



## Technical Memorandum

### Erosion and Sediment Control Plan

1107 6<sup>th</sup> Street Southeast  
Bandon, Oregon 97411

July 29, 2022

*Prepared for:*

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Project No. 959-22001-03

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EXP. 2/1/2023

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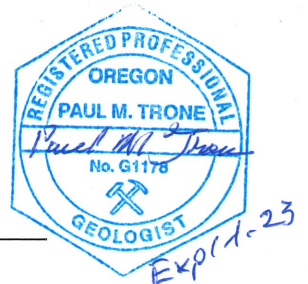
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## **Technical Memorandum**

### **Erosion Prevention and Sediment Control Plan**

**1107 6th Street SE  
Bandon, Oregon 97411**

#### **1.0 INTRODUCTION**

This technical memorandum presents the Erosion and Sediment Control Plan (ESCP) prepared by EVREN Northwest, Inc. (ENW) to be referenced during the construction of a proposed garage at 1107 6<sup>th</sup> Street SE in Bandon, Oregon (see Figure 1). The findings and recommendations presented in the Plan are specific to that project and property.

#### **1.1 Purpose**

The purpose of the ESCP is to provide guidance for (1) limiting the disturbance of site soils during site excavation, (2) preventing the erosion of exposed soils during and following garage construction, and (3) controlling sediment generated by unavoidable soil erosion. The Plan was prepared at the request of the property owner and is a requirement of the/City building permit issued for the project. This plan has been developed in accordance with guidelines provided by City of Bandon buildings codes, Chapter 17.78.

#### **1.2 Site Setting**

This section provides a brief description of the subject property and surrounding area. A more detailed description is provided in ENW's July 29, 2022 report for the site titled "Reconnaissance-Level Geologic Hazard Assessment".

The subject property consists of a developed residential lot that is approximately 200-feet long by 100-feet wide and located in the northeast quarter of the southeast quarter of Section 30, Township 28 south, Range 14 west of the Willamette Meridian in Bandon, Oregon (Figures 1 and 2). It is bordered on the east and west by lots developed with single family residences, on the south by 6<sup>th</sup> Street SE, and on the north by the undeveloped drainage corridor of Ferry Creek (see Figures 2 and 3). The subject property is currently developed with a single-story rental home with attached garage situated on east-central portion of the lot and a smaller studio located approximately twenty-five feet behind (north of) the rental home. A driveway on the eastern edge of the property serves the rental home, and a driveway on the western edge serves the studio. The proposed garage is to be located at the north end of the western driveway and west of the studio. The portion of the lot to the south of the rental home is lawn and the portion north of the studio is woodland (see Figure 3 and photographs in Appendix A).

The homes in the area are served by municipal water; however, municipal sanitary and storm sewers are not available. According to the property owner the domestic waste from both residences is routed to an on-site septic tank and gravity fed drainfield system.

### 1.3 Topography/Geomorphology

The study area is located on a broad, elevated, marine terrace landform that underlies Bandon and the coastal strip for approximately 10 miles south of Bandon. In the project area the terrace surface has been cut into by Ferry Creek and its tributaries. The southern three-quarters of the subject property is relatively flat and approximately 40-feet above mean sea level (amsl). The northern quarter of the property is quite steep and drops into the Ferry Creek drainage. The elevation of Ferry Creek near the subject property was not determined, but based on area topographic maps, it appears to be at least twenty feet lower in elevation than the terrace surface (see Figure 1). As shown on the site plan (Figure 3), the slope break between the flat and sloping ground is immediately adjacent to the north sides of the studio and the proposed garage.

### 1.4 Hydrology

No surface water features (seeps, streams, ponds, etc.) were observed on the subject property during ENW's March 4, 2022, visit to the site. However, the presence of roadside ditches along 6<sup>th</sup> Street SE and various drainpipes discharging to the Ferry Creek drainage (Figure 3 and Appendix A) suggest that storm water management is an issue during wet seasons of the year. Spring discharge was observed on the slope north of the subject property. Since the boundary of the subject property had not been marked in the field, the distance of the spring from the subject property could not be determined. Water from the spring flowed downslope to a marsh area that covers the southern portion of the broad the Ferry Creek drainage. The main channel of the creek appeared to be on the far (north) side of the drainage.

