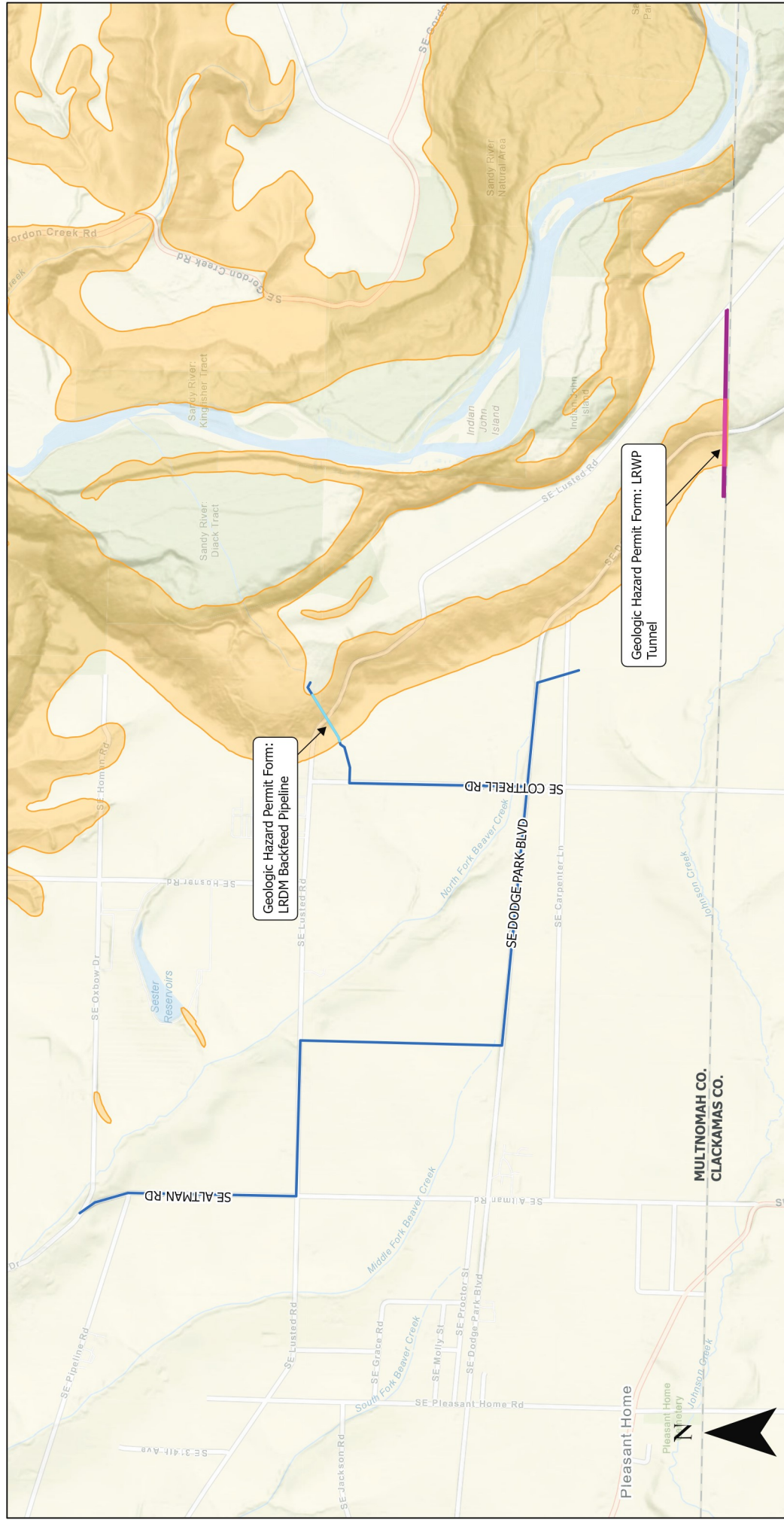




Geologic Hazards Permit (GHP) Form 1 Filtration Pipelines Project

September 2022

Key Plan for Forms



Notes:

1. Slope hazard data from Multnomah County GIS.
2. Raw and Finished Water Pipeline alignments based on 60% Design Submittal.

