of Natural Resources. Additionally, based on the soil and groundwater conditions observed, it is our opinion that the risk of liquefaction-related impacts to the proposed structures would be negligible. It is also our opinion that there is little to no risk for severe damage resulting from seismically-induced settlement. Therefore, in our opinion, seismic hazard areas do not exist at the site.

3.5 Seismic Design Parameters

Based on soil conditions observed in the subsurface explorations, and our knowledge of the area geology, per Chapter 16 of the 2015 International Building Code (IBC), site class "D" should be used in structural design.

4.0 DISCUSSION AND RECOMMENDATIONS

4.1 General

Based on our study, there are no geotechnical conditions that would preclude the planned development. The buildings can be supported on conventional spread footings bearing on competent native soils or competent existing fill soils underlying organic topsoil or on structural fill placed on the competent soils. Floor slabs and pavements can be similarly supported.

The exception to this will be the building foundations near Test Pit TP-2. The loose, inorganic fill material would not be suitable for immediate support of the building foundations. For this area, we recommend scarifying the upper 12 inches of material and recompacting following the recommendations outlined below.

The native and existing fill soils encountered at the site contain a significant amount of fines and will be difficult to compact as structural fill when too wet. The ability to use native and existing fill soil from site excavations as structural fill will depend on its moisture content and the prevailing weather conditions at the time of construction. If grading activities will take place during winter, the owner should be prepared to import clean granular material for use as structural fill and backfill.

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

4.2 Site Preparation and Grading

To prepare the site for construction, all vegetation, organic surface soils, and other deleterious materials should be stripped and removed from the site. We expect surface stripping depths of about four to eight inches will be required to remove the organic surficial soils. Organic soils will not be suitable for use as structural fill, but may be used for limited depths in nonstructural areas or for landscaping purposes. Demolition of existing structures should include removal of existing foundations and abandonment of underground septic systems and other buried utilities. Abandoned utility pipes that fall outside of new building areas can be left in place provided they are sealed to prevent intrusion of groundwater seepage and soil.

As noted above, building foundations in the vicinity of the loose fill material observed in Test Pit TP-2 will likely need to have the subgrade scarified and recompacted in accordance with the recommendations outlined below. The need for this additional work should be determined in the field during grading or during a foundation observation.

Once clearing and grubbing operations are complete, cut and fill operations to establish desired building grades can be initiated. A representative of Terra Associates, Inc. should examine all bearing surfaces to verify that conditions encountered are as anticipated and are suitable for placement of structural fill or direct support of building and pavement elements. Our representative may request proofrolling exposed surfaces with a heavy rubber-tired vehicle to determine if any isolated soft and yielding areas are present. If unstable yielding areas are observed, they should be cut to firm bearing soil and filled to grade with structural fill. If the depth of excavation to remove unstable soils is excessive, use of geotextile fabric such as Mirafi 500X or equivalent in conjunction with structural fill can be considered in order to limit the depth of removal. In general, our experience has shown that a minimum of 18 inches of clean, granular structural fill over the geotextile fabric should establish a stable bearing surface.

The native and existing fill soils observed throughout the site contain a sufficient amount of fines (silt and clay size particles) that will make them difficult to compact as structural fill if they are too wet or too dry. Accordingly, the ability to use these soils from site excavations as structural fill will depend on their moisture content and the prevailing weather conditions when site grading activities take place. Soils that are too wet to properly compact could be dried by aeration during dry weather conditions or mixed with an additive such as cement or lime to stabilize the soil and facilitate compaction. If an additive is used, additional Best Management Practices (BMPs) for its use will need to be incorporated into the Temporary Erosion and Sedimentation Control (TESC) plan for the project. Soils that are dry of optimum should be moisture conditioned by controlled addition of water and blending prior to material placement.

If grading activities are planned during the wet winter months, or if they are initiated during the summer and extend into fall and winter, the owner should be prepared to import wet weather structural fill. For this purpose, we recommend importing a granular soil that meets the following grading requirements:

U.S. Sieve Size	Percent Passing
6 inches	100
No. 4	75 maximum
No. 200	5 maximum*

* Based on the 3/4-inch fraction.

Prior to use, Terra Associates, Inc. should examine and test all materials imported to the site for use as structural fill.

Structural fill should be placed in uniform loose layers not exceeding 12 inches and compacted to a minimum of 95 percent of the soil's maximum dry density, as determined by American Society for Testing and Materials (ASTM) Test Designation D-698 (Standard Proctor). The moisture content of the soil at the time of compaction should be within two percent of its optimum, as determined by this ASTM standard. In nonstructural areas, the degree of compaction can be reduced to 90 percent.

4.3 Excavations

All excavations at the site associated with confined spaces, such as utility trenches, must be completed in accordance with local, state, and federal requirements. Based on the Washington Industrial Safety and Health Act (WISHA) regulations, the medium dense fill and weathered soils would be classified as Type C soils. The underlying dense, unweathered soils would be classified as Type B soils.

Accordingly, temporary excavations in Type C soils should have their slopes laid back at an inclination of 1.5:1 (Horizontal:Vertical) or flatter, from the toe to the crest of the slope. Side slopes in Type B soils can be laid back at a slope inclination of 1:1 or flatter. All exposed temporary slope faces that will remain open for an extended period of time should be covered with a durable reinforced plastic membrane during construction to prevent slope raveling and rutting during periods of precipitation. Alternatively, excavations for trench lines can be completed using shoring boxes or other temporary shoring methods in lieu of cut slopes.

The above information is provided solely for the benefit of the owner and other design consultants, and should not be construed to imply that Terra Associates, Inc. assumes responsibility for job site safety. It is understood that job site safety is the sole responsibility of the project contractor.

4.4 Foundations

The building may be supported on conventional spread footing foundations bearing on competent native soils, competent existing fill soils, or on structural fill placed above the competent soils. Foundation subgrades should be prepared, as recommended in Section 4.2 of this report. Perimeter foundations exposed to the weather should bear at a minimum depth of 1.5 feet below final exterior grades for frost protection. Interior foundations can be constructed at any convenient depth below the floor slab.

The native and existing fill soils that will be exposed at the expected foundation elevations are moisture sensitive and will be easily disturbed by normal construction activity when wet. As a measure to protect the soils from disturbance during construction, consideration should be given to placing a four-inch thick layer of clean crushed rock or lean mix concrete over the foundation subgrade to serve as a working surface.

We recommend designing foundations bearing on competent material for a net allowable bearing capacity of 2,500 pounds per square foot (psf). For short-term loads, such as wind and seismic, a one-third increase in this allowable capacity can be used in design. With the anticipated loads and this bearing stress applied, building settlements should be less than one-half inch total and one-fourth inch differential.

For designing foundations to resist lateral loads, a base friction coefficient of 0.35 can be used. Passive earth pressure acting on the sides of the footings may also be considered. We recommend calculating this lateral resistance using an equivalent fluid weight of 350 pounds per cubic foot (pcf). We recommend not including the upper 12 inches of soil in this computation because they can be affected by weather or disturbed by future grading activity. This value assumes the foundations will be constructed neat against competent native soil or the excavations are backfilled with structural fill, as described in Section 4.2 of this report. The recommended passive and friction values include a safety factor of 1.5.

4.5 Slab-on-grade Floors

Slab-on-grade floors may be supported on a subgrade prepared as recommended in Section 4.2 of this report. Immediately below the floor slab, we recommend placing a four-inch thick capillary break layer composed of clean, coarse sand or fine gravel that has less than three percent passing the 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.

The capillary break layer will not prevent moisture intrusion through the slab caused by water vapor transmission. Where moisture by vapor transmission is undesirable, such as covered floor areas, a common practice is to place a durable plastic membrane on the capillary break layer and then cover the membrane with a layer of clean sand or fine gravel to protect it from damage during construction, and aid in uniform curing of the concrete slab. It should be noted that if the sand or gravel layer overlying the membrane is saturated prior to pouring the slab, it will be ineffective in assisting uniform curing of the slab and can actually serve as a water supply for moisture seeping through the slab and affecting floor coverings. Therefore, in our opinion, covering the membrane with a layer of sand or gravel should be avoided if floor slab construction occurs during the wet winter months and the layer cannot be effectively drained.

4.6 Lateral Earth Pressures for Below-grade Walls

The magnitude of earth pressure development on below-grade walls will partly depend on the quality of the wall backfill. We recommend placing and compacting wall backfill as structural fill as described in Section 4.2 of this report. To guard against hydrostatic pressure development, wall drainage must also be installed. A typical recommended wall drainage detail is shown on Figure 3.

With wall backfill placed and compacted as recommended, and drainage properly installed, we recommend designing unrestrained walls for an active earth pressure equivalent to a fluid weighing 35 pounds per cubic foot (pcf). For restrained walls, an additional uniform load of 100 psf should be added to the 35 pcf. To account for typical traffic surcharge loading, the walls can be designed for an additional imaginary height of two feet (two-foot soil surcharge). For evaluation of wall performance under seismic loading, a uniform pressure equivalent to 8H psf, where H is the height of the below-grade portion of the wall should be applied in addition to the static lateral earth pressure. These values assume a horizontal backfill condition and that no other surcharge loading, sloping embankments, or adjacent buildings will act on the wall. If such conditions exist, then the imposed loading must be included in the wall design. 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 4.4 of this report.

4.7 Infiltration Feasibility

Preliminary stormwater management plans were not available at the time of this report, however, as we understand infiltration of development stormwater would be considered if site conditions are suitable. Throughout the site we observed primarily silty sand with gravel, till-like material. Due to the high soil fines content and degree of consolidation, these soils exhibit relatively low permeability. This would preclude the use of retention facilities for discharge of development stormwater by infiltration, in our opinion.

The sandy till-like and advance outwash soils observed would support the use of low impact development (LID) techniques such as permeable pavement, rain gardens, infiltration trenches, or drywells, to reduce the volume of water conveyed to the conventional detention facilities. On a preliminary basis, an infiltration rate of 0.75 inches per hour could be used to evaluate these elements. The City of Shoreline uses the 2014 Department of Ecology Stormwater Management Manual for Western Washington for their stormwater management. This manual has specific testing requirements for the various LID elements. Once the elements have been designed and located, we should complete the necessary testing based on this manual.

4.8 Drainage

Surface Drainage

Final exterior grades should promote free and positive drainage away from the building areas. We recommend providing a positive drainage gradient away from the building perimeter. If a positive gradient cannot be provided, provisions for collection and disposal of surface water adjacent to the structure should be provided.

Subsurface Drainage

We recommend installing a continuous drain along the outside lower edge of the perimeter building foundations. The drains can be laid to grade at an invert elevation equivalent to the bottom of footing grade. The drains can consist of four-inch diameter perforated PVC pipe that is enveloped in washed ½- to ¾-inch gravel-sized drainage aggregate. The aggregate should extend six inches above and to the sides of the pipe. The foundation drains and roof downspouts should be tightlined separately to an approved point of controlled discharge. All drains should be provided with cleanouts at easily accessible locations. These cleanouts should be serviced at least once each year.

4.9 Utilities

Utility pipes should be bedded and backfilled in accordance with American Public Works Association (APWA) or local jurisdictional requirements. At minimum, trench backfill should be placed and compacted as structural fill as described in Section 4.2 of this report. As noted, soils excavated on-site should generally be suitable for use as backfill material during dry weather. However, the site soils are fine grained and moisture sensitive. Therefore, moisture conditioning may be necessary to facilitate proper compaction. If utility construction takes place during the winter, it may be necessary to import suitable wet weather fill for utility trench backfilling.

4.10 Pavements

Pavements should be constructed on subgrades prepared as recommended in Section 4.2 of this report. Regardless of the degree of relative compaction achieved, the subgrade must be firm and relatively unyielding before paving. Proofrolling the subgrade with heavy construction equipment should be completed to verify this condition.