### 1.5 Geology

**Regional:** Beaulieu and Hughes (1975)<sup>1</sup> map the entire coastal strip extending 10 miles south of Bandon and the Coquille River and 2 to 4 miles east from the Pacific shoreline as being underlain by Quaternary marine terrace deposits consisting of "unconsolidated to semi-consolidated flat-lying and elevated marine deposits of sand, silt, clay, and gravel...". These deposits reportedly range in thickness from a few feet to over fifty feet and are typically underlain by bedrock geologic units of Tertiary age. The bedrock unit in the Bandon area is identified by Beaulieu and Hughes as the Roseburg Formation, which they describe as rhythmically bedded hard sandstone and siltstone with associated marine basalts.

**Site:** The surface geology of the subject property is mapped by Beaulieu and Hughes as Quaternary marine terrace deposits (described above). ENW reviewed water supply well reports (well logs) for two domestic water wells reported to have been completed in the same quarter section (160-acre area) as the subject property and on file in the Oregon Water Resources Department (OWRD) well log data base (GRID database). Copies of these well logs are in Appendix B. These well logs indicate that the terrace deposits are approximately 20- to 25-feet thick and consist primarily of fine to medium gravel and sand. The natural land surface in the developed portion of the subject property has been modified by development related activities, and the undeveloped portion of the property is covered with dense vegetation. Surface soils in roadside ditches and other exposed areas on and near the subject property consist of medium-

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<sup>1</sup> Beaulieu, J. D., and Hughes, P. W., 1975, Environmental geology of western Coos and Douglas Counties, Oregon: Oregon Department of Geology and Mineral Industries Bulletin 87, 148 p., scale 1:62,500.

stiff to stiff silts and sandy silts. Soil (sediment) exposed at and downstream of the spring (approximately 10- to 15-feet lower in elevation than the terrace surface) consists of loose sandy gravel. (See Appendix A).

## **1.6 Hydrogeology/Ground Water**

Well logs (Appendix B) indicate that ground water is present in the marine terrace deposits. Static water levels reported on the two well logs reviewed by ENW are 16' below ground surface (bgs) and 12.8' bgs. This shallow ground water is recharged by the infiltration and downward percolation of incident precipitation, and discharges naturally to seeps and springs or as underflow to streams and other surface water features. Ground water can also be withdrawn by wells. The spring observed north of the subject property is likely the result of ground water discharge from the terrace deposits.

## **2.0 ESCP ELEMENTS**

### **2.1 Limit Disturbance Area**

The area to be disturbed by vegetation removal, soil excavation and stockpiling, equipment and materials storage, or other project related activities will be limited to the smallest practicable area. As shown on Figure 3, the proposed site disturbance area includes only those portions of the site beneath or within four (4) feet of the proposed building footprint and a portion of the existing driveway. In addition, site access will be limited to the existing driveway. All vehicles entering and leaving the site will do so via this route. All cleared vegetation and excess soil will be taken off-site for proper disposal.

### **2.2 Limit Soil Excavation and Removal to Dry Periods**

To the maximum degree possible, site clearing and soil excavation and hauling activities will be limited to periods of dry weather. In the event that this is not possible, all erosion prevention and sediment control measures described below will be put in place prior to initiating or continuing site clearing or soil excavation activities.

### **2.3 Protect Exposed Soil**

Stockpiled soils or bare soil areas that are expected to be exposed to the elements for an extended period of time (more than a week) or that are subject to significant rainfall events (>0.25-inch/24 hrs.) will be covered to prevent excessive erosion. Stockpiled soils will be covered with plastic sheeting that is strong enough and adequately weighted to prevent damage or displacement by heavy winds. Exposed soil will be covered with an adequate thickness of loose straw, bark-dust, wood chips, or other similar material to prevent soil erosion from precipitation. These protective coverings will be maintained and will remain in place until permanent erosion prevention measures (landscaping, sod, pavement, structures, etc.) have been completed.