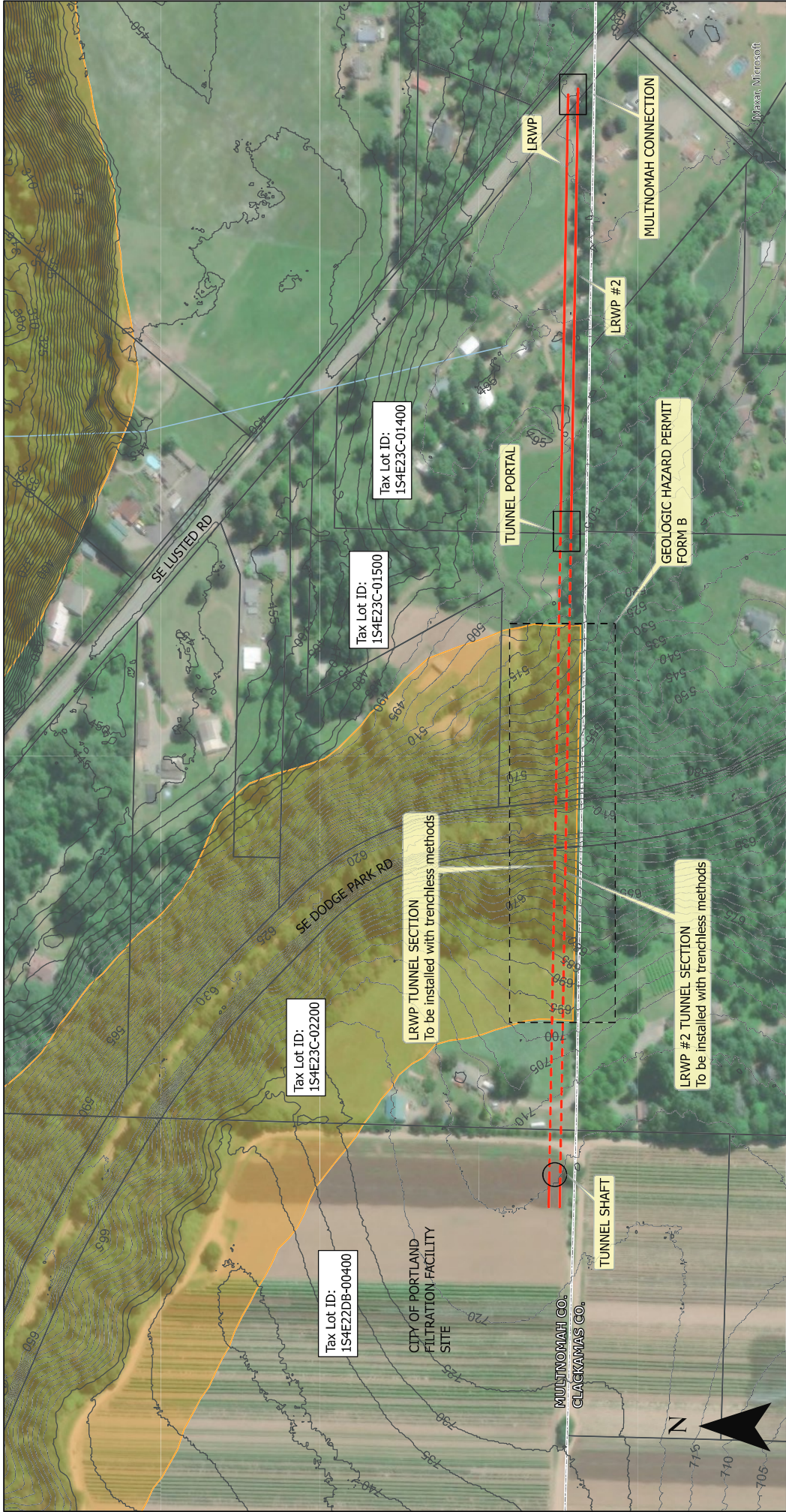
Legend

-  Multnomah County Geologic Hazard Zone
 Finished Water Alignment - Outside Geologic Hazard Zone
 Finished Water Pipeline within Hazard Zone (Geologic Hazard Permit Form A)
 Raw Water Alignment - Outside Geologic Hazard Zone
 Raw Water Pipeline within Hazard Zone (Geologic Hazard Permit Form B)