The pavement design section is dependent upon the supporting capability of the subgrade soils and the traffic conditions to which it will be subjected. As we understand, traffic will mainly consist of light passenger and commercial vehicles with only occasional heavy traffic in the form of moving trucks and trash removal vehicles. Based on this information, with a stable subgrade prepared as recommended, we recommend the following pavement sections:

- Two inches of hot mix asphalt (HMA) over four inches of crushed rock base (CRB)
- Three and one-half inches full depth HMA

All paving materials should conform to Washington State Department of Transportation (WSDOT) specifications for HMA and CRB.

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 performance, we recommend surface drainage gradients of at least two percent. 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.

5.0 ADDITIONAL SERVICES

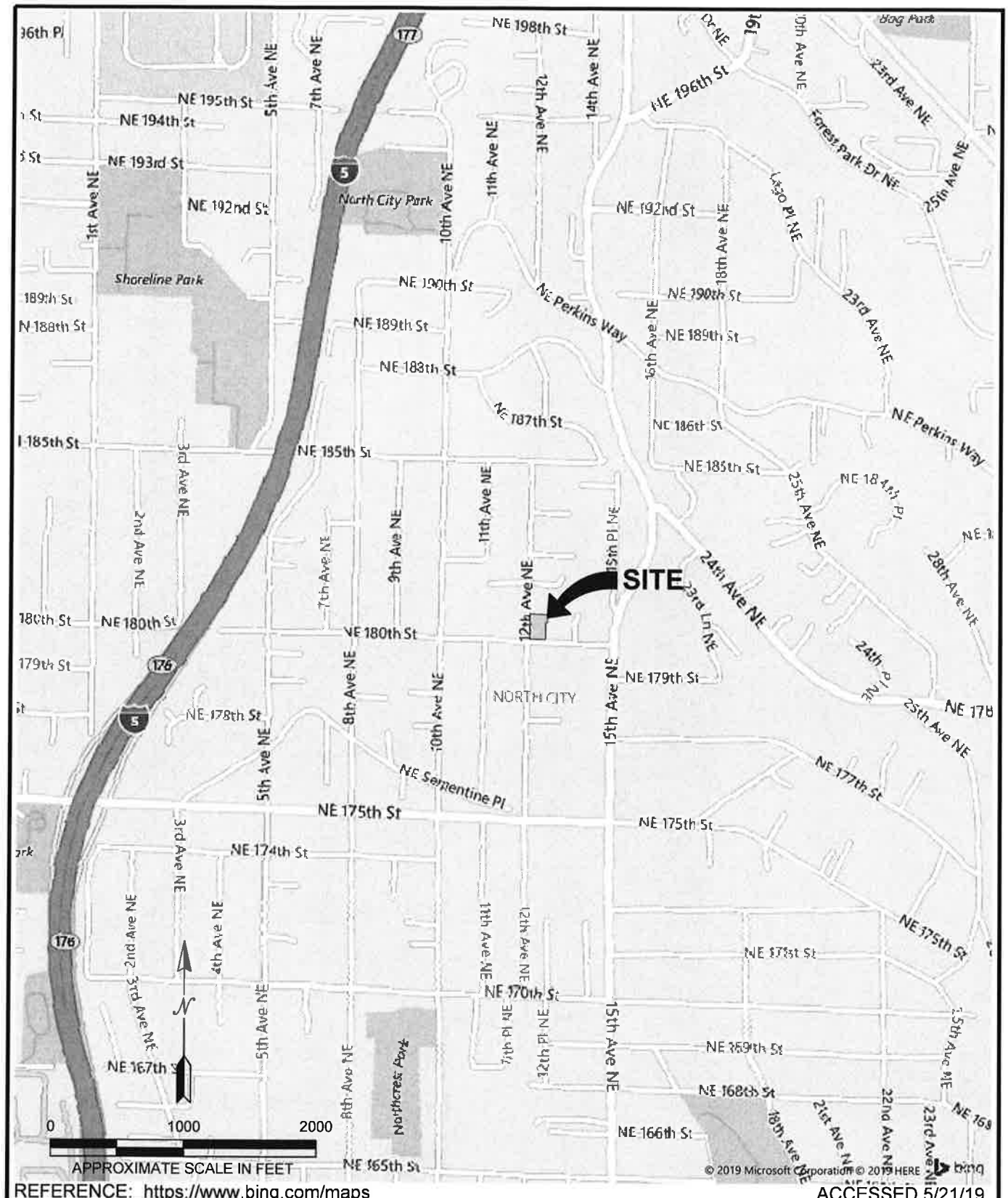
Terra Associates, Inc. should review the final designs and specifications in order to verify that earthwork and foundation recommendations have been properly interpreted and implemented in project design. We should also provide geotechnical services during construction in order to observe compliance with our design concepts, specifications, and recommendations. This will allow for design changes if subsurface conditions differ from those anticipated prior to the start of construction.

6.0 LIMITATIONS

We prepared this report in accordance with generally accepted geotechnical engineering practices. This report is the copyrighted property of Terra Associates, Inc. and is intended for specific application to the 12th Avenue Townhomes project in Shoreline, Washington. This report is for the exclusive use of Blue Fern Development, LLC and their authorized representatives. No other warranty, expressed or implied, is made.

The analyses and recommendations presented in this report are based on data obtained from the subsurface explorations completed on-site. Variations in soil conditions can occur, the nature and extent of which may not become evident until construction. If variations appear evident, Terra Associates, Inc. should be requested to reevaluate the recommendations in this report prior to proceeding with construction.

Applicant Exhibit 15



REFERENCE: https://www.bing.com/maps ACCESSED 5/21/19

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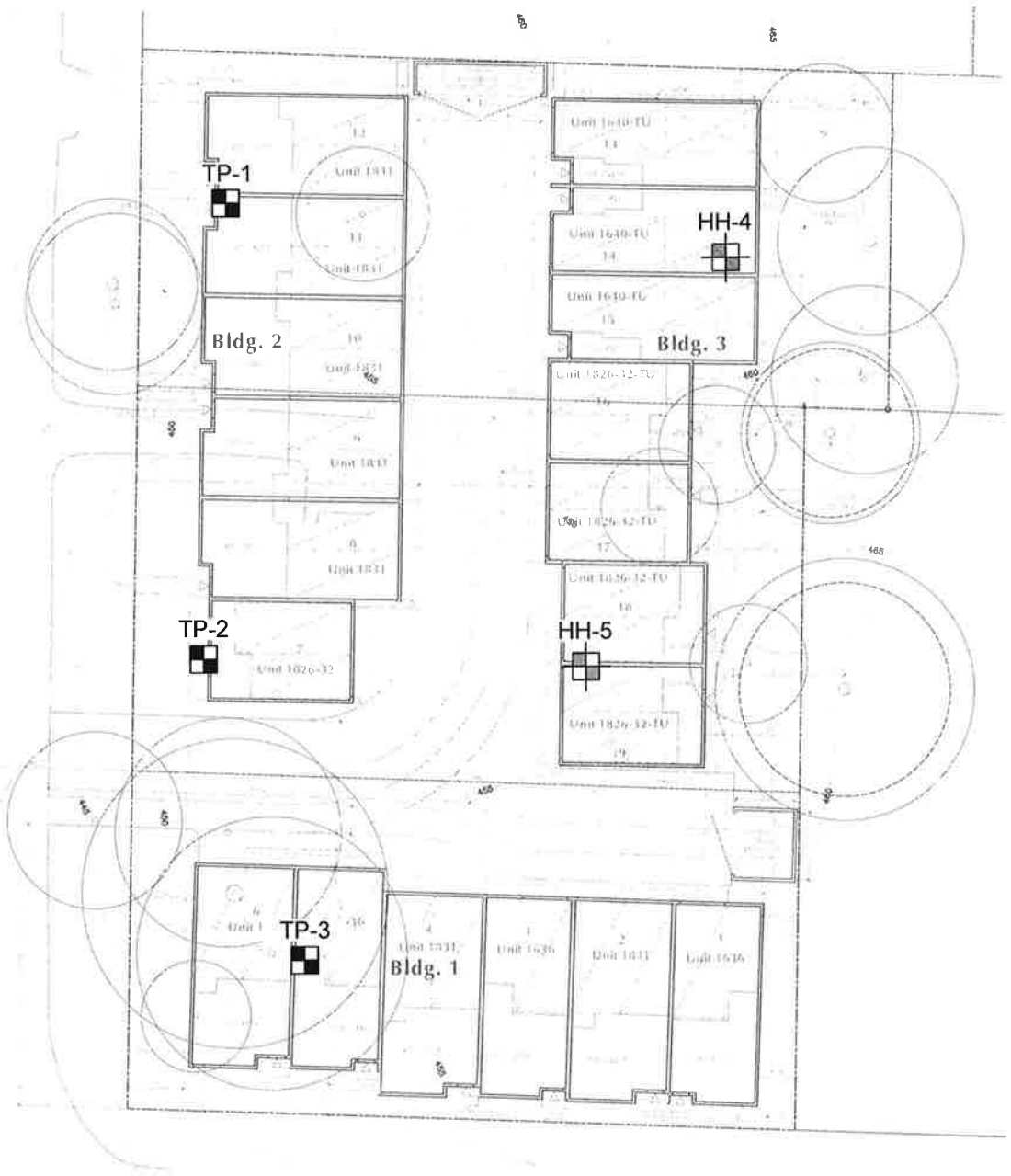
Geology and
Environmental Earth Sciences

VICINITY MAP
12TH AVE TOWNHOMES
SHORELINE, WASHINGTON

Proj.No. T-8091	Date: MAY 2019	Figure 1



NOTE:

THIS SITE PLAN IS SCHEMATIC. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE. IT IS INTENDED FOR REFERENCE ONLY AND SHOULD NOT BE USED FOR DESIGN OR CONSTRUCTION PURPOSES.

LEGEND:

APPROXIMATE TEST PIT LOCATION

APPROXIMATE TEST HAND HOLE LOCATION

0 30 60

APPROXIMATE SCALE IN FEET

N

REFERENCE: SITE PLAN PROVIDED BY MILBRANDT ARCHITECTS.

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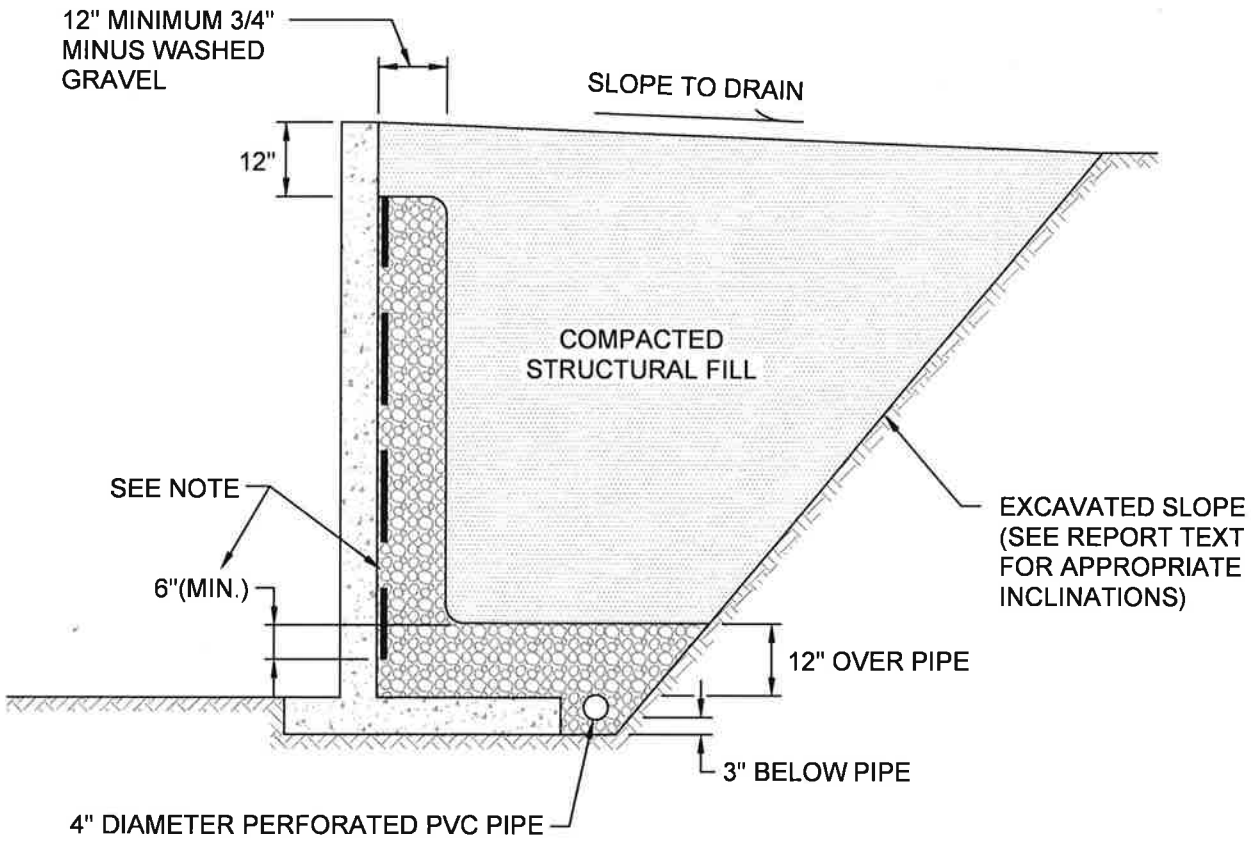
EXPLORATION LOCATION PLAN
12TH AVE TOWNHOMES
SHORELINE, WASHINGTON