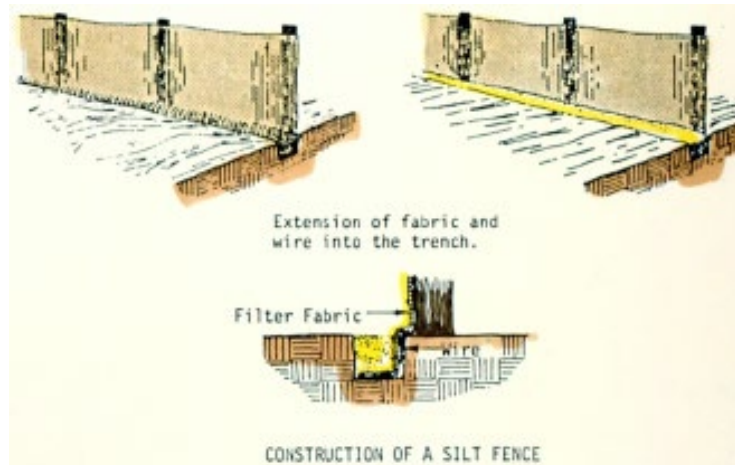
### **2.4 Perimeter Containment**

As shown on Figure 3, a continuous sediment fence will be installed down slope of the entire disturbance area and along the drive access from 6<sup>th</sup> Street. The fence will be installed in such a manner that it will prevent the further down slope movement of any sediment generated by or resulting from the project excavation or home construction activities. The effectiveness of a silt fence is tied to how well it is anchored to the slope; therefore, the filter fabric will need to be extended into a shallow trench excavated on the uphill side of the silt fence (see detail 2.1 below). The sediment fence will be inspected on a regular basis during the construction process.



Maintenance, such as damage repair or the removal of excessive sediment build up will be carried out as needed.

#### Detail 2.1. Silt Fence Detail



#### 2.4.1 Storm Water Control and Drainage Protection

As noted above, no surface water features are located in or immediately adjacent to the proposed building site. It is anticipated that most storm water runoff from the building area will be as un-channelized sheet runoff to the north. Any sediment being transported by such runoff should be captured by the sediment fence discussed above. However, to protect channelized storm water flow in the ditch along 6<sup>th</sup> Street SE, additional sediment fencing will be installed along the east and west margins of the driveway apron from 6<sup>th</sup> Street (see Figure 3).

#### 2.5 Potential Non-Erosion Pollution

Such non-erosion pollution associated with construction such as petrochemicals, solid wastes, construction chemicals, or wastewaters shall be prevented from leaving the construction site through proper handling, disposal, site monitoring and clean-up activities. The site will be inspected on a regular basis during the construction process for the presence of such materials and when present they will be immediately and appropriately disposed and/or recycled.

Pesticides and fertilizers shall not be used as part of site construction or erosion control.

### 3.0 PLAN IMPLEMENTATION

ENW will work closely with the property owner and construction project manager to ensure that the elements of the ESCP are implemented in a timely manner. The sediment fence controls should be put in place prior to beginning any activities that could disturb site soils. The need for plastic sheeting, soil cover materials, and additional straw bales should be anticipated by the construction project manager, and those materials stockpiled on site well in advance of their being needed.