	PORTLAND WATER BUREAU	SEPT 2022 KEY PLAN
	FILTRATION PIPELINES PROJECT	
	GEOHAZARD PERMIT APPLICATION	

SEPT 2022

Raw Water Pipeline – Tunnel within Geologic Hazard Zone – Form B



Notes:

1. Slope hazard data from Multnomah County GIS.
2. Tunnel and LRWP alignments based on 60% Design Submittal.
3. Elevations are given in Portland Vertical Coordinate System (PVCs=NAVD88-2.1 ft)

Legend

- Multnomah County Geologic Hazard Zone
- Tax Lots
- Raw Water Alignment - Trenched
- Raw Water Alignment - Trenchless

	PORTLAND WATER BUREAU	
	FILTRATION PIPELINES PROJECT	
	GEOHAZARD PERMIT APPLICATION	SITE PLAN
SEPT 2022		



Land Use Planning Division
1600 SE 190th Ave, Ste 116
Portland OR 97233
Ph: 503-988-3043 Fax: 503-988-3389
multco.us/landuse

GEOLOGIC HAZARDS PERMIT (GHP) Form 1: GEOTECHNICAL RECONNAISSANCE AND STABILITY PRELIMINARY STUDY

Note: Response to each question below must be completed or verified by a Certified Engineering Geologist or Geotechnical Engineer, including a State of Oregon Registration Stamp and Number in the space provided on page four. The GHP Form 1 addresses Multnomah County Code Section 39.5085(C)(3)(c); 38.5515(C)(3)(c), Geologic Hazards Permits.

Site Address: 1. 36322 SE Dodge Park Blvd, Boring, 97009
2. 36800 SE Lusted Rd, Boring, 97009

Legal Description: 1. Tax Lot ID No. 1S4E23C-02200
2. Tax Lot ID No. 1S4E23C-01500

Property Owner's Name: 1. Walter, Dean D & Walter, Patricia L
2. Bissell, Max L & Bissell, Fern E

Firm Preparing Report: McMillen Jacobs Associates

Address: 2000 SW First Avenue, Suite 410

City: Portland **State:** Oregon **Zip:** 97201

Preparer's Name: Jeff Quinn

Phone Number: 503.384.2938

GENERAL PROPERTY INFORMATION

1. a. Maximum Slope on Property: Property 1: 0.5H:1V (horizontal:vertical) Property 2: 1.5:1V Area in which it is located: Property 1: Eastern margin
Property 2: Western margin

Average Slope of Property: Property 1: Approximately 4H:1V (horizontal:vertical)
Property 2: Approximately 3H:1V

b. Are there any wetlands or streambeds on the property? (Please Circle) Yes ☐ No ☒

If yes, please show on topographical survey or sketch.

c. Volume of soil or earth material disturbed, stored, disposed of or used as fill: Volume of disposed earth material will be approximately 4,000 yd³.

d. Total area of proposed ground disturbance: Construction within the geologic hazard overlay zone consists of two, 9-foot diameter tunnels approximately 850 feet long. The tunnel design includes temporary and permanent underground support systems to mitigate ground loss/settlement. Therefore, there will be no ground disturbance within the geologic hazard overlay zone (i.e., tunnel construction is not considered to be earthwork).

ZERO (square feet) ZERO (acres)

Were building plans considered when completing this form? (Please Circle) Yes

☒ No

If yes, please note the author and date the plans were prepared.

2. What is the general topography of the property? Please attach a topographic survey or sketch with pertinent notes.

Topography is shown on the attached Site Plan. Topography within Property No. 1 (Tax Lot ID No. 1S4E23C-02200) slopes to the east at approximately 10H:1V, increasing in steepness (i.e., up to 2.5H:1V) as it approaches SE Dodge Park Blvd. The steepest slope within Property No. 1 is the cut slope above/west of SE Dodge Park Blvd, which is approximately 18 feet tall, inclined at 0.5H:1V. Topography within Property No. 2 (Tax Lot ID No. 1S4E23C-01500) descends east at approximately 2H:1V from the east edge of SE Dodge Park Blvd. The slope becomes more gradual with distance from SE Dodge Park Blvd, from 3H:1V to 10H:1V as it descends to the east.