Proj.No. T-8091	Date: MAY 2019	Figure 2



NOT TO SCALE

NOTE:

MIRADRAIN G100N PREFABRICATED DRAINAGE PANELS OR SIMILAR PRODUCT CAN BE SUBSTITUTED FOR THE 12-INCH WIDE GRAVEL DRAIN BEHIND WALL. DRAINAGE PANELS SHOULD EXTEND A MINIMUM OF SIX INCHES INTO 12-INCH THICK DRAINAGE GRAVEL LAYER OVER PERFORATED DRAIN PIPE.

Terra Associates, Inc. Consultants in Geotechnical Engineering Geology and Environmental Earth Sciences	TYPICAL WALL DRAINAGE DETAIL 12TH AVE TOWNHOMES SHORELINE, WASHINGTON	
	Proj.No. T-8091 | Date: MAY 2019	Figure 3

APPENDIX A
FIELD EXPLORATION AND LABORATORY TESTING

12th Avenue Townhomes
Shoreline, Washington

On April 15, 2019, we investigated subsurface conditions at the site by excavating three test pits with a track-mounted mini-excavator to a maximum depth of about eight feet below existing grades and two hand holes excavated by hand to a maximum depth of about three feet below existing grades. The test pit and hand hole locations were approximately determined in the field by sighting and pacing from existing surface features. The approximate test pit and hand hole locations are shown on Figure 2. The Test Pit and Hand Hole Logs are presented on Figures A-2 through A-6.

A geologist from our office conducted the field explorations. Our representative classified the soil conditions encountered, maintained a log of each test pit, obtained representative soil samples, and recorded water levels observed during excavation. All soil samples were visually classified in accordance with the Unified Soil Classification System (USCS) described on Figure A-1.

Representative soil samples obtained from the test pits and hand holes were placed in sealed plastic bags and taken to our laboratory for further examination and testing. The moisture content of each sample was measured and is reported on the Test Pit and Hand Hole Logs. Grain size analyses were performed on select soil samples. The results are shown on Figure A-7.

MAJOR DIVISIONS			LETTER SYMBOL	TYPICAL DESCRIPTION
COARSE GRAINED SOILS (More than 50% material larger than No. 200 sieve size)	**GRAVELS** More than 50% of coarse fraction is larger than No. 4 sieve	Clean Gravels (less than 5% fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines.
			GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines.
		Gravels with fines	GM	Silty gravels, gravel-sand-silt mixtures, non-plastic fines.
			GC	Clayey gravels, gravel-sand-clay mixtures, plastic fines.
	SANDS More than 50% of coarse fraction is smaller than No. 4 sieve	Clean Sands (less than 5% fines)	SW	Well-graded sands, sands with gravel, little or no fines.
			SP	Poorly-graded sands, sands with gravel, little or no fines.
		Sands with fines	SM	Silty sands, sand-silt mixtures, non-plastic fines.
			SC	Clayey sands, sand-clay mixtures, plastic fines.
FINE GRAINED SOILS (More than 50% material smaller than No. 200 sieve size)	**SILTS AND CLAYS** Liquid Limit is less than 50%		ML	Inorganic silts, rock flour, clayey silts with slight plasticity.
			CL	Inorganic clays of low to medium plasticity. (Lean clay)
			OL	Organic silts and organic clays of low plasticity.
	SILTS AND CLAYS Liquid Limit is greater than 50%		MH	Inorganic silts, elastic.
			CH	Inorganic clays of high plasticity. (Fat clay)
			OH	Organic clays of high plasticity.
HIGHLY ORGANIC SOILS			PT	Peat.

DEFINITION OF TERMS AND SYMBOLS

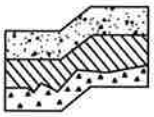
COHESIONLESS

Density	Standard Penetration Resistance in Blows/Foot
Very Loose	0-4
Loose	4-10
Medium Dense	10-30
Dense	30-50
Very Dense	>50

COHESIVE

Consistancy	Standard Penetration Resistance in Blows/Foot
Very Soft	0-2
Soft	2-4
Medium Stiff	4-8
Stiff	8-16
Very Stiff	16-32
Hard	>32

I	2" OUTSIDE DIAMETER SPILT SPOON SAMPLER
II	2.4" INSIDE DIAMETER RING SAMPLER OR SHELBY TUBE SAMPLER
▼	WATER LEVEL (Date)
Tr	TORVANE READINGS, tsf
Pp	PENETROMETER READING, tsf
DD	DRY DENSITY, pounds per cubic foot
LL	LIQUID LIMIT, percent
PI	PLASTIC INDEX
N	STANDARD PENETRATION, blows per foot



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UNIFIED SOIL CLASSIFICATION SYSTEM
12TH AVE TOWNHOMES
SHORELINE, WASHINGTON

Proj.No. T-8091	Date: MAY 2019	Figure A-1

Applicant Exhibit 15

LOG OF TEST PIT NO. TP-1

FIGURE A-2

PROJECT NAME: 12th Avenue Townhomes **PROJ. NO:** T-8091 **LOGGED BY:** MP

LOCATION: Shoreline, Washington **SURFACE CONDITIONS:** Grass **APPROX. ELEV:** 453 Feet

DATE LOGGED: April 15, 2019 **DEPTH TO GROUNDWATER:** N/A **DEPTH TO CAVING:** N/A

Depth (ft)	Sample No.	Description	Consistency/ Relative Density	W (%)
0				
1	1	(6 inches of brown ORGANIC TOPSOIL) Brown silty SAND with gravel, fine sand, fine to medium coarse gravel, moist, trace of wood fragment. (SM)	Loose to Medium Dense	
4	2	Gray SAND with trace gravel, fine sand, pea-sized gravel, moist. (SP)	Dense	
6	3	Gray SAND with gravel, fine sand, fine to coarse gravel, moist. (SP)	Dense to Very Dense	
7		Test pit terminated at approximately 7 feet. No groundwater seepage. No caving.		
10				

NOTE: This subsurface information pertains only to this test pit location and should not be interpreted as being indicative of other locations at the site.

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Applicant Exhibit 15

LOG OF TEST PIT NO. TP-2

FIGURE A-3

PROJECT NAME: 12th Avenue Townhomes **PROJ. NO:** T-8091 **LOGGED BY:** MP

LOCATION: Shoreline, Washington **SURFACE CONDITIONS:** Grass **APPROX. ELEV:** 453 Feet

DATE LOGGED: April 15, 2019 **DEPTH TO GROUNDWATER:** N/A **DEPTH TO CAVING:** N/A

Depth (ft)	Sample No.	Description	Consistency/ Relative Density	W (%)
0				
1	1	(4 inches of brown ORGANIC TOPSOIL) FILL: Brown silty SAND with gravel, fine sand, fine to coarse gravel, moist, trace cobble. (SM)	Loose to Medium Dense	
2				
3				
4	2	FILL: Gray SAND with gravel, fine sand, fine to coarse gravel, moist. (SP)	Dense	
5	3	(3 inches brown ORGANIC TOPSOIL, ROOTLETS) Brown silty SAND with gravel, fine sand, fine to medium coarse gravel, moist. (SM)	Medium Dense to Dense	
6				
7	4	Gray SAND with gravel, fine to medium sand, fine to medium coarse gravel, moist. (SP)	Very Dense	
8		Test pit terminated at approximately 8 feet. No groundwater seepage. No caving.		
9				
10				

NOTE: This subsurface information pertains only to this test pit location and should not be interpreted as being indicative of other locations at the site.

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Applicant Exhibit 15

LOG OF TEST PIT NO. TP-3

FIGURE A-4

PROJECT NAME: 12th Avenue Townhomes **PROJ. NO:** T-8091 **LOGGED BY:** MP

LOCATION: Shoreline, Washington **SURFACE CONDITIONS:** Grass **APPROX. ELEV:** 450 Feet

DATE LOGGED: April 15, 2019 **DEPTH TO GROUNDWATER:** N/A **DEPTH TO CAVING:** N/A

Depth (ft)	Sample No.	Description	Consistency/ Relative Density	W (%)
0				
1	1	(4 inches of brown ORGANIC TOPSOIL) Brown silty SAND with gravel, fine sand, fine gravel, moist, scattered rootlets. (SM)	Loose	
2	2	Gray gravelly SAND, fine to medium sand, fine to medium coarse gravel, moist. (SP)	Medium Dense to Dense	
5	3	Gray SAND with gravel, fine sand, fine gravel, moist. (SP)	Dense to Very Dense	
7		Test pit terminated at approximately 6.5 feet. No groundwater seepage. No caving.		
10				

NOTE: This subsurface information pertains only to this test pit location and should not be interpreted as being indicative of other locations at the site.

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LOG OF HAND HOLE NO. 4

FIGURE A-5

PROJECT NAME: 12th Avenue Townhomes **PROJ. NO:** T-8091 **LOGGED BY:** MP

LOCATION: Shoreline, Washington **SURFACE CONDITIONS:** Grass **APPROX. ELEV:** 457 Feet

DATE LOGGED: April 15, 2019 **DEPTH TO GROUNDWATER:** N/A **DEPTH TO CAVING:** N/A

Depth (ft)	Sample No.	Description	Consistency/ Relative Density	W (%)
0				
	1	(4 inches of brown ORGANIC TOPSOIL) Gray silty SAND with gravel, fine sand, fine to coarse gravel, moist. (SM)	Medium Dense to Dense	
3		Hand hole terminated at 3 feet. No groundwater seepage. No caving.		
5				

NOTE: This subsurface information pertains only to this test pit location and should not be interpreted as being indicative of other locations at the site.

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LOG OF HAND HOLE NO. 5

FIGURE A-6

PROJECT NAME: 12th Avenue Townhomes **PROJ. NO:** T-8091 **LOGGED BY:** MP

LOCATION: Shoreline, Washington **SURFACE CONDITIONS:** Grass **APPROX. ELEV:** 454 Feet

DATE LOGGED: April 15, 2019 **DEPTH TO GROUNDWATER:** N/A **DEPTH TO CAVING:** N/A

Depth (ft)	Sample No.	Description	Consistency/ Relative Density	W (%)
0				
	1	(8 inches of brown ORGANIC TOPSOIL) Gray silty SAND with gravel, fine sand, fine to medium coarse gravel, moist. (SM)	Dense to Very Dense	
3		Hand hole terminated at 3 feet. No groundwater observed. No caving.		
5				

NOTE: This subsurface information pertains only to this test pit location and should not be interpreted as being indicative of other locations at the site.