#### 4.0 CITY CODE REQUIREMENTS

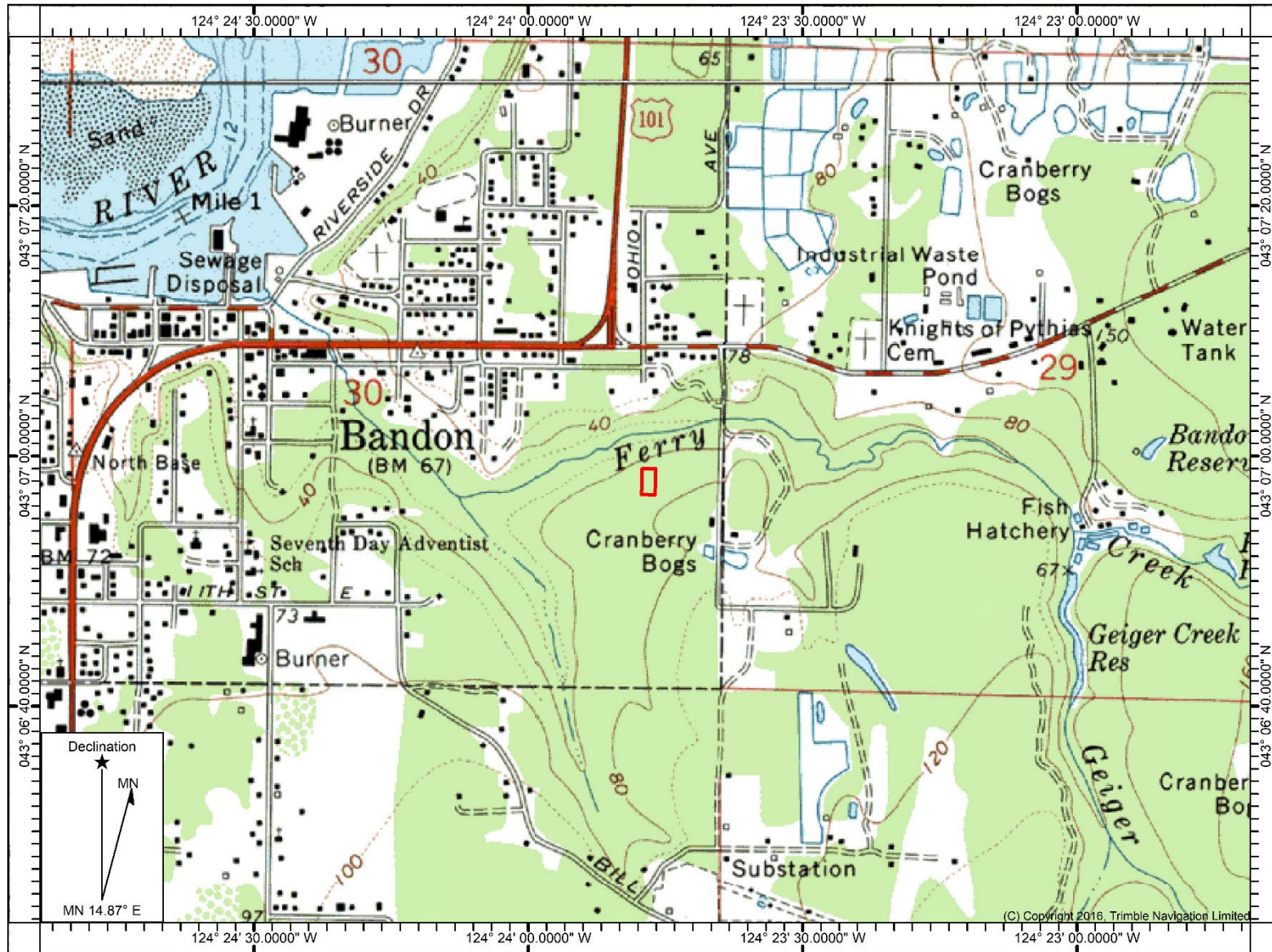
The City of Bandon has identified requirements for Erosion Control Measures within the City (Chapter 17.78) that are subject to the following requirements as part of site development by application (actual City code in italics):