3. Are there any visible signs of instability or other potentially adverse site features (Landslides, slumps, mud flow, creep, ravines, fills, cuts, seeps, springs, ponds, etc.) within the surrounding area for a minimum distance of 100 feet beyond the subject property boundaries? Describe and indicate on attached topographic survey or sketch.

No, there are no indications of slope instability or other potentially adverse site features within at least 100 feet of the site.

4. Is any earthwork proposed in connection with site development?

(Please Circle)

Yes

☒ No

If yes, please indicate depth and extent of cuts/fills; describe fill types.

5. In your opinion, will the proposed earthwork cause potential stability problems for the subject and/or adjacent properties?

(Please Circle)

Yes

☒ No

IF YES, EXPRESS PROBABILITY:

(Please Circle)

Very Probable

Possibly

Possible, but remote

If Very Probable or Possibly, please explain.

6. In your opinion, will the proposed development (structures, foundations, parking area, streets, etc.) create potential stability problems for the subject and/or adjacent properties?

(Please Circle) Yes ☒ No

IF YES, EXPRESS PROBABILITY:

(Please Circle) Very Probable Possibly Possible, but remote

If Very Probable or Possibly, please explain.

7. In your opinion would the subsurface disposal of sewage effluent on the site (i.e., drain fields) have an adverse affect on stability of the site or adjacent area?

(Please Circle) Yes ☒ No

IF YES, EXPRESS PROBABILITY:

(Please Circle) Very Probable Possibly Possible, but remote

If Very Probable or Possibly, please explain.

8. If answer is Very Probable or Possibly to questions 4 or 5, is it your opinion, on the basis of a visual evaluation, that adequate stability might be achieved by preferred siting of the development, alternative foundation support, earthwork, drainage, etc.?

(Please Circle) Yes No

If yes, please explain.

9. Do you recommend additional geotechnical studies (i.e., mapping, testing pits or borings, stability analysis, etc.) prior to site development?

(Please Circle)

Yes

☒ No

If yes, please explain.

Documentation of Proposed Structural Fill for Raw Water Pipeline Tunnels:

Structural fill will not be used to backfill the tunnels within the geohazard zone.

By signing and affixing the required stamp below, the Certifying Engineering Geologist or Geotechnical Engineer certifies that the site is suitable for the proposed development.

Signature Jeffrey P. Quinn

Date September 29, 2022



*Processed Material - defined as asphalt, aggregate, class 9 backfill, engineered fill, non-native road fill, concrete, CDP, CLM, cellular concrete

Item #	Description	length (feet)	diameter or width (feet)	Depth (feet)	Located In ROW (Y/N)	Excavation Volumes, CY			Stockpiled Material Quantities, CY					Transportation Quantities, CY				Total Volume per L.C.		Area of Disturbance		Notes
						A	B	C (equal to A - B)	D	E	F (equal to C - D)	G	H	I (equal to A, D - E - Pipe Volume)	J (equal to C + H)	K	L					
Total Excavated Material Existing Material & Existing Processed Material)						Volume Existing Processed Material Excavated	Volume Existing Processed Material Excavated	Volume Earth Material Excavated	Earth Material stored onsite to be reused	Existing Processed Material stored onsite to be reused	Earth Material Hauled Offsite	Excavated Processed Material Hauled Offsite	Imported Earth Material (i.e. hauled onsite)	Imported Processed Material	GHF Form 1 Item 1.c "Total Volume of earth material disposed of or used as fill"	GHF Form 1 Item 1.d "Total area of proposed ground disturbance" (Square Feet)	GHF Form 1 Item 1.d "Total area of proposed ground disturbance" (Acres)					
1	Basin Water Pipeline Tunnel Segment's Geohazard Permit Form B	850	9	-	N	4,006	0	4,006	0	0	4,006	0	0	2,225	4,006	0	0.00	0.00	backfill out, is annular space between 9' tunnel & 6' water pipe			
Totals						4,006	-	4,006	0	-	4,006	0	-	2,225	4,006	-	0	0.00				