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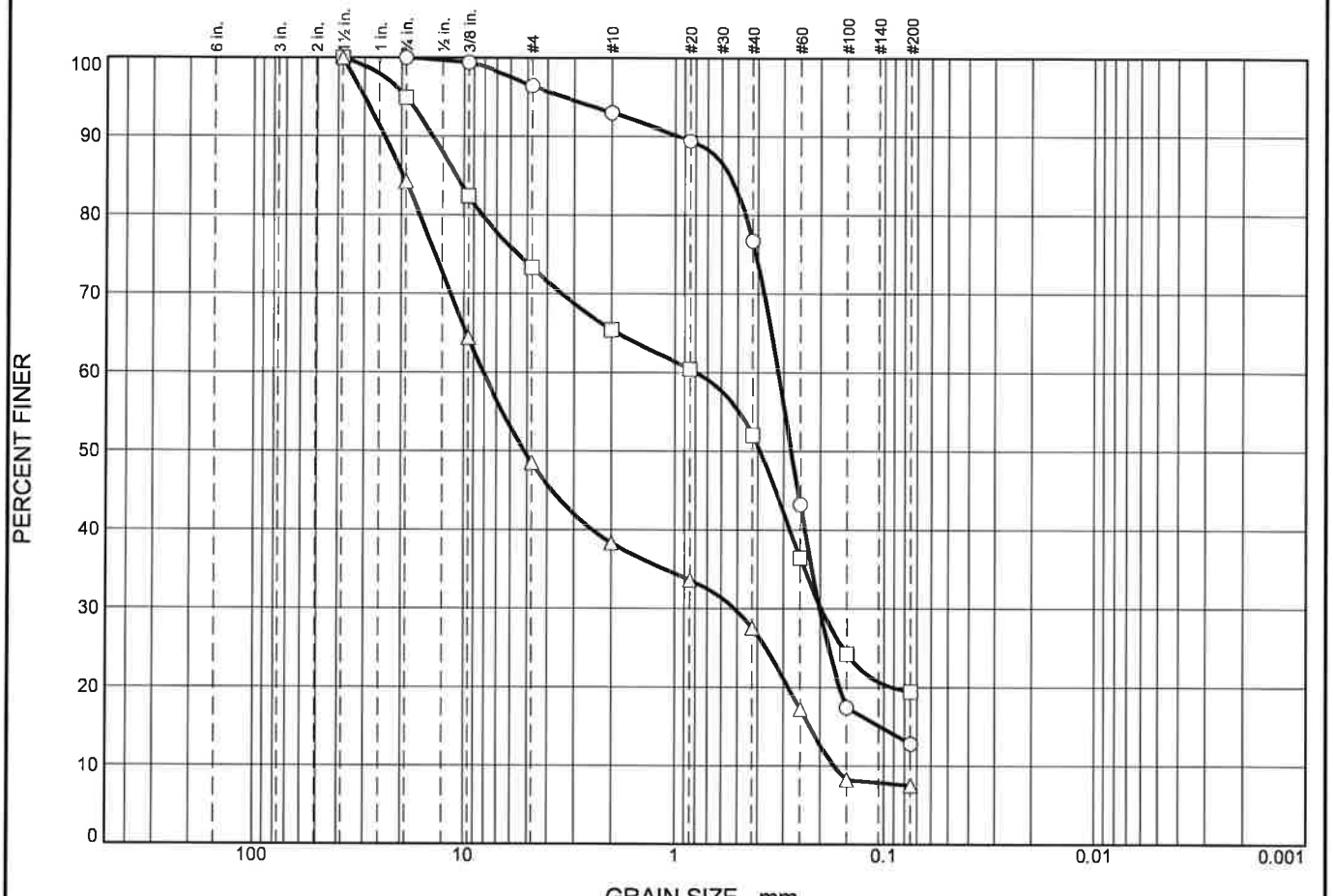
Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	3.6	3.4	16.3	63.9	12.8	
□	0.0	5.1	21.6	7.9	13.4	32.6	19.4	
△	0.0	15.8	35.7	10.2	10.8	20.0	7.5	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_C	C_U
○			0.5486	0.3197	0.2764	0.2012	0.1045			
□			10.9826	0.7969	0.3919	0.1986				
△			19.6419	8.0696	5.1558	0.5172	0.2253	0.1721	0.19	46.88

	Material Description	USCS	AASHTO
○	Silty SAND	SM	
□	Silty SAND with gravel	SM	
△	Poorly graded GRAVEL with silt and sand	GP-GM	

Project No. T-8091 **Client:** Blue Fern Development, LLC

Project: 12th Avenue Towhomes

Shoreline, Washington

○ **Location:** Test Pit TP-1 **Depth:** -4 feet **Sample Number:** 2

□ **Location:** Test Pit TP-2 **Depth:** -4 feet **Sample Number:** 2

△ **Location:** Test Pit TP-3 **Depth:** -2 feet **Sample Number:** 1

Terra Associates, Inc.

Kirkland, WA

Remarks:

○ Tested on April 25, 2019

□ Tested on April 25, 2019

△ Tested on April 25, 2019

Figure A-7

Tested By: FQ

Applicant Exhibit 15

EXHIBIT 16

KEY NOTES:

KEY	NOTE:	DETAIL/ SHEET
1	12" AREA DRAIN RIM 447.00 6" IE (E) 443.00 (FTG DRN) 6" IE (W) 442.50 W/ 2' MIN SUMP	-
2	PRETREATMENT DEVICE (CONTECH CDS2015-4-C) W/ OPEN GRATE LID RIM 445.60 6" IE (S) 443.10 6" IE (N) 443.10 6" IE (E) 443.00 W/ 2' MIN SUMP	K/C10&X/C12
3	R-TANK INFILTRATION FACILITY 9 UNITS WIDE X 11 UNITS LONG X 4 UNITS TALL (11.81'W X 25.8'L X 5.58'D) W/ 2'-WIDE GRAVEL STRIP AROUND PERIMETER FG ABOVE R-TANK 445.62-449.08 TOP OF R-TANK 443.60 6" IE (W) 443.00 BOT OF R-TANK 438.00 BOT OF ROCK 437.00 BOT OF ENGINEERED SOIL 435.50	N/C10
4	CB #7 - TYPE 1 W/ STANDARD GRATE W/ SPILL CONTROL ELBOW & SCREEN RIM 450.27 6" IE (SE) 447.77 6" IE (W) 447.67 6" IE (NE) 447.77 W/ 2' MIN SUMP	G/C09, I&K/C10
5	6" SDCO RIM 462.55 6" IE 460.05	F/C09
6	6" SDCO RIM 454.25 6" IE 451.75	F/C09
7	6" SDCO RIM 451.60 6" IE 449.10	F/C09
8	6" SDCO RIM 447.30 6" IE 445.50	F/C09
9	6" SDCO RIM 459.30 6" IE 453.00	F/C09
10	105.0' L X 5.0' W X 4' D INFILTRATION TRENCH FG ABOVE FACILITY 446.00-450.00 OVERFLOW FROM CB #8 IE 445.00 6" PERF PIPE IE 444.00 BOTTOM OF FACILITY 441.00	O/C10
11	6" SDCO RIM 454.47 6" IE 451.97	F/C09
12	6" SDCO RIM 455.70 6" IE 453.20	F/C09
13	6" SDCO RIM 455.52 6" IE 453.00	F/C09
14	12" SDCO RIM 445.50 12" IE 442.35	F/C09
15	6" SDCO RIM 464.55 6" IE 462.05	F/C09
16	6" SDCO RIM 445.72 6" IE 443.40	F/C09
17	2 LF 6" SD @ 2.00%	W/C11
18	110 LF 6" SD @ 2.00% MIN & 2' MIN COVER	W/C11
19	55 LF 6" SD @ 2.00% MIN & 2' MIN COVER	W/C11
20	105 LF 6" SD @ 2.00% MIN & 2' MIN COVER	W/C11
21	62 LF 6" SD @ 2.00% MIN & 2' MIN COVER	W/C11
22	R-TANK OVERFLOW PIPE 7 LF 6" SD @ 2.00% MIN IE @ EAST END OF PIPE @ 443.60 (END WITHIN GRAVEL) INSTALL WIRE MESH SCREEN ON EAST END OF PIPE TO PREVENT DRAIN ROCK FROM ENTERING PIPE	-
23	3 LF 6" SD @ 2.00% MIN & 2' MIN COVER	W/C11
24	27 LF 6" SD @ 2.00% MIN	W/C11
25	93 LF 6" SD @ 2.00% MIN & 2' MIN COVER	W/C11
26	100 LF 6" SD @ 2.00% MIN & 2' MIN COVER	W/C11
27	105 LF 6" PERF PIPE LAID FLAT W/ CLEANOUT AT NORTH END 6" IE 444.00	F/C09
28	R-TANK MAINTENANCE PORT RIM 447.00	M/C10
29	CB #8 - TYPE 1 W/ STANDARD GRATE W/ SPILL CONTROL ELBOW & SCREEN RIM 446.75 6" IE (S) 445.00 (OVERFLOW 6" IE (S) 444.10 6" IE (N) 444.00 W/ 2' MIN SUMP	G/C09, I&K/C10

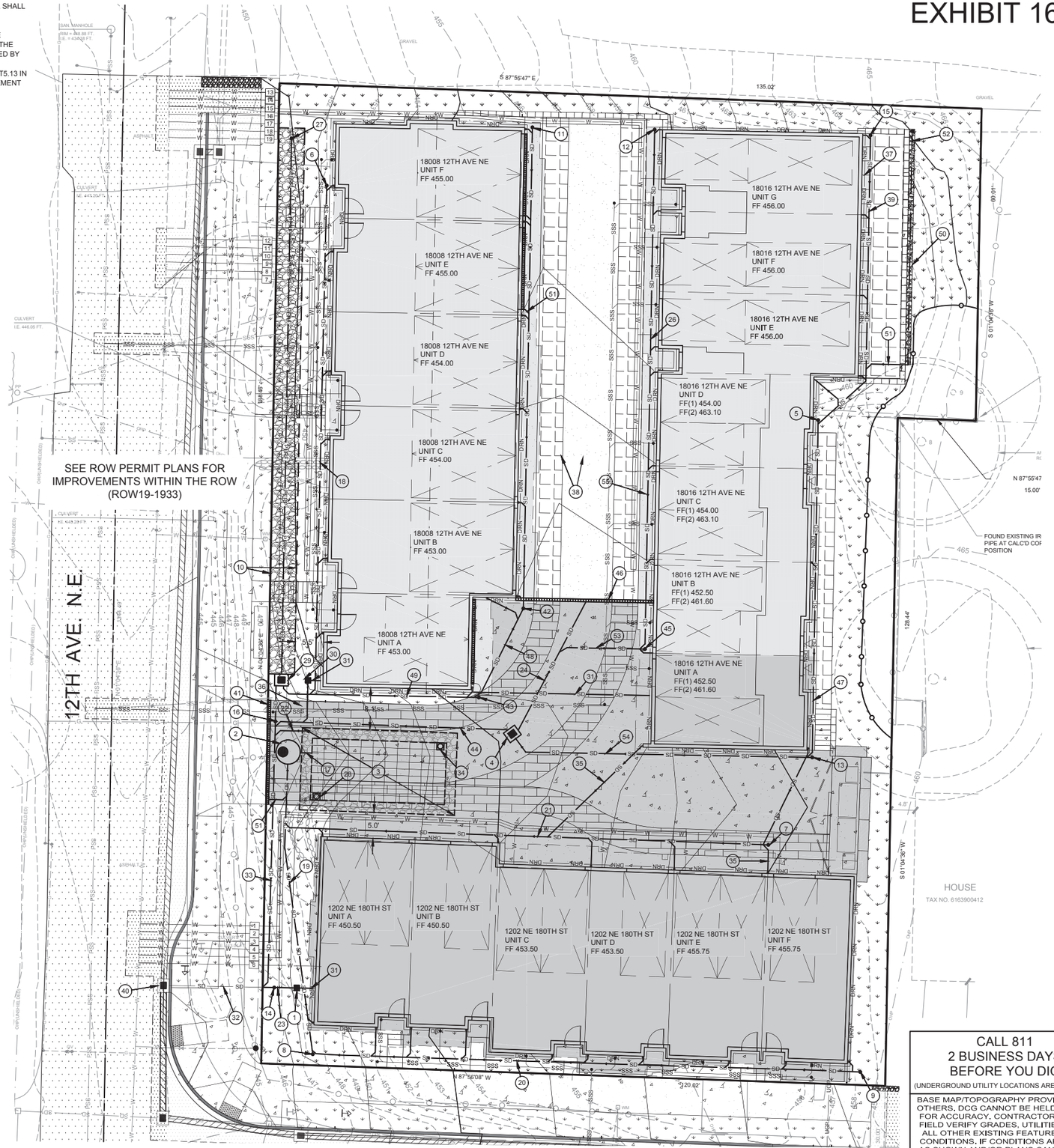
GENERAL NOTES:

1. ALL PIPES BENEATH DRIVING SURFACES WITH LESS THAN 2' COVER SHALL BE SCHEDULE 40, SCHEDULE 80, OR DUCTILE IRON PIPE.
2. PREVENT SUBGRADE COMPACTION OF THE INFILTRATION TRENCH, R-TANK, AND PERMEABLE PAVEMENT SURFACING WHERE FEASIBLE DURING CONSTRUCTION. IF COMPACTED DURING CONSTRUCTION, THE SUBGRADE SHALL BE SCARIFIED TO ORIGINAL STATE AND APPROVED BY A GEOTECHNICAL ENGINEER PRIOR TO PLACING DRAIN ROCK.
3. AMEND ALL DISTURBED PERVIOUS AREAS IN ACCORDANCE W BMP T5.13 IN CHAPTER 5 OF VOLUME V OF THE DOE 2012 STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON (2014 AMENDED).

30	12" AREA DRAIN RIM 448.00 6" IE (E) 445.00 (FTG DRN) 6" IE (S) 444.90 W/ 2' MIN SUMP	-
31	SOLID WALL PVC FOOTING DRAIN TIGHTLINE @ 2.00% MIN	-
32	19 LF 12" DIP SD @ 2.00% MIN (INSTALLED UNDER SEPARATE PERMIT ROW19-1933)	W/C11
33	51 LF 6" SD @ 2.00% MIN & 2' MIN COVER	W/C11
34	R-TANK MAINTENANCE PORT RIM 449.20	M/C10
35	ROOF DOWNSPOUT AND TIGHTLINE @ 2.00% MIN & 2' MIN COVER (TYP)	-
36	6 LF 6" SD @ 2.00% MIN & 2' MIN COVER	W/C11
37	PERIMETER FOOTING DRAIN - PERFORATED PVC PIPE IN 6" MIN 1/2"-3/4" WASHED GRAVEL, WRAPPED IN NON-WOVEN FILTER FABRIC. CLEANOUTS TO BE INSTALLED AT PIPE ENDS (TYP)	-
38	PERMEABLE PAVEMENT SURFACING (TYP)	J/C10
39	61 LF 6" SD @ 2.00% MIN & 2' MIN COVER	W/C11
40	SEE RIGHT-OF-WAY IMPROVEMENT PLANS FOR DRAINAGE IMPROVEMENTS WITHIN THE ROW	-
41	20 LF 6" TRENCH DRAIN RIM ELEV VARIES (SEE SHEET C06) 6" IE (E) 443.75	-
42	6" SDCO RIM 452.15 6" IE 449.65	F/C09
43	6" SDCO RIM 451.22 6" IE 448.72	F/C09
44	45 LF 6" SD @ 2.00% MIN @ 2' MIN COVER	W/C11
45	6" SDCO RIM 451.97 6" IE 449.67	F/C09
46	27 LF 6" TRENCH DRAIN RIM ELEV VARIES 6" IE 449.50	-
47	65 LF 6" SD @ 2.00% MIN & 2' MIN COVER	W/C11
48	19 LF 6" SD @ 2.00% MIN & 2' MIN COVER	W/C11
49	39 LF 6" SD @ 2.00% MIN & 2' MIN COVER	W/C11
50	45 LF 12"-WIDE GRAVEL TRENCH DRAIN TOP OF TRENCH FLUSH W/ FG (462.75-465.00; SEE SHEET C06) 6" IE (S) 461.75 BOT OF TRENCH 461.50	-
51	6" TRENCH DRAIN TIGHTLINE @ 2.00% MIN (TYP)	-
52	44 LF 6" PERF PIPE LAID FLAT W/ CLEANOUT AT NORTH END 6" IE 461.75	-
53	16 LF 6" SD @ 2.00% MIN	W/C11
54	58 LF 6" SD @ 2.00% MIN	W/C11
55	SD FLOW DIRECTION ARROW (TYP)	-

LEGEND:

- CONCRETE
- LANDSCAPE
- PERMEABLE PAVERS WALKWAY (SEE DETAIL J/C10)
- IMPERMEABLE PAVERS
- PERMEABLE PAVEMENT DRIVEWAY (SEE DETAIL J/C10)
- ASPHALT (FULL DEPTH) (UNDER SEPARATE ROW PERMIT #ROW 19-1933)
- ASPHALT (GRIND & OVERLAY) (UNDER SEPARATE ROW PERMIT #ROW 19-1933)
- GRAVEL
- ROOF & PAVEMENT AREA TRIBUTARY TO R-TANK FACILITY
- ROOF AREA TRIBUTARY TO INFILTRATION TRENCH



No.	DATE	BY	REVISION
1	12/11/2019	BI	CYCLE 1 - CITY CORRECTIONS
2	02/28/2020	BI	CYCLE 2 - CITY CORRECTIONS

LEED AP™

LEED ACCREDITED PROFESSIONAL" & THE RELATED ACRONYM & THE LEAD GREEN BUILDING LOGO ARE TRADEMARKS OWNED BY THE U.S. GREEN BUILDING COUNCIL® AND ARE USED HEREIN UNDER A LICENSE AWARDED TO INDIVIDUALS UNDER LICENSE BY THE GREEN BUILDING CERTIFICATION INSTITUTE.

DCG civil structural
9706 4th Ave NE
Suite 300
Seattle, WA 98115
P: 206.523.0024
F: 206.523.1012
www.dcgengr.com

BENJAMIN J. IOOSS
STATE OF WASHINGTON
Digitally signed by Benjamin Iooss
2020.02.28 14:04:30 -08'00'
REGISTERED PROFESSIONAL ENGINEER

OWNER: BLUE FERN DEVELOPMENT, LLC
11232 120TH AVE NE, STE 204
KIRKLAND WA, 98033

PROJECT: 1202 NE 180TH ST, 18008/18016 12TH AVE NE
SHORELINE, WA 98133
DRAINAGE & PAVING PLAN

CALL 811
2 BUSINESS DAYS
BEFORE YOU DIG
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

BASE MAP/TOPOGRAPHY PROVIDED BY OTHERS, DCG CANNOT BE HELD LIABLE FOR ACCURACY. CONTRACTOR SHALL FIELD VERIFY GRADES, UTILITIES, AND ALL OTHER EXISTING FEATURES AND CONDITIONS. IF CONDITIONS ARE NOT AS SHOWN AND/OR PLANS CANNOT BE CONSTRUCTED AS SHOWN, CONTACT DCG PRIOR TO CONSTRUCTION.

PROJ. MANAGER:	BI
DESIGNED BY:	JL
DRAWN BY:	JS
CHECKED BY:	BI
SCALE:	AS SHOWN
DATE: 2/28/2020	REV. 2
SHEET 5 OF 12	

SHEET NUMBER
C05

CAD FILE NUMBER: P:\CLIENTS-CIVIL\BLUE FERN DEVELOPMENT\18002 - 18008 - 18016 12TH AVE NE SHORELINE\DWG\DRAWINGS\SITE DEVELOPMENT PERMIT PLANS\C05 DRAINAGE & PAVING PLAN.DWG
LAST MODIFIED BY: JOSE SUAREZ DATE: 2/25/2020 4:28 PM - SHEET SET: 18010 WALLINGFORD- ORIGINAL SHEET SIZE: ARCH FULL BLEED D (36.00 X 24.00 INCHES)
AUTOCAD VERSION: CIVIL 3D 2018

12th Ave Townhomes

- Applicant – Blue Fern Development, LLC
- Project Number – PLN19-0133
- Associated Permits – PRE18-0192, PLN19-0134, DEV19-1929, ROW19-1933

Summary of Contents

- Vicinity Map
- Application History
- Project Details
- Infrastructure
- Public Comment
- Applicant's Burden of Proof

Vicinity

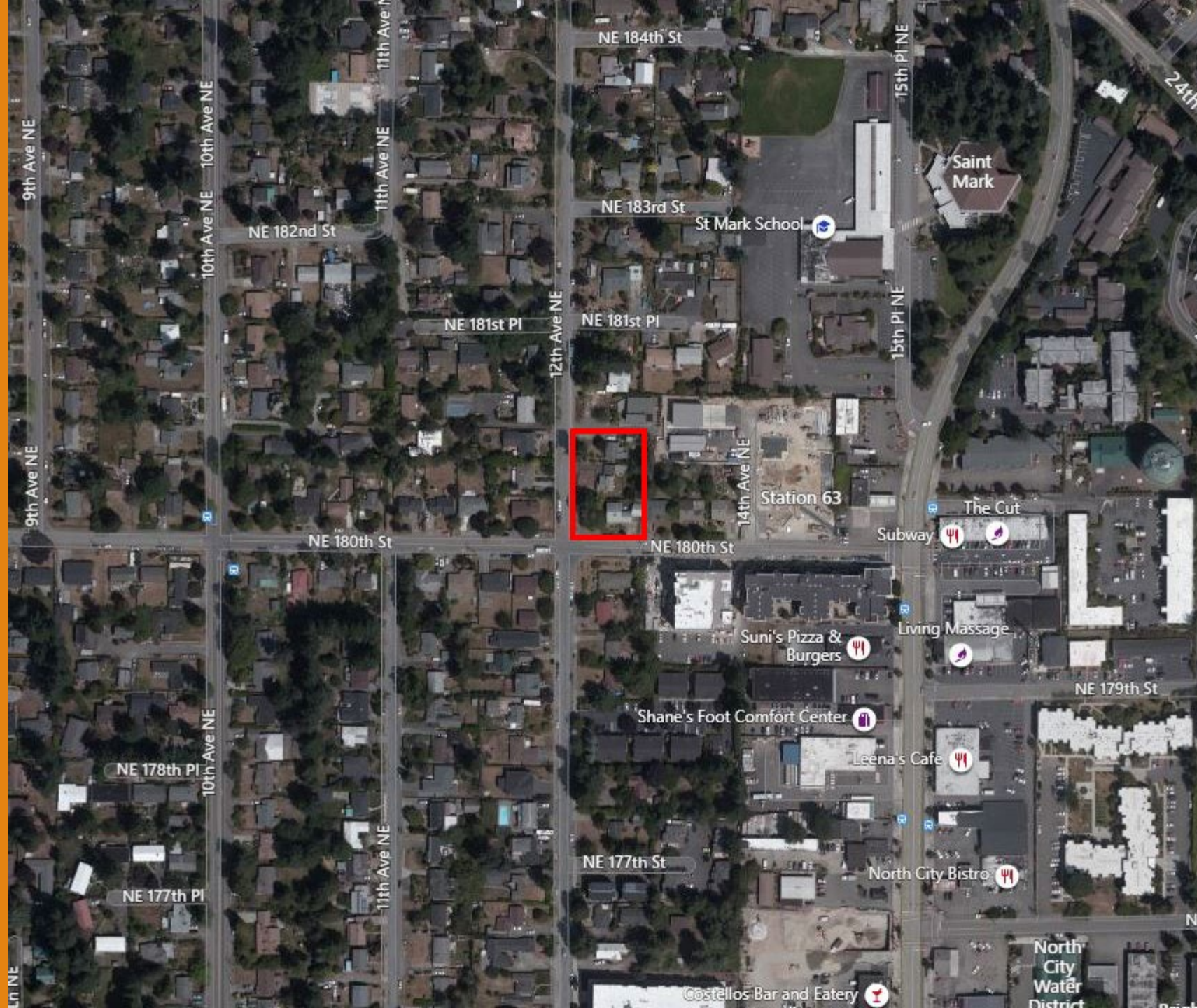
- Located at the intersection of 12th Ave NE & NE 180th St in the City of Shoreline
- Address: 18002, 18008, 18016 12th Ave NE, Shoreline, WA 98155
- Zoning: MUR-35’
- Adjacent Land Uses:

To the North – MUR-35’

To the East – MUR-35’

To the South – NE 180th St.