1. *Stripping of vegetation, grading, or other soil disturbance shall be done in a manner which will minimize soil erosion, stabilize the soil as quickly as practicable, and expose the smallest practical area at any one time during construction;*
  - a. See Sections 2.1 through 2.3
2. *Development plans shall minimize cut or fill operations so as to prevent off-site impacts;*
  - a. See Section 2.2
3. *Temporary vegetation and/or mulching shall be used to protect exposed critical areas during development;*
  - a. See Section 2.3
4. *Permanent plantings and any required structural erosion control and drainage measures shall be installed as soon as practical;*
  - a. See Section 2.3 and 2.4
5. *Provisions shall be made to effectively accommodate increased runoff caused by altered soil and surface conditions during and after development. The rate of surface water runoff shall be structurally retarded where necessary;*
  - a. See Section 2.4
6. *Provisions shall be made to prevent surface water from damaging the cut face of excavations or the sloping surface of fills by installation of temporary or permanent drainage across or above such areas, or by other suitable stabilization measures such as mulching, seeding, planting, or armoring with rolled erosion control products, stone, or other similar methods;*
  - a. Not applicable
7. *All drainage provisions shall be designed to adequately carry existing and potential surface runoff from the twenty-year frequency storm to suitable drainageways such as storm drains, natural watercourses, or drainage swales. In no case shall runoff be directed in such a way that it significantly decreases the stability of known landslides or areas identified as unstable slopes prone to earth movement, either by erosion or increase of groundwater pressure;*
  - a. As recommended in the geotechnical report, storm water from the proposed garage should be discharged to the drainage ditch along the southern property margin via a 4-inch or greater diameter solid drainpipe and not to the slope to the north of the proposed garage.
8. *Where drainage swales are used to divert surface waters, they shall be vegetated or protected as necessary to prevent offsite erosion and sediment transport;*
  - a. Not applicable.
9. *Erosion and sediment control devices shall be required where necessary to prevent polluting discharges from occurring. Control devices and measures which may be required include, but are not limited to:*
  - a. *Energy absorbing devices to reduce runoff water velocity;*

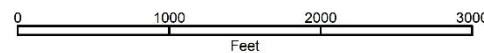




# FIGURES



Name: BANDON  
Date: 03/02/22



Location: 043° 06' 58.1186" N, 124° 23' 47.2347" W  
Contour Interval: 40 ft



Date Drawn: 3/15/2022  
CAD File Name: 959-22001-01\_fig1sv\_map  
Drawn By: CLR  
Approved By: LDG