To the West – 12th Ave NE

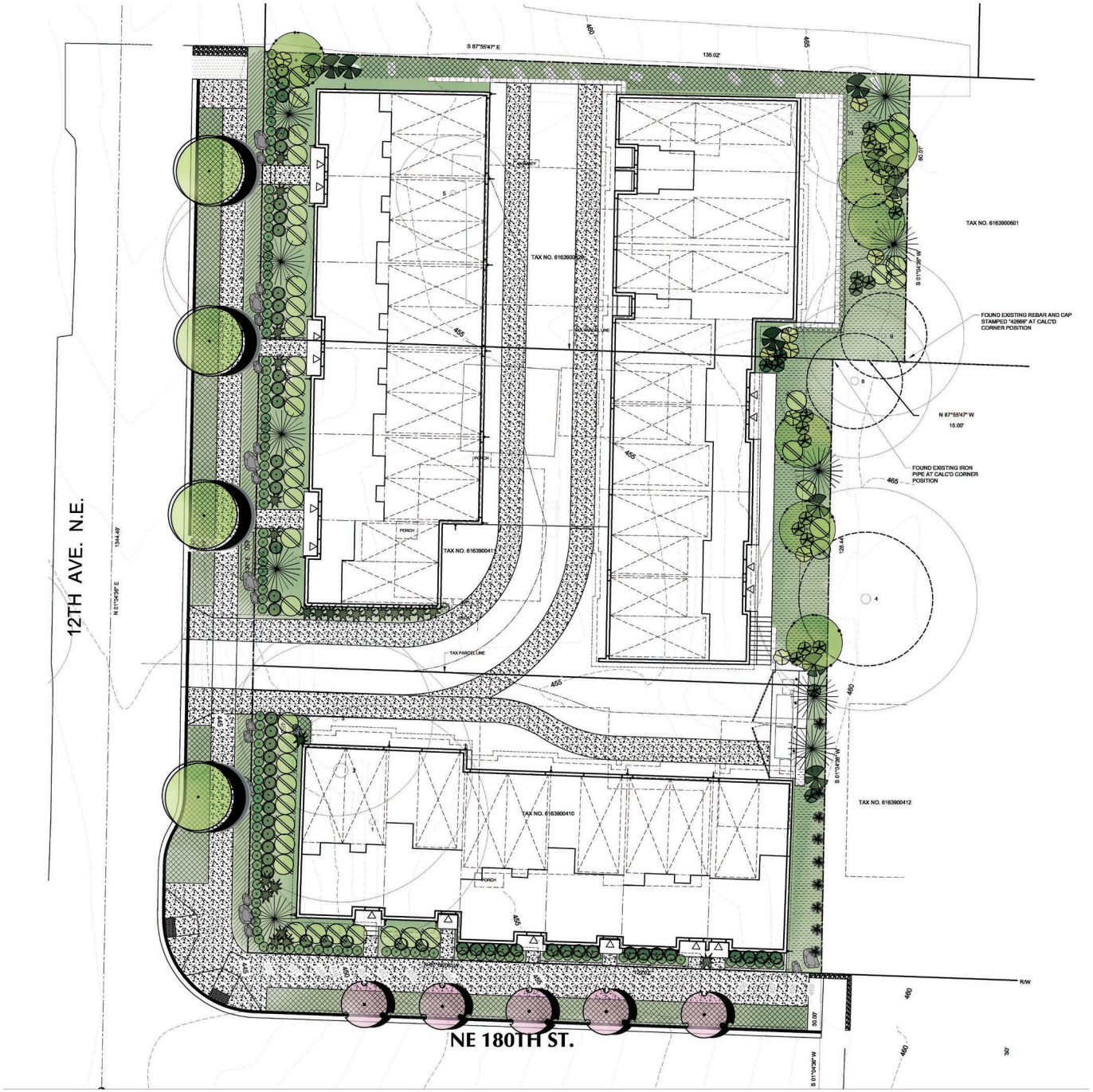


Application History

- Application Submitted: July 26, 2019
- Determined Complete: August 14, 2019
- Notice of Application: August 19, 2019
- Notice of Public Hearing Issued July 13, 2020 for Hearing Examiner public hearing on July 29, 2020
- Current Land Plan: Merge 3 existing parcels and proceed to subdivide into 19 townhome lots in a unit lot subdivision

Project Details

- Project Site:
  - 3 parcels (#’s 6163900410, 6163900411, 6163900420)
  - +/- 23,515 SF (0.54 Acres)
  - 19 Townhome unit lots
- Legal Description:
  - THE SOUTH 60 FEET OF THE WEST 120 FEET OF LOT 1, BLOCK 3, NORTHEND COUNTRY ESTATES, ACCORDING TO THE PLAT THEREOFRECORDED IN VOLUME 28 OF PLATS, PAGE 37, RECORDS OF KING COUNTY, WA.
  - THE WEST 120 FEET OF LOT 1, BLOCK 3, NORTHEND COUNTRY ESTATES, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 28 OF PLATS, PAGE 37, RECORDS OF KING COUNTY, WA. EXCEPT THE SOUTH 60 FEET THEREOF.
  - THE SOUTH 60 FEET OF THE WEST 135 FEET OF LOT 2, BLOCK 3, NORTHEND COUNTRY ESTATES, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 28 OF PLATS, PAGE 37, RECORDS OF KING COUNTY, WA.
- Access: From 12th Ave NE



Project Details

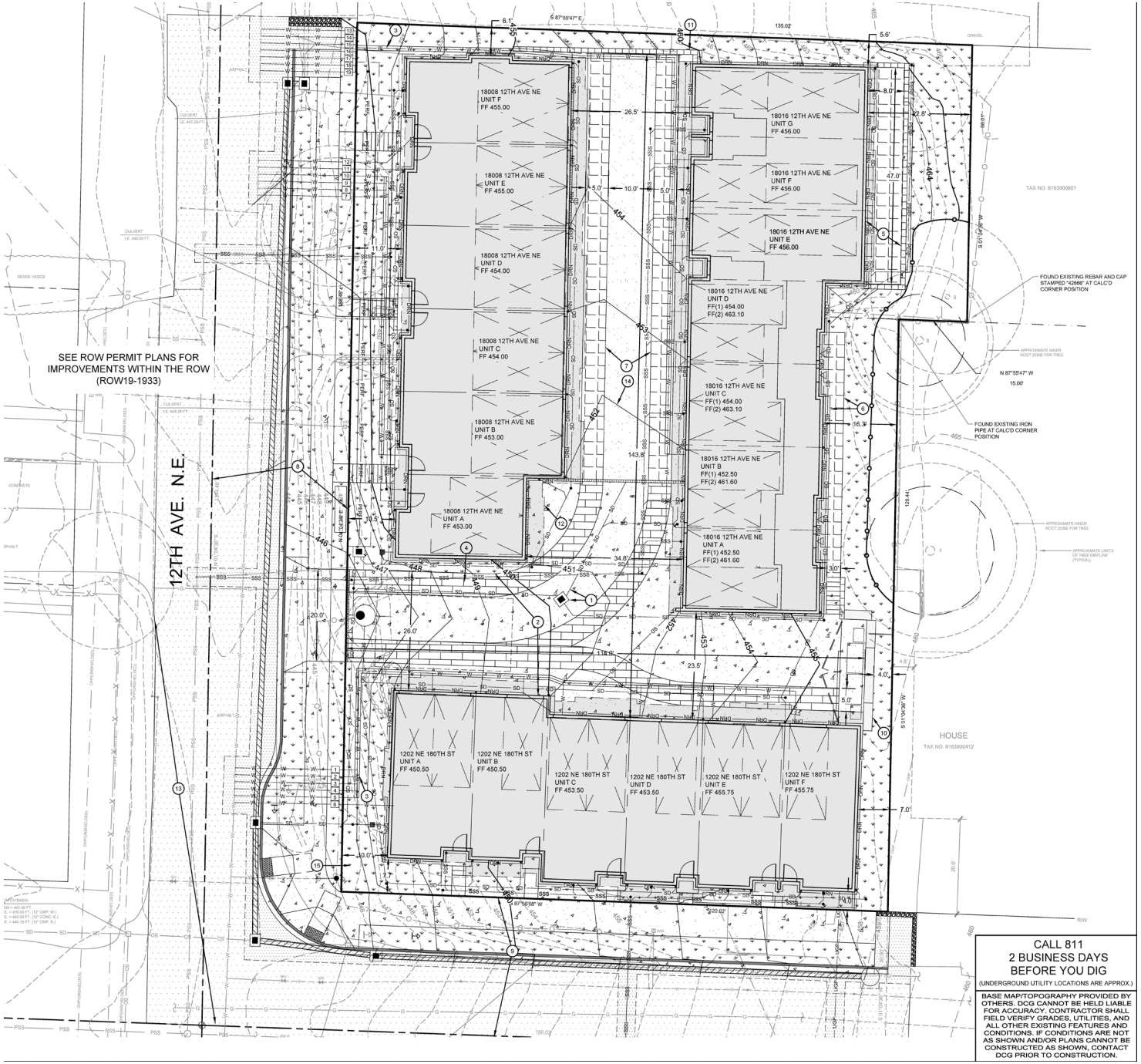
- Height: 35 feet (max. allowed)
  - Measured from average existing grade, per SMC 20.50.050
  - Proposed Heights:
    - Building 1 – 34’-10.5”
    - Building 2 – 33’-10.5”
    - Building 3 – 35’-0”
- Timing:
  - Land Development – 4 Months
  - Home Construction – 11 Months
- Site Characteristics
  - Topography: 2 small, steep slopes to the East and West, approx. 10-15% grade.
  - Access: via 12th Ave NE
  - Critical Areas: none

Building 1 SOUTH ELEVATION

1/8" = 1'-0"

Infrastructure

- Private Access Road, water, sewer, stormwater, gas, power, and communications
- Private Access Road to provide access to all 19 lots and trash enclosure
- Utilities
  - Three 6” Side Sewers to serve 19 units (two from 12th Ave NE and one from NE 180th St.)
  - Stormwater to be collected onsite & mitigated within 2 onsite infiltration systems with overflow routed to the newly extended public storm system within 12th Ave NE
  - Water provided from existing main in 12th Ave. NE
  - Dry utilities to extend on-site as necessary to serve units



Public Comment

- 3 comments received during Notice of Application comment period
- In general, all comments were in opposition to the proposal because of concerns with increased density, traffic, lack of sidewalks, increased on-street parking, and construction impacts.
- The proposal has made provisions to meet all applicable codes and regulations relating to density, height, required parking, stormwater runoff control, etc.
- Sidewalks will be added along the site frontages on 12th Ave NE and NE 180th St. as part of the required improvements required for application and development.
- Construction will follow all regulations of the City of Shoreline.
- No Agency comments were received during the Notice of Application period.

Summary

The applicant has met its burden of proof. The Preliminary plate makes appropriate provisions for public health, safety and welfare through the provision of:

- Housing/use consistent with the City of Shoreline's Comprehensive Plan and current zoning
- Proposal that meets the requirements of all applicable codes and regulations
- All necessary infrastructure

The applicant generally concurs with the Staff Report and proposed Conditions of Approval.

Thank you.

Blue Fern Townhomes Preliminary Formal Subdivision PLN19-0133

Hearing Examiner Public Hearing
July 29, 2020

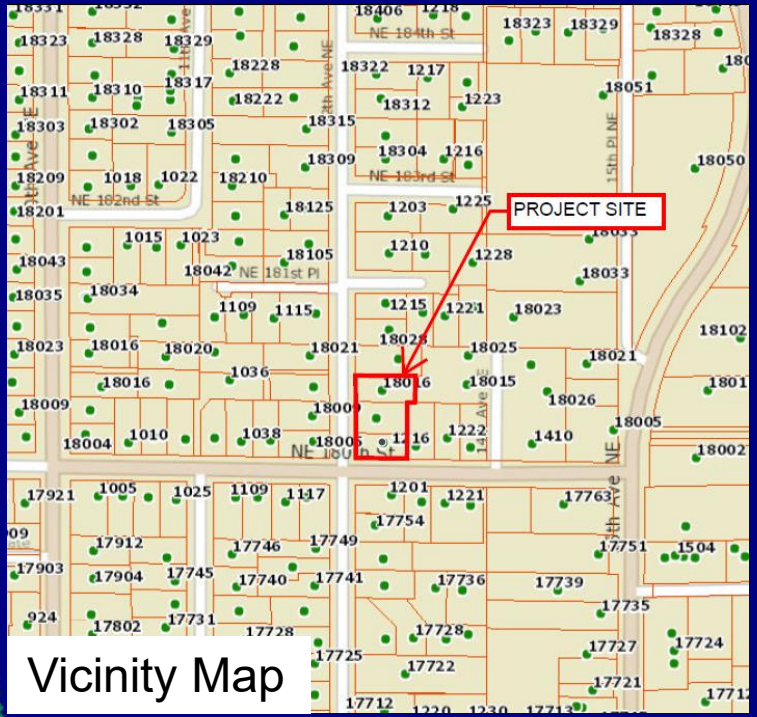
CITY OF SHORELINE

Property Information

- Addresses: 18002, 18008 & 18016 12th Ave NE
- Parcel #s: 6163900410, 6163900411 and 6163900420
- Combined Lot Size: 23,515 sq. ft.
- Zone: Mixed-Use Residential 35’ (MUR-35’)
- Comprehensive Plan Designation: Station Area 3
- Neighborhood: North City

CITY OF SHORELINE

Property



Vicinity Map

Aerial Map

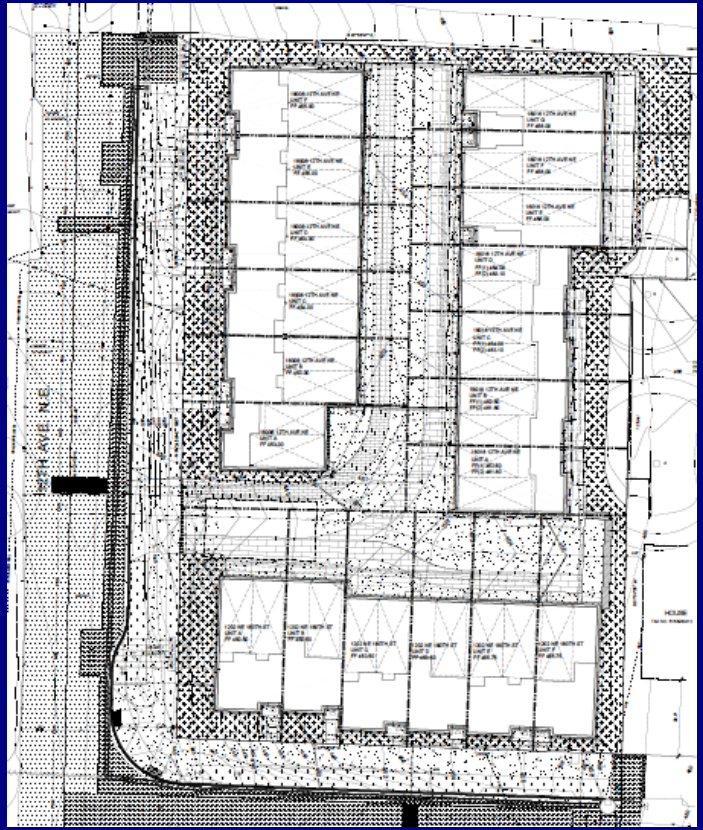
CITY OF SHORELINE

Proposal

Subdivide the existing parcels into nineteen (19) unit lots.

Each proposed lot is rectangular shaped, with an area for an attached home and a portion of the access drive.

This is a consolidated subdivision with building, site development, and right-of-way permits submitted/reviewed concurrently.



CITY OF SHORELINE

Process History

- Pre-Application Meeting: December 18, 2018
- Neighborhood Meeting: July 2, 2019
- Application Submitted: July 26, 2019
- Complete Application: August 14, 2019
- Notice of Application: August 19, 2019
- SEPA Planned Action Determination: February 25, 2019
- Notice of July 29 Public Hearing: July 13, 2020

CITY OF SHORELINE

Decision Criteria

Environmental (20.30.410(B)(1))

a) *The property does not contain critical areas. Subdivision will comply with tree clearing/site development standards.*

b) *Significant amount of earth removal proposed for construction. All lots will share access drive.*

c) *No hazardous conditions on site or in vicinity.*

d) *LID techniques employed, as required under 2014 Dept. of Ecology Manual and 2019 Engineering Development Manual.*

CITY OF SHORELINE

Decision Criteria

Lot and Street Layout (20.30.410(B)(2))

a) *Unit lot boundaries will correspond to unit footprint abutting portion of access drive.*

b) *Six lots front on 12th Ave NE and six front on NE 180th St. Fire/Public Works approved access configuration.*

c) *No lot width/area standards in MUR-35. Footnote 2 allows for modifications for unit lot subdivisions.*

d) *Frontage improvements required along 12th Ave NE and NE 180th St.*

CITY OF SHORELINE

Decision Criteria

Dedications and Improvements (20.30.410(B)(3))

a) *No dedication is required.*

b) *No dedication of park land is required.*

c) *Frontage improvements required along both 12th Ave NE and NE 180th St.*

Decision Criteria

Unit Lot Subdivision (20.30.410(B)(4))

b) All applicable standards at time of vesting (8/14/19) are being met as proposed.

c) Individual unit lots have modified hardscape coverage and setback requirements – some lots will have 100% hardscape and all will have 0' setbacks on at least one side.

- *Site overall meeting development standards for MUR-35.*

d) Shared access and utilities easements will be established as part of this subdivision.

- *All covenants, restrictions, responsibilities shall be recorded prior to final plat OR noted on face of plat*

e) All parking located within each unit lot (proposed townhome garages).

f) A note on the final plat will indicate development limitations of unit lot subdivision.

g) Declaration of Binding Covenant for ULS shall be recorded prior to final plat.

CITY OF SHORELINE

Conclusions

- The proposed subdivision:
  - Has met applicable requirements of the SMC, specifically Title 20 (Development Code).
  - Will make appropriate provisions for public health, safety, and welfare.
  - Will serve the public use and interest.

CITY OF SHORELINE

Recommendation

The Shoreline Planning & Community Development Department recommends **APPROVAL** of the Preliminary Formal Subdivision application PLN19-0133, subject to conditions.

CITY OF SHORELINE

Exhibit 18

Catherine Lee

From: Yasha Gisela Bamberg <yasha3310@yahoo.com>
Sent: Wednesday, August 28, 2019 11:46 AM
To: Catherine Lee
Cc: peter zachara
Subject: [EXTERNAL] Subdivision Application

Reg.: PLN19-0133

Dear Catie Lee,

I appreciate the opportunity to voice my **strong opposition** to the plan of dividing the parcel at 12th Ave NE and NE 180th Street into 19 townhouse unit lots.
My husband and I live at 1201 NE 180th Street, directly opposite the project site. You must be well aware of the construction of another Arabella Apartment building with 81 units right next to us appears to be entered it's final phase after 22 months of noise, disruption, power cuts, blocked driveways, traffic redirection and all sorts of inconveniences. A few houses up the Street a new Fire Station is being constructed; on 15th Ave NE we have several construction sites in various stages of development. And then there is the monstrous apartment block that is being built on the site of the old Post Office.

I have numerous concerns - most of all regarding traffic and safety:
We do not have proper sidewalks on 180th Street. I assume these will have to be built once people move into the 81 new Apartments next to us. The street is being used by many commuters who try to avoid NE 175th St. Currently pedestrians are forced to walk on the shoulder. Wheelchair users or families with strollers have a tough time especially when construction vehicles block the road, which is daily. It is not safe for children to use these streets.

I have no idea where all the people living in these hundreds of new apartments in the future are supposed to park their cars. Even with garage space in these new buildings many tenants will opt out and park on the streets. The lightrail is years away and it is not realistic that the majority will use public transit in the meantime. The bus lines and routes will have to be greatly expanded. Going downtown during commuting hours is smooth, but during other times the options are limited and there are not enough lines serving areas on the NW side of Shoreline or Seattle.

Considering all these ongoing projects and the noise and disruption my neighborhood is dealing with already I do not believe this is the time for the construction of the townhouse units in question.

For the Safety and Sanity of the North City Population please give us a chance to absorb and digest the huge impact of the current projects before piling the next ones on.
Please spend a week living in our neighborhood among the cranes, trucks, torn streets, blocked roads, blocked driveways, non-stop noise before approving more applications.

Sincerely,
Yasha Bamberg

Exhibit 18

Catherine Lee

From: Yasha Gisela Bamberg <yasha3310@yahoo.com>
Sent: Wednesday, August 28, 2019 12:30 PM
To: Catherine Lee
Cc: peter zachara
Subject: [EXTERNAL] Subdivision Application (corrected)

Please excuse the typos in my previous mail...

Reg.: PLN19-0133

Dear Catie Lee,

I appreciate the opportunity to voice my **strong opposition** to the plan of dividing the parcel at 12th Ave NE and NE 180th Street into 19 townhouse unit lots.

My husband and I live at 1201 NE 180th Street, directly opposite the project site.
You must be well aware of the construction of another Arabella Apartment building with 81 units right next to us, which appears to be entering it's final phase after 22 months of noise, disruption, power cuts, blocked driveways, traffic redirection, trash, slush and debris left on our property by the crew and trucks and all sorts of other inconveniences.
A few houses up the Street a new Fire Station is being built; on 15th Ave NE we have several construction sites in various stages of development. And then there is the monstrous apartment block that is being built on the site of the old Post Office.

I have numerous concerns - most of all regarding traffic and safety:
We do not have proper sidewalks on 180th Street. I assume these will have to be built once people move into the 81 new Apartments next to us. The street is being used by many commuters who try to avoid NE 175th St. Currently pedestrians are forced to walk on the shoulder. Wheelchair users or families with strollers have a tough time especially when construction vehicles block the road, which is daily. **It is not safe for children to use these streets.** It will not be safe until new sidewalks are in place.

I have no idea where all the people living in these hundreds of new apartments in the future are supposed to park their cars. Even with garage space in these new buildings many tenants will opt out and park on the streets. The lightrail is years away and it is not realistic that the majority will use public transit in the meantime. The bus lines and routes will have to be greatly expanded. Going downtown during commuting hours is smooth, but during other times the options are limited and there are not enough lines serving areas on the NW side of Shoreline or Seattle.