Residential Property  
1107 6th Street SE  
Bandon, Oregon

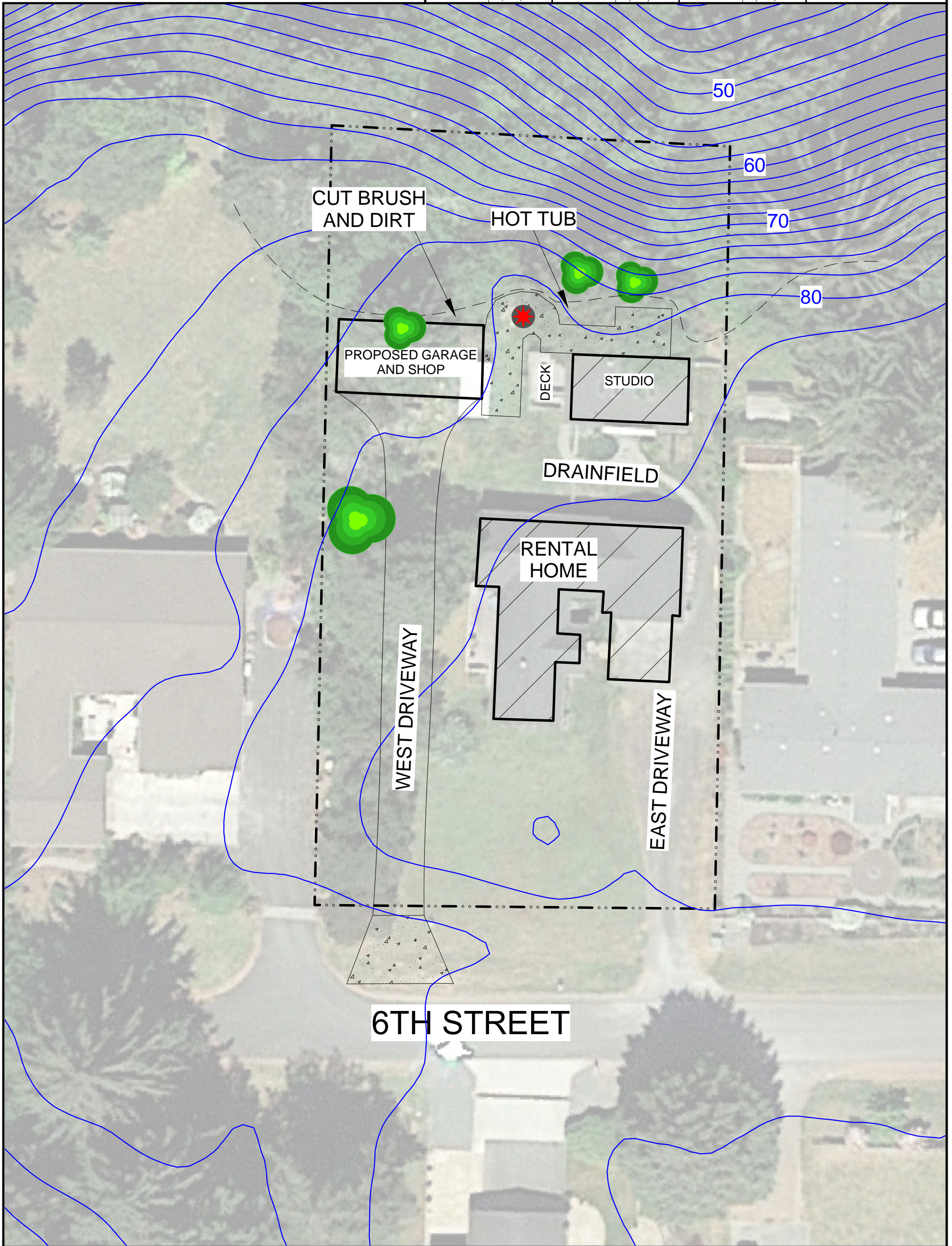
## Site Vicinity Map

Project No.  
959-22001








Figure No.

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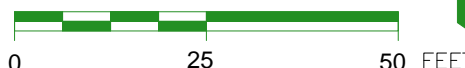


**LEGEND:**

	SUBJECT BUILDINGS		NEW CONCRETE
	SUBJECT PROPERTY BOUNDARIES		TREE
	ESTIMATED 2-FOOT CONTOURS BASED ON SURFACE MODELING USING DOGAMI LIDAR DATA		
	BREAK IN SLOPE		
	FIRE PIT		

**NOTES:**

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2022 AND ENW FIELD NOTES.
2. ALL BUILDING, STREET, AND FEATURE LOCATIONS ARE APPROXIMATE.
3. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION.

APPROXIMATE SCALE

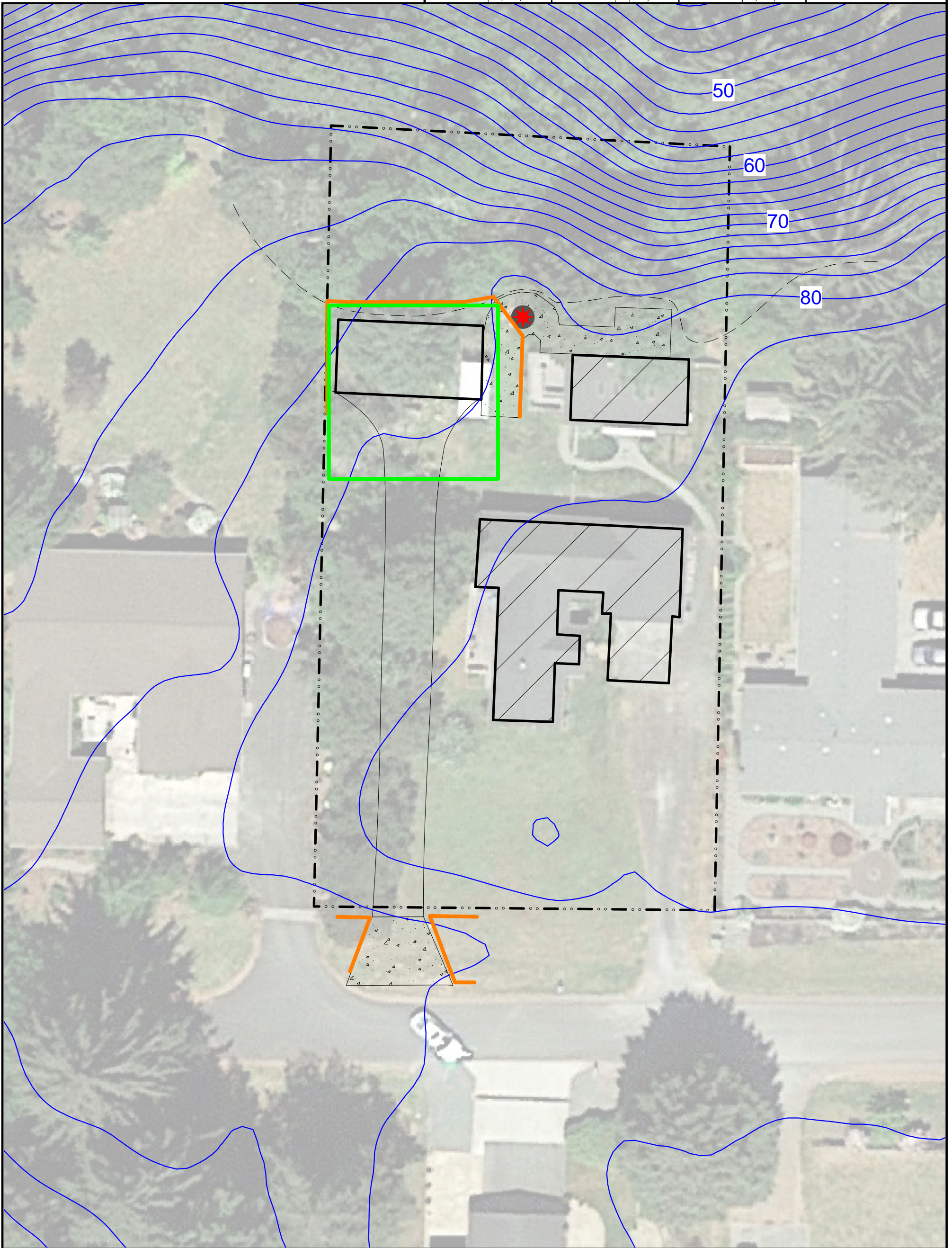




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**FIGURE 2**  
**SITE PLAN**  
RESIDENTIAL PROPERTY  
1107 6TH STREET SE  
BRANDON, OREGON





**LEGEND:**

	SUBJECT BUILDINGS		NEW CONCRETE
	SUBJECT PROPERTY BOUNDARIES		SILT FENCING
	ESTIMATED 2-FOOT CONTOURS BASED ON SURFACE MODELING USING DOGAMI LIDAR DATA		
	BREAK IN SLOPE		
	FIRE PIT		
	MAXIMUM AREA OF DISTURBANCE		

**NOTES:**

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2022 AND ENW FIELD NOTES.
2. ALL BUILDING, STREET, AND FEATURE LOCATIONS ARE APPROXIMATE.
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APPROXIMATE SCALE

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**FIGURE 3**  
**ESC MEASURES**  
RESIDENTIAL PROPERTY  
1107 6TH STREET SE  
BRANDON, OREGON