Considering all these ongoing projects and the noise, and disruption my neighborhood is dealing with already I do not believe this is the time for the construction of the townhouse units in question.

For the Safety and Sanity of the North City Population please give us a chance to absorb and digest the huge impact of the current projects before piling the next ones on.
Please spend a week living in our neighborhood among the cranes, trucks, torn streets, blocked roads, blocked driveways, non-stop noise before approving more applications.

Sincerely,
Yasha Bamberg

Sent from my iPad

Exhibit 18

Catherine Lee

From: peter zachara <peterzachara@yahoo.com>
Sent: Friday, August 30, 2019 6:07 PM
To: Catherine Lee
Subject: [EXTERNAL] comment on proposed land use action at 18002, 18008, and 180016 NE 12th Ave

Dear Sirs,

I read your proposal with interest. I am adamantly opposed to it.

I live at this intersection and have suffered through the last year and a half of constant noise, street closures and petty theft from my carport. But I suppose I could live with that.

The real question is have you given any thought into how Shoreline, in general should look? Are 19 units crammed into three lots part of the look you hope to achieve? Is Shoreline a place people move to because they like the neighborhood or is it a place people move to because its a cheaper option to any other light rail stop, such as Northgate? Just for example, in front of my house on 12th Ave NE, there isn't a single parking space due to residents from the Arebella parking on the street. Two cars can't pass each other on 12th Ave because of the parking constriction. I have to clean up litter left on the street and in my yard on a daily basis. Is this how we want to live in the future?

I see from the plot diagram six houses will abut 180th St. Where will these residents park? Certainly not on 180th. What about sidewalks? What about a roundabout to slow traffic roaring up and down 180th St.? What about a crosswalk so that all the new children can cross the street to the already ridiculously crowded and unsafe bus stop? How much density is too much?

Do you have a plan? Do you even care? It seems that the City Council and the Planning Dept. have a singular lack of respect for this neighborhood and the people living in it. Have you ever gone down to Fremont and seen two classy townhouses sitting on a lot? That's what responsible development looks like.

Why don't you come down to this location and look at it and then tell me in good faith that this development is suitable or even possible.

Peter Zachara
Location Scout/Assistant Location Manager
Cell # 206-778-1647

http://www.fotografik.com/user/peterzachara
peterzachara@yahoo.com
http://www.peterzachara.com

Catherine Lee

From: Catherine Lee
Sent: Wednesday, September 4, 2019 4:07 PM
To: Cory Malon
Subject: RE: [EXTERNAL] PLN19-0133 NOA: Preliminary Formal Subdivisionapplication to divide one (1) parcel into nineteen (19) townhouse unit lots.

Hi Cory,

My apologies. I thought you were sending a second email about PLN19-0042 which was approved in April.

For PLN19-0133 the comment period ended yesterday but I will go ahead and add you as a party of record.

It is a formal subdivision, so there will be a public hearing before the Hearing Examiner, who will make a recommendation to City Council. Then City Council makes the final decision at a public meeting.

City staff reviews the submitted applications to ensure they conform to all city codes before the Hearing Examiner meeting is scheduled. You will be notified of this public hearing before the Hearing Examiner.

Best Regards,

Catie Lee, AICP | Associate Planner
Planning & Community Development Department
17500 Midvale Avenue N, Shoreline, WA 98133
206-801-2557
clee@shorelinewa.gov

Hours of Operation for Permit Center:
Monday 8:00 a.m. to 5:00 p.m.
Tuesday 8:00 a.m. to 5:00 p.m.
Wednesday 1:00 p.m. to 5:00 p.m.
Thursday 8:00 a.m. to 5:00 p.m.
Friday 8:00 a.m. to 5:00 p.m.
Permit processing ends at 4:00 p.m. each day

From: Cory Malon <cory.a.malon@gmail.com>
Sent: Wednesday, September 4, 2019 3:54 PM
To: Catherine Lee <clee@shorelinewa.gov>
Subject: RE: [EXTERNAL] PLN19-0133 NOA: Preliminary Formal Subdivisionapplication to divide one (1) parcel into nineteen (19) townhouse unit lots.

Hi Catie,

I suppose I am confused about how this could have been approved 4 months ago. The website shows a date of 8/19/2019 for the Notice of Application with the attached document stating that the public comment period was open through September 3rd.

While I'm not overly optimistic that public comment on these matters will have much if any impact on what is transpiring around our city, I would like to be able to voice my opinions and concerns in a more timely fashion prior to any approvals that may occur. Is there any information you might be able to provide with how this process takes place that could help citizens like myself be more pro-active in fighting to preserve our way of life?

Thanks,
Cory Malon

From: Catherine Lee
Sent: Wednesday, September 4, 2019 3:47 PM
To: Cory Malon
Subject: RE: [EXTERNAL] PLN19-0133 NOA: Preliminary Formal Subdivisionapplication to divide one (1) parcel into nineteen (19) townhouse unit lots.

Hi Cory,

Since it was approved over four months ago the file has been archived. I can save your messages electronically though and attach them in our permitting system.

Best Regards,

Catie Lee, AICP | Associate Planner
Planning & Community Development Department
17500 Midvale Avenue N, Shoreline, WA 98133
206-801-2557
clee@shorelinewa.gov

Hours of Operation for Permit Center:
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Thursday 8:00 a.m. to 5:00 p.m.
Friday 8:00 a.m. to 5:00 p.m.
Permit processing ends at 4:00 p.m. each day

From: Cory Malon <cory.a.malon@gmail.com>
Sent: Wednesday, September 4, 2019 3:36 PM
To: Catherine Lee <clee@shorelinewa.gov>
Subject: [EXTERNAL] PLN19-0133 NOA: Preliminary Formal Subdivision application to divide one (1) parcel into nineteen (19) townhouse unit lots.

I realize that I've learned of this proposed land use quite literally a day late for public comment, however I am submitting this in the hopes in may by some miracle be entered into the record anyway.

I oppose PLN19-0133 NOA. I oppose the destruction of single family dwellings for high-density monstrosities to be put in their place. I oppose the destruction of nature and over-crowding that comes along with it, as well as the endless construction traffic and noise. This is a detriment to our community and should not be allowed to proceed.

Cory Malon

NORTH CITY WATER DISTRICT CERTIFICATE OF WATER AVAILABILITY NUMBER Task Order 1638

This certificate provides the Department of Health and Planning and Development Services with information necessary to evaluate development proposals

SHORELINE

Please return to:

PLANNING AND DEVELOPMENT SERVICES
17500 Midvale Avenue North
Shoreline, Washington 98133-4905
(206) 801-2500

CITY OF SHORELINE CERTIFICATE OF WATER AVAILABILITY

Do not write in this box	
Number	Name

☒ Building Permit ☐ Preliminary Plat or PUD
☐ Short Subdivision ☐ Rezone or Other _____

Applicant's Name Blue Fern Development, LLC

Proposed Use Develop 19 Townhomes

Location 18002, 18008, 18016 12TH AVE NE

(Attach map and legal description if necessary)

WATER PURVEYOR INFORMATION

Domestic Service Only:

1. a. ☒ Water will be provided by service connection only to an existing 12 (size) inch water main 20 feet from the site.

Domestic, Fire and Other Service: (See back of form)

b. ☒ Water service will require an improvement to the water system of:
- ☐ (1) _____ feet of water main to reach the site; and/or
- ☐ (2) the construction of a distribution system on the site; and/or
- ☒ (3) other (describe) improvement may be required, depending on fire flow requirement

2. a. ☒ The water system is in conformance with a County approved water comprehensive plan.
OR b. ☐ The water system improvement will require a water comprehensive plan amendment.

3. a. ☒ The proposed project is within the corporate limits of the district, or has been granted Boundary Review Board approval for extension of service outside the district or city, or is within the County approved service area of a private water purveyor.

OR b. ☐ Annexation or BRB approval will be necessary to provide service.

4. a. ☒ Water is/~~or will be~~ available at the rate of flow and duration indicated below at no less than 20 psi measured at the fire hydrant 75' to center of development frontage (or as marked on the attached map):

Rate of Flow
- ☐ Less than 500 gpm (approx. _____gpm)
- ☐ 500 to 999 gpm
- ☐ 1,000 gpm or more
- ☐ flow test of _____gpm
- ☒ calculation of 5900 gpm

Duration
- ☐ less than 1 hour
- ☐ 1 hour to 2 hours
- ☒ 2 hours or more
- ☐ other _____

(Commercial Building permits require flow test or calculation)

OR b. ☐ Water system is not capable of providing fire flow.

COMMENTS/CONDITIONS: (1) The fire flow requirement for the applicant's proposed project must be determined to identify if improvements to the District's system are necessary. (2) This is not an application for or approval of water service to the proposed site. A proper application must be filed with and accepted by the District before service will be provided. The District has a connection charge (also called general facilities charge) and meter installation charge for each new water service provided. It is recommended that the applicant consult with the District to obtain applicable fees, charges, and procedures which may change during the property development process.

I hereby certify that the above water purveyor information is true. This certification shall be valid for one year from date of signature.

NORTH CITY WATER DISTRICT	Denny Clouse
Agency Name	Signatory Name
Operations Manager	Denny A Clouse 7-31-2020
Title	Signature Date

ADDITIONAL INFORMATION FOR EACH NUMBERED ITEM ON FORM FRONT

1A. Domestic service only is referenced in this item, 1A. Domestic service is for in-house consumption only and excludes fire protection.

1B. Service for a combination of domestic, fire and other conditions is referenced in this item.

4A. A computer analysis of the District's water system was performed for the purpose of determining the available water supply to fight a fire at the project location described above. This analysis was based on the District's existing water system, without any development related improvements. The results of the analysis indicate the fire flow capacity of the District's existing system as shown on this form at a minimum residual pressure of 20 psi at all points throughout the distribution system. Actual fire flows may vary due to water system configuration changes, time of day, demands on system, and operational parameters.

A summary of the operational conditions used in the analysis follows:

- The District was experiencing buildout peak day demand conditions.
- Supply Stations 1 and 3, 660 Zone Booster Pump Station, and Booster Stations 1 and 2 were operating. Supply Station 3 connected to 492 Zone.
- The 3.7 MG Reservoir level was drawn down __34.5___ feet, and the 2.0 MG 424 Zone Reservoir level was drawn down _19___ feet.
- All pressure reducing stations were operating at their normal setpoints.
- WAC 246-290-230 (6) Distribution systems – If fire flow is to be provided, the distribution system shall also provide maximum day demand (MDD) plus the required fire flow at a pressure of at least 20 psi (140 kPa) at all points throughout the distribution system, and under the condition where the designed volume of fire suppression and equalizing storage has been depleted.
- Maximum allowed velocity in the distribution system is 10 feet per second during peak day demand and fire flow conditions.

North City WATER DISTRICT

1519 NE 177th St. • P.O. Box 55367 • Shoreline, WA 98155 • Phone: 206.362.8100 • Fax: 206.361.0629

July 31, 2020

Blue Fern Development, LLC
Attn Evan Mann
11232 120TH AVE NE Suite 204
Kirkland, WA 98033

Re: Fire Flow Analysis Task Order No. 1638
18002, 18008, 18016 12TH AVE NE
Shoreline, WA 98155

Dear Evan Mann,

Attached is the Fire Flow Analysis requested for your project. Below are the requirements based on the District's design criteria.

Fire Flow Available per Attached	**5900 gpm**
Water System Improvements Required to Complete Project	**NO**
Water System Extension Required	**NO**
Analysis Expiration Date	**07/30/2021**

Please contact North City Water District for Water System Improvement details.

Note: North City Water District requires the property owner to upgrade the existing water service to meet the current District Standards. Fire Service may be required.

Should you have any question concerning the above, please feel free to contact me at (206) 362-8100.

Sincerely,

Denny L Clouse

Denny Clouse,
Operations Manager